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# Benazir Income Support Programme

Evaluation report

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## Executive summary

This report presents the findings from the quantitative and qualitative research conducted for the 2019 round of the impact evaluation of the Benazir Income Support Programme (BISP). Its purpose is to provide an analysis of the impact of the BISP 8 years after the programme was initiated in its current form as a poverty targeted programme.

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 sub-set of non-beneficiary households that are comparable and can be used as an adequate counterfactual. These will provide statistically robust estimates of the impact of BISP on its beneficiaries. This is combined with a qualitative research component that will provide a broader understanding of the context in which the programme is operating and 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 presents the impact evaluation results for the 2019 round of evaluation. Part D presents results of a costing study. Part E offers concluding remarks.

## Benazir Income Support Programme

The Benazir Income Support Programme (BISP) is the Government of Pakistan's flagship social safety net programme and is the largest and most systematic social protection initiative to be launched in Pakistan. At its core the BISP is an Unconditional Cash Transfer (UCT) providing quarterly cash payments directly to female beneficiaries within households that are deemed eligible through the implementation of the BISP poverty scorecard which targets households for the programme. The BISP has also launched complementary programmes, including a Conditional Cash Transfer (CCT) known as the Waseela-e-Taleem programme which seeks to support access to education by providing top-up payments to eligible children aged between 5 and 12 years of age, who are currently attending school.

Currently beneficiaries receive their payments through two main payment systems:

- **Benazir Debit Card (BDC):** beneficiaries are provided with an ATM card from which a beneficiary can draw her instalment from an ATM machine or from a franchise/retail agent of a partner bank through a Point of Sale (POS) machine. BISP is in the process of transferring all BDC beneficiaries to the Biometric Verification System detailed below.
- **Biometric Verification System (BVS):** a system through which a beneficiary's biometric information is collected. To collect her instalment a beneficiary would present her Computerised National Identify Card (CNIC) against which her biometric information has been tagged and can be verified at the payment

collection point. Payments are disbursed through 6 partner banks who work through their branch networks, retail agents, franchise, or in partnership with mobile phone companies.

## Objectives of the evaluation

The evaluation should generate policy relevant evidence regarding the impacts of the BISP's unconditional and conditional cash transfer schemes. The main objectives of the evaluation are to:

- **Measure the impact of cash transfers on consumption:** including both food and non-food consumption as measured by per adult equivalent consumption expenditure. This will also include an understanding of food security, including the measurement of child anthropometry.
- **Measure the impact of cash transfers on beneficiaries' investments in productive activities:** including the ownership of productive assets, business investments, and investments in human capital.
- **Measure the impact of cash transfers on gender dynamics and women's empowerment:** this will focus on the both the asset endowments that determine female agency as well as the changes in power structure that condition female agency. Asset endowments will include increases in economic, human and psychological assets. Power structures include changes in family relations, social norms, and in women's roles and responsibilities.
- **Measure the impact of the conditional cash transfer:** which focusses on the impact of the conditional cash transfer on school enrolment and attendance as well as benchmarking the learning of boys and girls. The evaluation of the conditional cash transfer will also measure impact against most of the impact areas presented above.

## BISP Implementation

The evaluation finds evidence of the challenges of delivering cash to such a significant proportion of the Pakistan population. We find evidence of delays to disbursements which have meant that 17% of beneficiaries had received fewer than 3 payments in an annual cycle. This finding is exacerbated by the finding that, while the BISP has increased the nominal value of the transfer, the real value of the transfer has decreased by 9% since 2011.

The switch to the Biometric Verification System (BVS) payment mechanism is associated with a slight increase in the proportion of women that retain control over money received through the BISP.

## Impact summary

The table below summarises the impact that the BISP is generating for its beneficiaries as observed in the 2019 evaluation.

### Summary of impacts observed in the 2019 evaluation

	UCT	CCT	Comments
<b>Poverty</b>	–	–	<p>In 2019 we do not find evidence that the BISP is reducing the poverty of its beneficiaries, despite previous rounds of evaluation showing impressive poverty reduction. This is primarily driven by two factors:</p> <ol style="list-style-type: none"> <li>1. The BISP has already produced impressive poverty reduction results over the period 2011 to 2019, which has produced real improvements in welfare. The transfer is designed to support the needs of the poorest 20%, which means at this point, following welfare gains over a period of 8 years, the power of the transfer to produce further poverty reduction for current beneficiaries has diminished.</li> <li>2. Despite considerable efforts by BISP to periodically increase the nominal value of the transfer, the real value of the transfer has decreased by 9% since 2011 in the face of high inflation</li> </ol> <p>Nonetheless, the BISP, by design, is a considerable force to support poverty reduction in Pakistan which could be enhance through on-going re-targeting efforts to identify the poorest 20% of households in Pakistan, as well as by continued efforts to maintain the real value of the transfer.</p>
<b>Child nutrition</b>	–	–	In 2019, for the first time, we find no evidence of improvements in child nutrition. This should be of concern given that child malnutrition remains at rates that would be indicative of an emergency in child nutrition.
<b>Women's empowerment</b>	↑	↑	The BISP continues to have a strong impact on women's empowerment in a wide range of dimensions including greater mobility, increased autonomy in decision making, increased personal savings, increased political participation, and a reduction in some forms of gender based violence.
<b>Education</b>	–	↑	The CCT for education continues to have impressive positive impacts on education, including increasing enrolment rates and reducing grade repetition.
<b>Productive investments</b>	–	–	This evaluation does not find evidence that the BISP is leading to productive investments. Whilst it is positive that the BISP does not reduce labour supply that would be indicative of a 'dependency syndrome', the BISP does not lead to an increase in savings or an increase in households who set up household businesses.

## Impact on consumption, poverty, and child nutrition

Whilst we find modest evidence of some gains in consumption expenditure we find, for the first time, no evidence that the BISP is leading to poverty reduction whether measured by a food based or cost of needs based poverty line.

There are a number of factors that are driving this result. Firstly BISP beneficiaries have already experienced substantial gains in their welfare that is attributable to the BISP, as evidenced by large reductions in the poverty rate of BISP beneficiaries over the period 2011 to 2019, driven by significant gains in the consumption expenditure of BISP beneficiaries.

This has meant that the value of the transfer, designed to support the needs of the 20% poorest in Pakistan, no longer represents such a significant part of their total household income, demonstrated by the fact that the value of the transfer as a proportion of per adult equivalent consumption expenditure has fallen by 25% between 2011 and 2019. This has contributed to a reduction in the power of the transfer to induce further gains to welfare for beneficiary households over and above the already considerable gains induced by the BISP in periods prior to the 2019 round of evaluation.

However, and despite the efforts of BISP to provide periodic nominal increases in the transfer value, the real value of the transfer has fallen by 9% over the period 2011 to 2019. This finding is exacerbated by several implementation challenges which have meant that the proportion of the transfer that has actually been received by beneficiaries has fallen between 2016 and 2019.

We also find, for the first time, that the BISP is not having an impact on reducing the rates of child malnutrition for children in beneficiary households. This should be of concern given that rates of stunting and wasting are high, 44% and 21% respectively, at levels that would relate to an emergency in child nutrition.

The BISP is at an important juncture and should use the fact that the National Social Economic Registry, the census which is used to identify eligible households, is being updated as an ideal moment for a careful consideration of both the value of the transfer offered as well as the number of beneficiaries that it aspires to target.

## Impact on women's empowerment

BISP continues to have a strong impact on women's empowerment. This is felt in gradual changes in the structures that determine the agency of women. This report provides strong evidence that the BISP is supporting women to have greater mobility in their communities, increasing their autonomy in decision making, and increasing their social standing within their community.

This is leading to real gains in outcomes that result from gains in female agency. This includes gains generated through the CCT in girls' education, increased proportion of beneficiaries who can personally save, and increased political participation. Additionally whilst Gender Based Violence is a common experience for BISP beneficiaries we find evidence that the BISP is reducing controlling behaviour that women experience from their husbands.

## Impact on education

This evaluation finds strong evidence that the CCT component of the BISP continues to have a strong impact on the proportion of children, both boys and girls, which are enrolled in school including a reduction in grade repetition rates for girls.

However, there remain significant barriers to education. These include poverty, with the evaluation finding that the opportunity cost of education rises as boys get older, with the returns from child labour increasing to the point where we do not find an impact of the CCT on boys aged 10-15 in terms of enrolment. For girls we still find significant proportions of parents who disapprove of girls' education and actively stopping girls from attending school, with this strengthening as girls' reach puberty.

## Impact on productive investments

This evaluation investigated various livelihood strategies that households may adopt. These included the use of their human capital and labour participation, the probability of beneficiary households starting household businesses, and the breeding of livestock.

Firstly we find no evidence that BISP has resulted in a change in the level of labour supplied by BISP beneficiary households, either male or female. This is important in the context where some opponents to social protection programmes claim that cash transfers will result in a “dependency syndrome” by which beneficiaries rely on the cash transfer and reduce their labour supply. This evaluation finds no evidence that this has happened for BISP beneficiaries or members of their families.

We also do not find that the BISP increases the proportion of households that have a household business. Given that for those households who have managed to start a business the major source of start-up capital was own personal savings, this may be linked to the finding that the BISP also does not have a positive effect on increasing the proportion of households that are able to save. Finally this evaluation also finds no evidence of an increase in the proportion of households who own various forms of livestock.

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## List of abbreviations

BBC	BISP Beneficiary Committee
BDC	Benazir Debit Card
BISP	Benazir Income Support Programme
BVS	Biometric Verification System
CBN	Cost of Basic Needs
CCT	Conditional Cash Transfer
CPR	Contraceptive Prevalence Rate
CTR	Cost Transfer Ratio
DHS	Demographic Health Survey
ECD	Early Childhood Development
FEI	Food Energy Intake
HIES	Household Income and Expenditure Survey
MIS	Management Information System
MPI	Multi-dimensional Poverty Index
NER	Net Enrolment Rate
NSER	National Socio-Economic Registry
OPM	Oxford Policy Management
PMT	Proxy Means Test
PSM	Propensity Score Matching
PSU	Primary Sampling Unit
RD	Regression Discontinuity
TBE	Theory Based Evaluation
TOC	Theory of Change
TOR	Terms of Reference
TPM	Third Party Monitoring
UCT	Unconditional Cash Transfer

WeT                      Waseela-e-Taleem  
WHO                     World Health Organisation



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## Part A: Methods

# 1 Introduction

## 1.1 Benazir Income Support Programme

The Benazir Income Support Programme (BISP) was launched in 2008 as the Government of Pakistan's (GoP) flagship social safety net programme and is the largest and most systematic social protection initiative to be launched in Pakistan. At its core the BISP is an Unconditional Cash Transfer (UCT) with an original short term objective to cushion the adverse impacts of the financial crisis on the poor. However, its longer term objective is to meet the redistributive goals of the country by providing a minimum income support package to the chronically poor, to support the poor in eventually graduating from poverty.

BISP beneficiaries are identified via a Proxy Means Test, known as the BISP poverty score card, which 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 delivers a unique index that allows the BISP to identify eligible households that meet the criteria for the programme as defined by a poverty scorecard cut-off, to be targeted by the programme.

The programme provides eligible households with quarterly cash payments. Recognising the goal of promoting women's empowerment the transfer is paid directly to the female head of a family, where the female head is defined as every ever-married woman in the household in possession of a valid Computerised National Identity Card (CNIC).

The nominal value of the cash transfer has increased steadily throughout the lifetime of the BISP. Originally the BISP had a quarterly value of PKR 3,000, and this has now increased to PKR 5,000 since July 2018. At the time of the evaluation survey BISP beneficiaries were expected to receive PKR 5,000, though it is worth noting that the value of the transfer is expected to increase to PKR 6,000 following the evaluation survey that was conducted between March and May 2019.

The BISP uses a range of payment modalities to deliver the cash into the hands of the beneficiaries. Originally the cash was transferred through the Pakistan Post, but the majority of beneficiaries now receive their cash through either the Bio-metric Verification System (BVS) or the BISP Debit Card (BDC).

In addition to the core programming against the UCT, the BISP also implements a range of complementary programming. In recognition of the long-term goals to support the poor eventually graduating from poverty the BISP has recently announced the BISP Graduation Programme that seeks to provide lump sum funding and other incubation support to promote beneficiaries and their families to start small businesses.

The other major complementary programme is a Conditional Cash Transfer (CCT) known as the Waseela-e-Taleem (WeT) programme that provides additional top-ups to support the primary education of children aged 5 to 12 years, to support the human development of members of beneficiary households. This programme provides an additional top up of PKR 750 per eligible child per quarter on the condition of maintaining a 70% attendance record. In addition female children now receive a larger transfer of PKR 1,000 per quarter in an effort to address gender gaps in education. This programme is currently operating in 50 districts of Pakistan, though this evaluation

will focus on the 32 districts in which the CCT has been operational for at least one year.

## **1.2 Structure of this 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 presents the impact evaluation results for the 2019 round of evaluation. Part D provides results from a costing study across different payment mechanisms. Part E offers concluding remarks.

## 2 Evaluation approach

### 2.1 Overview of evaluation approach

This evaluation implements a Theory Based Approach to evaluation that uses as its foundation a Theory of Change (TOC) which we have outlined below in Section 2.2, and which was used to define our final evaluation matrix detailed in Section 2.4. In addition we have included analysis that is not within the programme TOC and on dimensions which the UCT or CCT components were never designed to address, at the request of donor partners. This includes in particular Family Planning which is discussed further in Section 5.4.

We have used a mixed methods approach that combined both primary quantitative and qualitative data collection, with the basic rationale for a mixed approach to use their relative strengths and weaknesses<sup>1</sup> and provide the 'best of both worlds' in terms of combining a depth of understanding with results that are statistically representative of our population of interest.

The main objectives of the evaluation are to:

- **Measure the impact of cash transfers on consumption:** including both food and non-food consumption as measured by per adult equivalent consumption expenditure. This will also include an understanding of food security, including the measurement of child anthropometry.
- **Measure the impact of cash transfers on beneficiaries' investments in productive activities:** including the ownership of productive assets, business investments, investments in human capital, and improved ability to cope with exogenous shocks.
- **Measure the impact of cash transfers on gender dynamics and women's empowerment:** this will focus on the both the asset endowments that determine female agency as well as the changes in power structure that condition female agency. Asset endowments will include increases in economic, human and psychological assets. Power structures include changes in family relations, social norms, and in women's roles and responsibilities.
- **Measure the impact of the conditional cash transfer:** which focusses on the impact of the conditional cash transfer on school enrolment and attendance as well as benchmarking the learning of boys and girls. The evaluation of the conditional cash transfer will also measure impact against most of the impact areas presented above.

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<sup>1</sup> Qualitative research allows one to explore in-depth phenomenon from the point of view of the subject of study in its natural context. However, findings tend not to be generalisable given the small sample sizes involved and sampling strategy adopted. In contrast quantitative research, through its use of randomised sampling and larger sample sizes, allows for generalisation though it cannot provide the depth of study.

## 2.2 BISP theory of change

In this section we lay out the BISP TOC against each of the main broad evaluation questions detailed above in Section 2.1.

### BISP impact on consumption

The BISP is expected to have an impact on consumption expenditure and subsequently on food security and poverty. The BISP is expected to have a positive impact on consumption expenditure through the provision of regular and reliable cash payments directly to beneficiaries, thereby increasing the purchasing power of beneficiary households. This increased purchasing power is expected to improve the food security of beneficiaries, allowing such households to increase both the quantity as well as quality of the food consumed.

In turn given that the increased purchasing power is expected to increase the level of consumption expenditure within beneficiary households, it is expected that this will lead to a reduction of the poverty rate exhibited by beneficiary households, a measurement based on a household's level of consumption expenditure.

Furthermore it is expected that the access to regular and reliable cash payments will also improve the ability of households to respond to negative exogenous shocks, such as flooding or the death of a household member. Vulnerable households in response to an exogenous shock are often forced to adopt coping mechanisms that can threaten their long-term welfare, such as the sale of productive assets such as livestock or land. It is expected that the BISP cash transfer can insulate beneficiaries from adopting such coping mechanisms and as a result development gains generated by the BISP are protected.

However, these expectations are subject to various assumptions. The first of these is the value of the transfer relative to the initial incidence and depth of poverty. To enable households to use the transfer for anything beyond poverty mitigation it must be of sufficient value to not only meet their basic subsistence needs but also to leave some left over for savings and for investment in productive capital. Furthermore, the value of the transfer must be sufficient to enable a household to build a sufficient level of savings that reduces their exposure to negative exogenous shocks and enables them to engage coping mechanisms that do not reverse their welfare gains or are damaging in the long-term.

As noted by *OPM (2016)* the Government of Pakistan recently re-defined the poverty line, which increased the value of the absolute poverty line by 33%. Whilst the value of the BISP cash transfer has increased in recent years, it is not sufficient to keep pace with this change. Our evaluation will assess this by tracking both food and non-food consumption expenditure, as well as tracking savings and investments in productive assets.

### BISP impact on productive investments

A cash transfer, such as the BISP, can be expected to support beneficiaries' investment in productive assets and activities. There is a direct effect, whereby beneficiaries can use the cash to either invest in productive assets, such as business investments or human capital, either directly or buy building a pot of savings. There is also an indirect effect, whereby the act of receiving cash is viewed as providing the

beneficiary with collateral and ensuring that the beneficiary is a 'less risky' investment, thereby increasing access to loans.

However, these expectations are subject to various assumptions. The first is related to that made above – that the value of the transfer must be of sufficient value to not only meet the basic subsistence needs, but also to leave some of the cash remaining that could be used for savings and investment capital. Secondly beneficiaries must have financial access, including formal or informal savings and loans instruments, which the quantitative survey will track. Finally the beneficiaries must also have the necessary skills and knowledge that supports them in making good productive investments or using the BISP cash to start small businesses. Whilst the BISP graduation programme is expected to support beneficiaries who want to start small businesses with both a lump-sum payment as well as training this programme will not have started operations at the time of our evaluation survey. The qualitative research will focus on the challenges and opportunities faced by beneficiaries in this regard.

### **BISP impact on women's empowerment**

The BISP has made an explicit design choice to transfer the BISP cash directly to a female beneficiary in eligible households. The BISP has also taken steps to ensure, as much as is possible, that this cash remains in the control of women – including the adoption of the Bio-Metric Verification System that requires the presence of the woman to collect the cash.

However, whilst targeting women directly to address gender inequality is an important first step, the issue is more complex and this is rarely sufficient (*DFID, 2011*).

The literature highlights a set of assets that directly determine a woman's agency, and her ability to make strategic choices and actions. These might include her access to economic, social, human, and psychological assets. The BISP can be expected to support the growth of these, particularly economic assets assuming the beneficiary can retain control of the transfer, but also on social and psychological assets as beneficiaries increase their contribution to household budgets.

However, a woman is also subject to a variety of structures – the formal and informal institutions that prevail in her context – and it is these structures that may enable or hinder a woman's capacities for agency. Whilst previous BISP evaluations (*OPM, 2014*) have highlighted changes in family dynamics, it is not yet clear whether important formal institutions such as the wider community or religious organisations are yet enabling women's capacities for agency.

Furthermore, women's empowerment also requires good sectoral linkages that would have an impact on both women's practical needs as well as on transforming gender relations. For example across health and reproductive services, social development and rights awareness training, credit access and employment training. Whilst the BISP is engaged or expecting to engage in some of these areas (for example with the expected BISP Graduation Programme and the implementation of BISP Beneficiary Committees (BBC) that raise awareness) it is not engaged in all areas.

### **Impact of the Conditional Cash Transfer on education**

The additional top-up of PKR 750 provided to every child in beneficiary households who are attending school is expected to increase the enrolment and attendance of

primary aged children. This work is supported by enrolment campaigns run through the BBCs, who seek to raise awareness of the CCT programme as well as to support beneficiaries to register their children in schools.

However, this type of intervention focusses on a very specific barrier to education access, related to the direct costs and opportunity costs of education through its additional financial support. As such the expectation for increased enrolment and attendance is conditioned by a number of expectations.

*OPM (2016)* and *OPM (2014)* both highlight a range of supply side weaknesses in the Pakistan education system including a shortage of schools, a shortage of teachers, missing facilities that particularly affect girls education (such as missing toilet facilities), and weak supervision and poor teaching quality in the sector.

These expectations are also conditioned on the prevailing household perceptions of the returns to education as well as social factors that may determine attendance and enrolment. For example, gender preferences for educating boys in relation to girls.

## 2.3 Evaluation instruments

In order to respond to the objectives of the evaluation we have implemented a range of data collection activities that include:

- **Household survey:** that realised a final sample size of 12,600 households that includes both UCT and CCT beneficiaries. The UCT sample is split between a sample of panel households previously interviewed in 2016 as well as a fresh sample of households that was interviewed for the first time in 2019. The household survey included:
  - **Household questionnaire:** This will assess access to education, engagement in economic and business activities, asset ownership, consumption expenditure, poverty, and food security.
  - **Women's questionnaire:** to be applied to one direct female beneficiary in beneficiary households and her comparator in non-beneficiary households<sup>2</sup>. This will assess both the experience of the beneficiary with the BISP as well as to explore issues around women's empowerment.
  - **Child anthropometry:** for every child aged between 0-59 months we will measure the height/length and weight to understand child nutrition.
  - **Learning assessments:** will be applied to children aged 5-12 years in households that are in receipt of the additional top-up through the CCT to assess levels of learning. The approach to learning assessments is defined in the box below.

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<sup>2</sup>i.e. a randomly selected ever-married woman in the household

- **Qualitative research:** was implemented at various levels including: influential community members; beneficiaries; beneficiary husbands; non-beneficiaries; non-beneficiary husbands. The qualitative research focussed on:
  - **Women's empowerment:** as it relates to women's agency; structures as they determine women's agency; and relations of women within the household and the community.
  - **Livelihoods:** to understand how beneficiaries are able to take advantage of receiving regular cash from the BISP to adapt to new livelihood structures that are more resilient.
  - **Access to education:** to support an understanding of the impact of the CCT on education. Will focus on the barriers to education that might undermine the success of a programme.

#### ASER Learning Assessments

For the learning assessments we implemented the Annual Status of Education Report (ASER) tests. ASER conducts national tests that are representative at district level.

We benchmark beneficiary children to the district average reported by ASER to assess their level of learning. OPM has previously worked with the ASER tests as part of our TPM of the Sindh Education Non-State Actors (SENSA) programme.

This is *explicitly not an evaluation of BISP impact on learning*. The activities of the BISP CCT are focussed on increasing the enrolment and attendance of children, rather than on activities related to increasing the learning of children<sup>3</sup>, rather than on improving the learning of beneficiary children in relation to their non-beneficiary peers in the same classroom. Benchmarking will allow BISP to understand if supported children are learning at least as much as their peers, as determined by district averages.

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<sup>3</sup> Such activities might include special remedial classes or extra tuition that are provided exclusively for beneficiary children.



## 2.4 Evaluation matrix

The evaluation matrix presented in Table 1 is our presentation of how we will answer the key evaluation questions defined above. It presents the specific indicators that will be used to answer evaluation questions, the instrument that will be used to measure them and whether it applies to the evaluations of the UCT, CCT or both.

**Table 1: Evaluation framework**

BISP objective as per TOR	Evaluation question	Indicator	Data collection method	UCT/CCT
C1 Measuring impact of cash transfers on consumption	Does the BISP lead to an increase in the consumption levels of BISP beneficiary households?	Per adult equivalent consumption expenditure	Household survey	UCT & CCT
		Per adult equivalent non-food consumption expenditure	Household survey	UCT & CCT
		Per adult equivalent food consumption expenditure	Household survey	UCT & CCT
		Poverty rate	Household survey	UCT & CCT
		Mutli-dimensional poverty	Household Survey	UCT & CCT
C2 Measuring impact on cash transfers on beneficiaries' investments in productive activities	Does the BISP lead to an impact on beneficiaries' investments in productive activities?	Ownership of productive assets (land, agricultural and other)	Household survey	UCT & CCT
		Proportion of beneficiary households engaged in a business activities	Household survey	UCT & CCT
		Proportion of household members engaged in income generating activities	Household survey	UCT & CCT
		Enrolment, attendance, progression, of children in beneficiary households	Household survey	UCT & CCT
		Changes in preferences for different livelihoods	Semi-structured interviews with beneficiaries and non-beneficiaries; key informant interviews; livelihood matrix	UCT & CCT
		Perceptions of changes in livelihoods induced by the BISP	Semi-structured interviews with beneficiaries; key informant interviews; most significant change	UCT & CCT

BISP objective as per TOR	Evaluation question	Indicator	Data collection method	UCT/CCT
	Does the BISP lead to an impact on beneficiaries' nutritional status	Child nutritional status (anthropometry)	Child anthropometry tool	UCT & CCT
C3 Measuring impact of cash transfers on gender equality and women's empowerment	Does the BISP lead to an impact on gender equality and women's empowerment?	Proportion of beneficiary women who control how BISP cash is spent	Women's questionnaire	UCT & CCT
		Proportion of women who report being engaged in household decision making – including how earnings are used, household expenditure, and health care	Women's questionnaire	UCT & CCT
		Proportion of women engaged in community activities	Women's questionnaire	UCT & CCT
		Proportion of women voting	Women's questionnaire	UCT & CCT
		Mobility of beneficiary women in the community	Women's questionnaire	UCT & CCT
		Assessment of gender differences in child education and child nutrition	Household questionnaire; child anthropometry tool	UCT & CCT
		Perceptions of gender roles (structures that determine agency)	Semi-structured interviews with beneficiaries and non-beneficiaries; key informant interviews	UCT & CCT
		Perceptions of bargaining power within the household (structures that determine agency)	Semi-structured interviews with beneficiaries and non-beneficiaries; empowerment ranking exercises	UCT & CCT
		Changes in intra-household decision making as a result of the BISP (structures that determine agency)	Semi-structured interviews with beneficiaries and non-beneficiaries; empowerment ranking exercises	UCT & CCT
		Perceptions of changes in women's roles and responsibilities as a result of the BISP (structures that determine agency)	Semi-structured interviews with beneficiaries and non-beneficiaries; empowerment ranking exercises	UCT & CCT
		Perceptions of changes in social norms that effect female agency (structures that determine agency)	Semi-structured interviews with beneficiaries and non-beneficiaries; empowerment ranking exercises	UCT & CCT
		Desire for children	Household Survey	UCT & CCT
		Contraceptive Prevalence Rate	Household Survey	UCT & CCT
	What are the risks faced by women, including gender-based violence?	Perceptions of physical and emotional violence experienced by women	Semi-structured interviews with beneficiaries and non-beneficiaries; key informant interviews	UCT & CCT
		Perceptions of other risks faced by women (e.g. financial or social)	Semi-structured interviews with beneficiaries and non-beneficiaries; key informant interviews	UCT & CCT

BISP objective as per TOR	Evaluation question	Indicator	Data collection method	UCT/CCT
C4 Measuring impact of co-responsibilities		Perceptions of coping structures available to women, including both formal and informal structures	Semi-structured interviews with beneficiaries and non-beneficiaries; key informant interviews	UCT & CCT
		Perceptions in changes in intra-household relations as a result of the BISP	Semi-structured interviews with beneficiaries and non-beneficiaries; empowerment ranking exercises; most significant change	UCT & CCT
	What is the impact of the Conditional Cash Transfer on education?	Proportion of children in WET beneficiary households enrolled	Household survey	CCT
		Attendance rates of children in WET beneficiary households	Household survey	CCT
		Repetition rates of WET children	Household survey	CCT
		ASER learning assessment scores for benchmarking	Learning assessment to beneficiary children	CCT
		Perceptions of the barriers to access of education	Semi-structured interviews with beneficiaries; key informant interviews	CCT
		Perceptions of the quality of education	Semi-structured interviews with beneficiaries; key informant interviews	CCT

## 2.5 Quantitative evaluation approach

The quantitative component of the evaluation comprises a sample of 12,557 households. 9,975 household interviews were completed to evaluate the UCT component of the BISP, which was split between households that were previously interviewed in 2016, and those that were interviewed for the first time. A further 2,582 households were interviewed for the CCT component of the BISP, which were freshly sampled to be interviewed for the first time in 2019. The fieldwork was conducted between March 2019 and May 2019.

In this section we describe the quantitative approach that we took to isolate the impact of the BISP on the key impact indicators described in our evaluation matrix given in Section 2.3. We will then describe our approach to the sampling of households for the evaluation of both the UCT and CCT components of the BISP.

### 2.5.1 Overview of the quantitative approach

The challenge of any rigorous impact evaluation is essentially a problem of missing information. In the case of the BISP, the evaluation will interview a set of beneficiary households that have been targeted by the programme. However, we would not know what would have happened to these same households had they not been targeted by the BISP. It is the difference in the state of the world and in outcomes that result in the same group of beneficiary households that would give us the true impact of the BISP.

Thus the key challenge in designing a rigorous impact evaluation is the need to replicate this comparison by constructing a control group of another group of households that are as similar as possible to beneficiary households targeted by the BISP, i.e. the treatment group, so as to be a valid comparison. *Gertler et al. (2011)* identify three conditions that a valid control group must satisfy.

- Treatment and control groups must share on average the same characteristics;
- Treatment and control groups should react to the BISP programme in the same way; and
- Treatment and control groups should not be differentially exposed to other human development related interventions during the period of evaluation.

A control group that satisfies the above three conditions will be robust to selection bias. An outcome of selection bias is that because of some systematic difference between treatment and control groups the evaluator cannot be sure whether observed differences in outcomes are due to the causal impact of the BISP or because of pre-existing differences between treatment and control groups. For example if treatment households on average lived in areas better served by micro-finance institutions than control households, we might observe that treatment households were more likely to start micro-enterprises. However, we would not be sure whether this was a causal impact of the BISP or because of an unobserved difference in financial access.

In this evaluation we will employ a set of quasi-experimental methodologies to isolate the causal impact of the BISP on the quantitative impact and outcome indicators identified in our evaluation matrix provided in Section 2.4. These include:

- **Regression Discontinuity (RD):** to be applied on all households in the sample that have BISP poverty scores within a defined bandwidth around the BISP poverty score eligibility threshold. We will follow the approach defined in Section 2.5.2.
- **Propensity Score Matching (PSM):** to be applied on all households in the sample for which we find a successful match between BISP beneficiaries (treatment group) and non-beneficiaries (control group) households. We will follow the approach defined in Section 2.5.3.

### Why are we implementing multiple approaches?

The application of the multiple quasi-experimental approaches is a response to a disadvantage identified in the previous evaluation, which employed only the RD approach. In particular that the RD approach focusses solely on households in close proximity to the BISP poverty score threshold, and did not include BISP households with lower BISP poverty scores. This is an issue as it is not unreasonable to consider that the BISP has heterogeneous impact on outcomes depending on the BISP poverty score of a particular household.

The trade-offs between the RD and PSM approaches are, in the present case, essentially a trade-off between the internal validity and external validity offered by each approach, which are defined in the box below.

#### Internal and external validity

Internal validity refers to the robustness of the methodology employed to isolate the causal impact of BISP on outcomes, including how the methodology overcomes the problem of selection bias. Achieving internal validity is crucial as without this the results of the evaluation will be open to criticism from external reviewers that the approach has failed to isolate the true causal impact of the BISP. This would reduce confidence in evaluation results, and subsequently in their application for programmatic improvements. In the context of the evaluation of the BISP the PSM approach has weaker internal validity and is more model dependent than the RD approach.

External validity in the context of the evaluation of the BISP refers to how well the results of the evaluation apply to all BISP beneficiaries. The RD approach requires the evaluator to focus on beneficiary households with poverty scores in closer proximity to the eligibility threshold and thus is not necessarily representative of beneficiary households with poverty scores further away from the poverty threshold. As such RD has weaker external validity than PSM

### 2.5.2 Regression discontinuity

We implemented the RD on a set of households that were sampled to be within a narrow bandwidth of the BISP poverty score. This includes both households that were

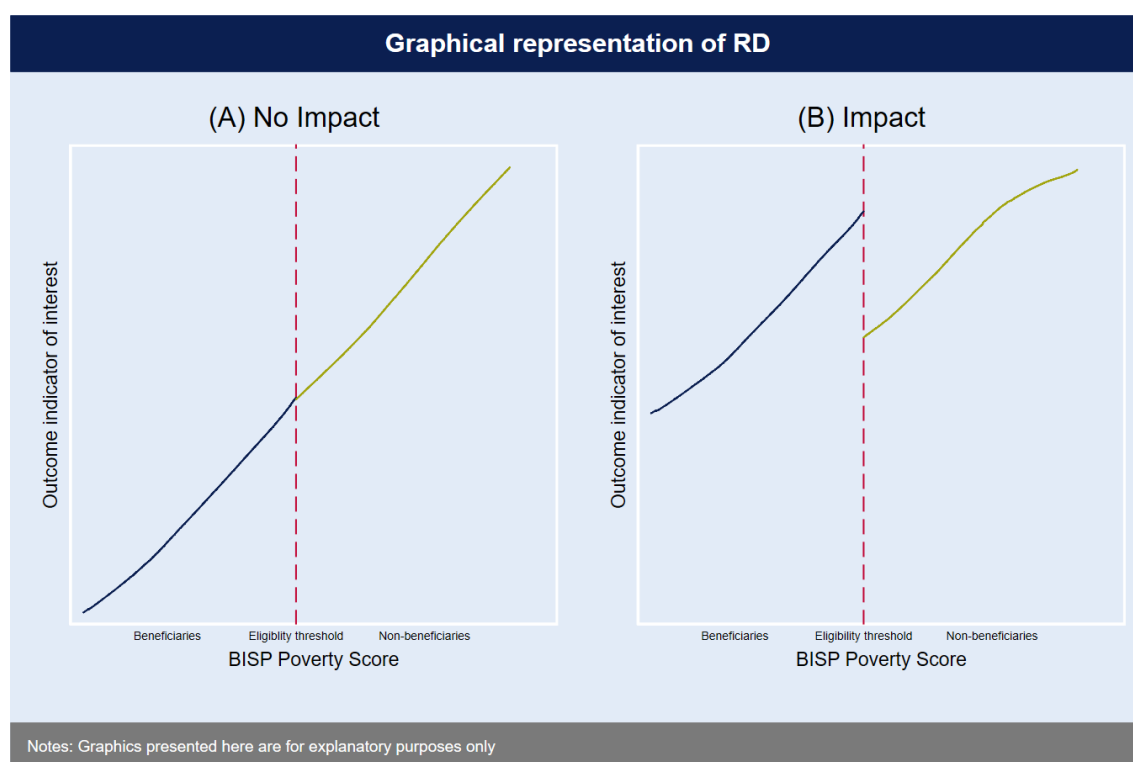
interviewed in 2016, as well as households that were sampled for interview for the first time in 2019.

RD exploits one of the key features of the BISP, i.e. that it targets its beneficiaries through the implementation of the BISP poverty score card, with households only being targeted if they have a BISP poverty score lower than the defined eligibility threshold score.

The RD works through a kind of virtual random assignment and focuses on households just below and just above the eligibility threshold, in our case these will include households with poverty scores  $\pm 5$  points from the eligibility threshold of 16.17. In the case of the BISP these will be the treatment and control households respectively. The approach relies on the assumption that these households are very similar and differentiated only by small differences in the poverty score<sup>4</sup>, thereby overcoming the problem of selection bias.

Figure 1 graphically presents the logic behind this approach. In the neighbourhood of the eligibility threshold we can expect treatment and control households to be very similar, at least at the point before treatment households had started receiving cash from the BISP, both in terms of outcome variables as well as other characteristics unrelated to the BISP.

**Figure 1: Graphical representation of RD**



<sup>4</sup> As part of OPM's previous evaluation of the BISP these assumptions were tested and shown to hold.

In this evaluation, we will investigate if there is a discontinuity in the outcome variable at the eligibility threshold using regression techniques. Panel A of Figure 1 represents the situation where there is no discontinuity in the outcome at the eligibility threshold and hence we would observe that BISP does not have an impact on the outcome. Alternatively, Panel B of Figure 1 represents the situation where there is a discontinuity in the outcome at the threshold and hence we would observe that BISP does have an impact on the outcome.

Technical details of the RD approach, including the assumptions that must be satisfied in its application can be found in Annex A.

### **Fuzzy RD design**

Figure 1 presents the case of what is known as a 'sharp RD'. This implies that treatment status should perfectly match the eligibility of the household. However, this is not always the case for the BISP. As noted in the TOR and in our final impact evaluation report of the previous evaluation (*OPM, 2016*) there are a significant number of cases for which households have been determined as eligible by the BISP poverty score but could not be enrolled in the programme because of logistical challenges such as CNIC mismatch, name mismatches, death, or a change in marital status.

We therefore implement what is known as a 'fuzzy RD design', where the causal impact of the BISP 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 (*Lee & Lemieux, 2010*).

Further details of the fuzzy RD approach can be found in Annex A.

### **2.5.3 Propensity score matching**

We apply PSM on a wider set of households than the RD approach. Specifically we apply the PSM to all BISP beneficiary households within the evaluation sample for which we find an adequate statistical match amongst the non-beneficiary households in our sample.

The inclusion of PSM in this round of evaluation is expected to improve our ability to apply the impact evaluation results to a broader population of BISP beneficiaries. In particular we will make use of matching to construct comparable treatment and control groups of beneficiary and non-beneficiary households with poverty scores further away from the BISP eligibility threshold. The purpose of this is to counteract the external validity concerns of the RD approach and to provide us with findings that are more representative of all BISP beneficiaries.

PSM is a two-stage analytical approach that employs a propensity score as a 'comparator metric'. The propensity score summarises the information of the set of relevant characteristics that describe why treatment and control households are different and that therefore drive selection bias. The first stage of any PSM is to

compute a valid propensity score for each unit of observation. The second stage is to compare outcome indicators of interest across treatment and control households with similar propensity scores.

Like other quasi-experimental designs, PSM tackles the problem of selection bias by constructing appropriate comparisons to the beneficiary households in the treatment group, thus building a valid counterfactual. This happens by matching and comparing outcomes for units in the treatment group with control units that are as similar as possible to each other according to a set of relevant observable characteristics. These are characteristics that are thought to be driving selection bias as they are systematically different across the treatment and control groups and are related to outcome measures of interest.

The propensity score is the comparator metric constructed in the first stage that summarises the information contained by these relevant characteristics. For the propensity score to be valid it needs to be calculated using relevant variables<sup>5</sup> that are, crucially, not influenced by the BISP. This represents a challenge in the case of the evaluation of the BISP, as we do not have information on sampled households from before they started receiving payments from the BISP. In other words we do not have a 'pure baseline'. Hence, to meet this important condition, our model will construct propensity scores only using 'static variables' that are not influenced by the BISP.

These variables may include: household demographics; education of the household head; average level of education of households adults; first language; proximity to services; proximity to markets.

This lack of a pure baseline represents a limitation of using PSM for the evaluation of the BISP, as it would have been preferable to match on a larger range of characteristics that are known to influence the outcomes of interest. For example, it would have been preferable to also include baseline levels of household poverty and food security in the first stage construction of the propensity score.

However, OPM has experience of constructing and applying PSM models with a limited range of static variables for the purpose of estimating programme impact (*Binci et al., 2018*). Building on this experience we will seek to build the optimal model within the constraints of the evaluation context by using also a data-driven algorithmic approach that aims to reduce researcher discretion in the choice of variables. See Annex B for a description of this approach.

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<sup>5</sup> Variables that actually drive the selection bias, i.e. the systematic differences that exist between treatment and control units



## 2.5.4 Quantitative sampling

In this section we describe the sampling approach for the quantitative household survey conducted for this evaluation. This includes a description of the sample size for both the UCT and CCT components of the BISP.

The quantitative component of the evaluation comprises a sample of 12,557 households. 9975 household interviews were completed to evaluate the UCT component of the BISP, which was split between households that were previously interviewed in 2016, and those that were interviewed for the first time. A further 2,582 households were interviewed for the CCT component of the BISP, which were freshly sampled to be interviewed for the first time in 2019. The fieldwork was conducted between March 2019 and May 2019.

The sampling strategy is designed to allow for the implementation of the two evaluation approaches discussed above.

### Total sample size

Table 2 presents the total household sample size that will be interviewed as part of the quantitative component of the evaluation. The sampling approach is complex as we need to sample to accommodate the implementation of two distinct quasi-experimental evaluation approaches. As such we will be sampling the following groups of households:

For the both the UCT & CCT component of the evaluation we will:

- Sample a set of BISP beneficiary households that have BISP poverty scores in the range  $11.17 \leq s \leq 21.17$ . This will form the treatment group for the RD approach
- Sample a set of BISP non-beneficiary households that have a BISP poverty scores in the range  $11.17 \leq s \leq 21.17$ . This will form the control group for the RD approach
- Sample a set of BISP beneficiary and non-beneficiary households that have BISP poverty scores in the range  $s < 11.17$ . This will form additional treatment and control households that can be used for the PSM approach. We will attempt to conduct the PSM approach on all households in the evaluation sample with BISP poverty scores in the range  $0 \leq s \leq 21.17$ , for which we can find appropriate treatment and control matches.

The main difference in approach between our sampling for the UCT and CCT is that we expect the sample for the UCT to provide impact results that are representative of BISP beneficiaries at both the national level as well as at the provincial/regional level, whilst the sample for the CCT will only be representative of BISP beneficiaries in 32 districts in which the CCT has been in operation for more than one year, and the CCT results will not be representative for lower levels of disaggregation.

**Table 2 Evaluation sample size**

			All households		Households interviewed in 2016	
	PSUs	Total Households	Treatment	Control	Treatment	Control
<b>Unconditional Cash Component</b>						
<b>Punjab</b>	123	2,379	1,286	1,093	802	619
<b>Sindh</b>	113	2,433	1,432	1,001	1,221	787
<b>Khyber Pakhtunkhwa</b>	89	1,856	1,075	781	903	609
<b>Balochistan</b>	60	1,171	627	544	101	68
<b>GilgitBaltistan</b>	62	1,358	706	652	0	0
<b>FATA</b>	19	778	386	392	0	0
<b>Total</b>	466	9,975	5,512	4,463	3,027	2,083
<b>Conditional Cash Component</b>						
<b>Total</b>	124	2,582	1,305	1,277	0	0

Whether the sample size is sufficient enough in order to serve evaluation objectives can be investigated through the Minimum Detectable Effect (MDE) size. An MDE defines the minimum impact that the BISP must achieve on key outcome indicators of interest that a given sample size will be able to detect. The implication of a given MDE is that if the BISP has a 'real impact' that is less than the MDE there is a real danger that given the sample size the evaluation will not be able to detect this impact and conclude that BISP did not have a statistically significant impact on a particular indicator, in what is known as a false negative.

Our power calculations to estimate the MDE at national and provincial levels are presented in Annex D. This suggests that the achieved sample size is sufficient for evaluation purposes at both national as well as regional levels. The exception is FATA, where a combination of lower than expected sample size and higher than expected intra-cluster correlations (a determinant of MDE) mean that the realised MDE in FATA is significantly higher than expected. As a result estimates of BISP impact in FATA should be treated with caution.

## 2.5.5 How to read impact evaluation tables in this report

The table below gives an example of how we present all of our impact evaluation results that are presented in Part C of this report.

- Column (a) presents the outcome indicator of interest

- Column (b) presents the mean value of the outcome for all beneficiaries in the sample
- Column (c) presents the mean value of the outcome for beneficiaries included in the RD sample, i.e. those closest to the BISP eligibility score
- Column (d) presents the sample size for the RD sample
- Column (e) presents the sample size for the PSM sample
- Columns (f) and (g) present the impact estimates for the RD and PSM estimation models respectively. For a continuous variable, such as per adult equivalent consumption expenditure, these should be interpreted as the absolute change in that outcome attributable to the BISP. For a binary variable, such as proportion of households who are poor, these should be interpreted as the percentage point change in that outcome attributable to the BISP. We indicate with stars where an impact is statistically significant, i.e. that the BISP has generated an impact on that outcome. \*\*\* denotes significance at the 1% level, \*\* at the 5% level, and \* at the 10% level.

	Mean (treatment)		Sample size (treatment)		Impact Estimate	
	All bens	RD bens	RD	PSM	RD	PSM
(a)	(b)	(c)	(d)	(e)	(f)	(g)
<b>Source:</b> BISP impact evaluation survey (2019). Notes: (1) Asterisks (*) indicate that an impact estimate is statistically significant: *** $p < .01$ ; ** $p < .05$ ; * $p < .10$ .						

## 2.6 Qualitative evaluation approach

In recognition that a quantitative approach is unlikely to provide sufficient depth or nuance on the measurement of BISP impact on some outcomes, the qualitative evaluation took the lead on assessing the impact of the BISP on the female empowerment of its beneficiaries. Furthermore, the qualitative research, as per our evaluation matrix given in Section 2.4, explores a range of other issues including livelihood diversification, and community relations. However, these issues will be explored in relation to female empowerment, and in particular how each affects and is affected by female empowerment supported by the BISP.

In particular the qualitative research will focus on answering the following questions that are provided in our evaluation matrix given in Section 2.4:

- Does this BISP lead to an impact on gender dynamics and women's empowerment?
- What are the risks faced by women?
- Does the BISP support beneficiaries in engaging in alternative livelihood strategies, such as investments in business activities?
- For the CCT component - what other barriers stop children achieving in school?

## 2.6.1 Methodology and Sampling

The scope of the study covers the four main provinces that is Punjab, Sindh, Khyber Pakhtunkhwa and Balochistan and one regional territory of GilgitBaltistan (GB), in urban and rural communities in each province/region in selected districts.

A triangular approach was used for exploring impact of BISP on women empowerment and considering that status of women is related to multiple social and cultural dimensions and human relationships. Therefore, data will be collected from beneficiary and non-beneficiary men and women that is recipient and non-recipient women and their husbands.

Data collection will be conducted using the following tools:

- Key Informant Interviews;
- Focus Group Discussions/participatory tools;
- In-depth Interviews;
- Observation checklists;

Two districts were purposively selected for the Unconditional Cash Transfer (UCT) and one district will be selected for the WeT impact assessment from each province. Selection of UCT districts was based on poverty levels (poorer districts) while CCT district will be selected from amongst the WeT districts but with similar socio-economic characteristics as the UCT districts. In each district, one urban and one rural community will be randomly selected to assess any variations in terms of locality status. Table 3 below shows the data collection sample size according to respondent categories and type of tools in each community.

**Table 3 Number of tools used by respondent type per community (UCT)**

Tools	Respondent category	Numbers
<b>Key Informant Interviews</b>	Community influential or opinion maker (LHW; school teacher; social activist; religious leader; local counsellor)	1
<b>Focus Group Discussions/participatory tools</b>	Beneficiary husbands; Recipient women; Non-beneficiary husbands; Non-beneficiary women;	4 beneficiaries (2 men and 2 women); 2 non beneficiaries (1 men and 1 women)
<b>In-depth Interviews</b>	Recipient women; Beneficiary husbands; Non-beneficiary woman; Non-beneficiary husband;	2 each = 4 1 each = 2
<b>Total sample size:</b>		KII = 20

Tools	Respondent category	Numbers
<b>10 districts and 20 communities in four provinces and two regional territory.</b>		FGDs: beneficiary husband = 40 Beneficiary women = 40 Non-beneficiary husbands = 20 Non-beneficiary women = 20 IDIs BISP = 80 IDIs non-BISP = 40

The Waseela-e-Taleem (WeT) research will be conducted in one selected district in each province and GB, in one urban and one rural communities. Women empowerment will be a dominant cross cutting theme in this research also but its main focus will be on beneficiary feedback on WeT and if and how it has been effective in changing beneficiaries' attitudes and practices towards children's schooling.

The type of tools will be similar to the UCT research however guidelines will be different. For this research component data will be collected from beneficiary households as we are more interested in the impact of a specific intervention and its effect on recipients.

**Table 4 Number of tools used by respondent type per community (CCT)**

Tools	Respondent category	Number of tools
<b>Key Informant Interview</b>	School principal; School teacher; Social activist;	1
<b>Focus Group Discussion</b>	Beneficiary HH Fathers; Beneficiary HH Mothers;	2 2
<b>In-depth Interviews</b>	Beneficiary Mothers; Beneficiary Fathers;	2 2
<b>Total: 6 districts in four provinces and two regional territory; 12 communities across 6 districts;</b>		KII: 5 FGD: 24 mothers; 24 fathers; IDIs: 24 mothers; 24 fathers;

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## **Part B: BISP Implementation**

### 3 BISP beneficiary experience

#### Evidence summary

In this section we provide evidence on the implementation of the BISP. This draws on data from both collected during this impact evaluation, as well as a third party monitoring exercise conducted under a separate contract. The key findings are:

Despite efforts by the BISP to increase the nominal value of the transfer from PKR 3,000 per quarter to its current value of PKR 5,000 we find that the **real value of the transfer has decreased by 9%** over the lifetime of the BISP.

We also find evidence of **delays in the disbursement of the transfer** which means that beneficiaries do not receive the full PKR 20,000 within an annual cycle, with a third not receiving a payment in the last quarter. We also find that this performance is weaker than the last evaluation conducted in 2016.

The combination of these factors means that the **value of the transfer has decreased relative to the level of consumption expenditure** affecting the real purchasing power that can be potentially derived from the transfer.

**Women retain control over the cash** to a large degree, with BVS beneficiaries more likely to retain control than BDC beneficiaries.

#### 3.1 Payment mechanisms

BISP has implemented a range of payment mechanisms since its inception. Originally all beneficiaries received their instalments through the Pakistan Post, who were expected to deliver cash to beneficiaries' doorsteps. This system was phased out and replaced from 2012 with the Benazir Debit Card (BDC) an ATM card that could be used to collect instalments from any ATM machine (or a POS agent) in Pakistan. From 2016 BISP began to roll-out a new payment mechanism known as the Biometric Verification System (BVS), and is currently in the process of converting all beneficiaries to this payment system.

### Box 1: Payment mechanisms

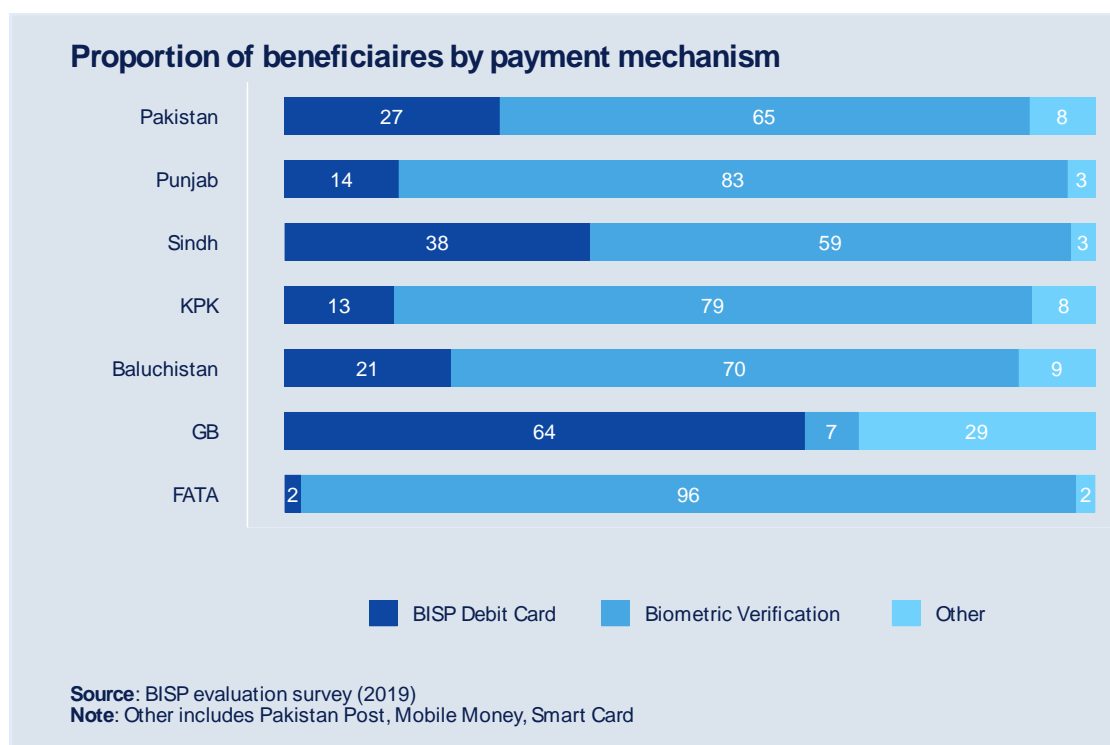
**Benazir Debit Card (BDC):** beneficiaries are provided with an ATM card from which a beneficiary can draw her instalment from an ATM machine or from a franchise/retail agent of a partner bank through a Point of Sale (POS) machine. BISP is in the process of transferring all BDC beneficiaries to the Biometric Verification System detailed below.

**Biometric Verification System (BVS):** a system through which a beneficiary's biometric information is collected. To collect her instalment a beneficiary would present her Computerised National Identify Card (CNIC) against which her biometric information has been tagged and can be verified at the payment collection point. Payments are disbursed through 6 partner banks who work through their branch networks, retail agents, franchise, or in partnership with mobile phone companies.

**Other payment mechanisms:** BISP has used a number of payment mechanisms over its history, including making payments through the Pakistan Post, a Benazir Smart Card, and through mobile banking. Currently the Pakistan Post is the only alternative mechanism in use, with the others having been phased out.

As depicted in Figure 2 the majority of beneficiaries receive their instalments through the BVS, with approximately two thirds of all beneficiaries now transferred to this payment mechanism. There is some significant regional variation in the progress that has been made with this changeover, with the majority of beneficiaries in Gilgit-Baltistan and over one third of beneficiaries in Sindh continuing to receive payments through the BDC.

**Figure 2 Proportion of beneficiaries by payment mechanism**



Nationally only a small proportion of beneficiaries continue to receive instalments through alternative payment mechanisms, the majority of which who remain on the



Pakistan Post system and do so because they live in areas that are not well covered by the infrastructure of newer payment mechanisms.

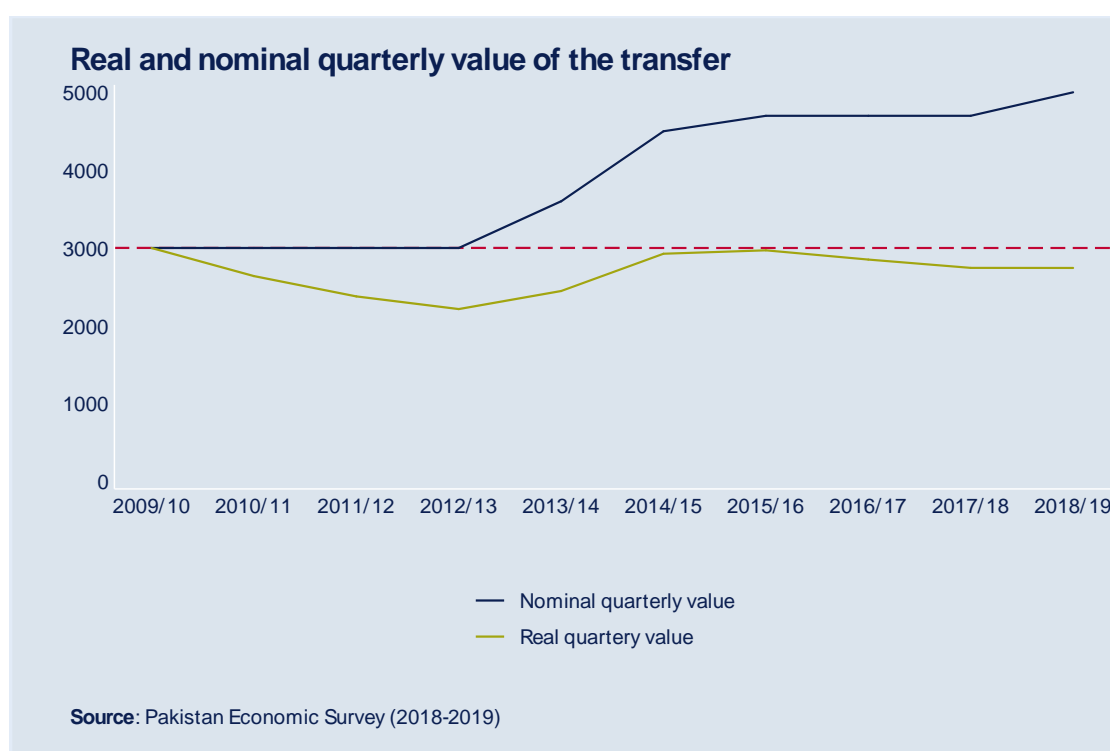
### 3.2 Real value of the transfer

The value of the BISP transfer has steadily increased over the lifetime of the BISP, with the programme recognising that the maintenance of the real value of the transfer is crucial in achieving its objectives. At the inception of the BISP, the planned value of the transfer per beneficiary was PKR 3,000 per quarter which has now increased to (at the time of writing this report) to PKR 5,000 per quarters, with beneficiaries expecting to receive 4 transfers per year.

Thus the relevant planned transfer amount to be considered as the reference for this evaluation is PKR 5,000 per quarter, which amounts to PKR 20,000 annually or PKR 1,666.67 per month.

Whilst the nominal value of the transfer has increased by 67% since the inception of the BISP the Consumer Price Index (CPI) over the period to the 2018/19 financial year has grown annually on average by just over 7%<sup>6</sup>.

**Figure 3 Real and nominal value of the transfer**



The implications of this inflation are depicted in Figure 3 above, with the real quarterly value of the transfer (indexed to 2009/10 prices) falling by 9% from PKR 3,000 to PKR

<sup>6</sup> Government of Pakistan (2019)

2,743 in the 2018/19 financial year, a significant fall in the purchasing power accruing to beneficiaries from their instalments. This reflects the reality of the macro-economic conditions in Pakistan over the lifetime of the programme despite the efforts of BISP to maintain the real value of the transfer with regular increases to the nominal value, this evaluation finds that these efforts have not been sufficient to maintain the real value of the transfer in the face of high rates of inflation.

### **3.3 Number and value of transfers received in the last 12 months**

#### **3.3.1 Expectations of transfer value**

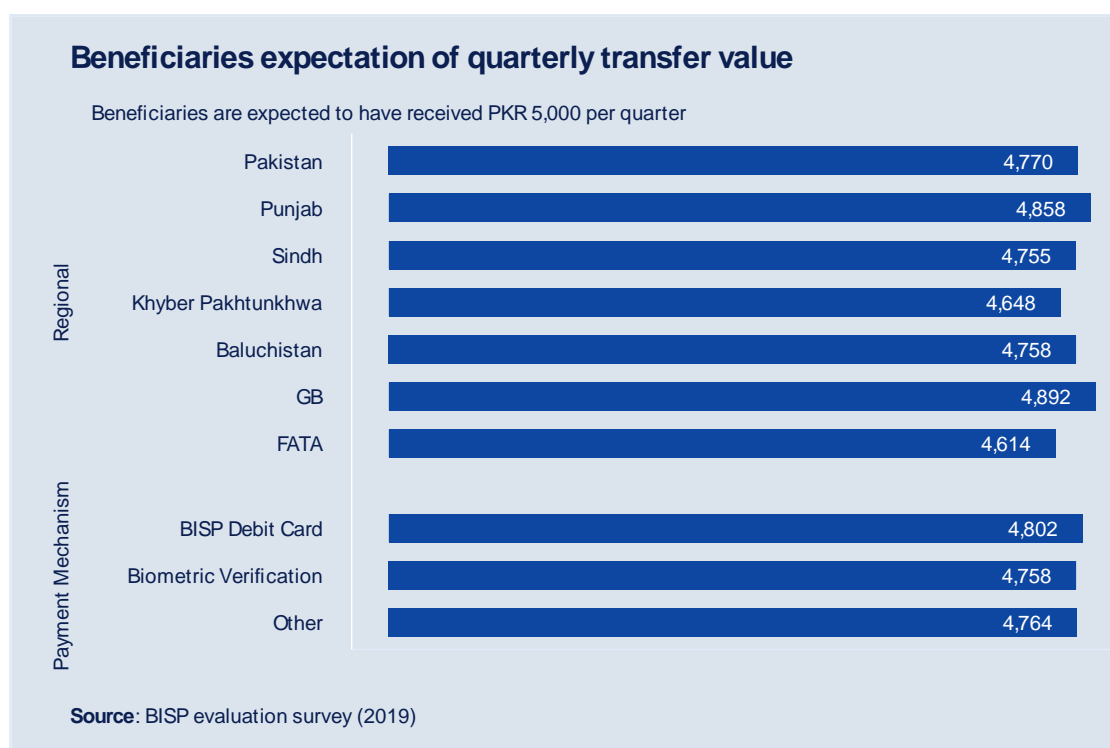
Transparency of the payment mechanism and the resulting knowledge of beneficiaries about the process of accessing payments and their rights within it, are crucial in an effective payment mechanism. Key to this are the expectations of beneficiaries around the value of the transfer, which directly impacts the ability of women to demand that the full value of the transfer is given to them at each instalment.

Figure 4 reports that on average beneficiaries expect a value of PKR 4,770 to be transferred per quarter, or 95% of the actual value of the quarterly transfer. There is some variation across the regions of Pakistan with beneficiaries in Punjab and Gilgit-Baltistan expecting statistically significant higher values, whilst beneficiaries in Khyber Pakhtunkhwa and FATA expecting statistically significant lower values of the transfer as compared to the national average. We also explored whether there were differences across payment mechanisms, and found no statistically significant differences.

Whilst, beneficiaries' expectations around the value of the transfer closely matched reality, the existing gap may relate to the frequency with which BISP communicates to its beneficiaries on issues related to the payment mechanism. Third Party Monitoring (TPM) carried out separately from this evaluation<sup>7</sup> identified that on average relatively few beneficiaries had received information directly from BISP and their related staff, with less than a quarter of all beneficiaries receiving information related to frequency of payments, payment point locations, payment functionality or about the transfer of beneficiaries to the BVS mechanism.

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<sup>7</sup> OPM (2019a)

**Figure 4 Expectations of quarterly transfer value**

### 3.3.2 Number of transfers received in the last 12 months per beneficiary

A key success factor in the delivery of a programme such as BISP that is designed to provide income support to poor and vulnerable households, is that it is provided in a frequent and predictable manner. This is crucial as it facilitates consumption smoothing, planning of expenditures and facilitates moderate risk-taking in anticipation of future rewards<sup>8</sup>. Furthermore, global evidence suggests that when there are significant delays in the delivery of cash this can undermine impacts on household consumption and poverty with any effects tending to be concentrated around pay dates<sup>9</sup> and not consolidated year round.

BISP payments are expected to be made quarterly and each beneficiary is expected to receive a total of 4 payments in an annual cycle. The household survey contained a module asking each beneficiary how many payments she personally received in the last 12 months. Given that the timing of the evaluation survey (March 2019 – May 2019) may not precisely coincide with the actual payment day for the final quarter, we consider payments to be regular if beneficiaries reported receiving at least three payments in a 12 month cycle.

<sup>8</sup>Daidoneet. al. (2015)

<sup>9</sup>FAO (2016)

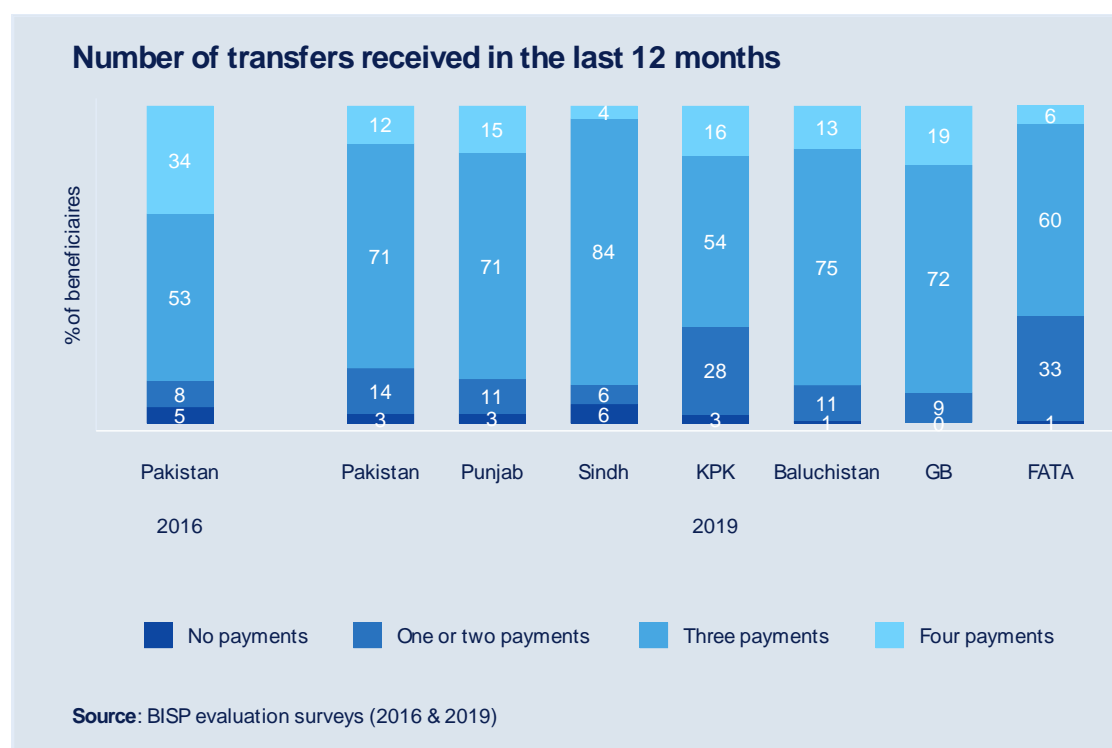
**Figure 5 Number of transfers received per beneficiary in the last 12 months**

Figure 5 reports that on average 83% of beneficiaries received at least three payments in the last 12 months. It should be noted that this represents a decrease in the performance of the payment mechanism as compared to the last evaluation<sup>10</sup>, which found that 87% of beneficiaries had received at least three payments. This represents a 5% reduction in the proportion of beneficiaries that are considered as receiving regular payments.

Figure 5 also demonstrates considerable variation in the performance of the payment mechanisms across regions of Pakistan, with beneficiaries in FATA and Khyber Pakhtunkhwa receiving the fewest payments, with just 66% and 70% of beneficiaries receiving at least three payments respectively.

As noted above the trust of beneficiaries in the regularity with which transfers are delivered can be an important determinant of how a beneficiary views the transfer and how they will choose to use it. TPM conducted separately from this evaluation<sup>11</sup> notes that the transfer is expected to be delivered on a quarterly basis in accordance with the Pakistan financial year, that is it is expected to be delivered in: July, October, January and April. However, the TPM also notes that there can often be logistical challenges in the delivery of disbursements.

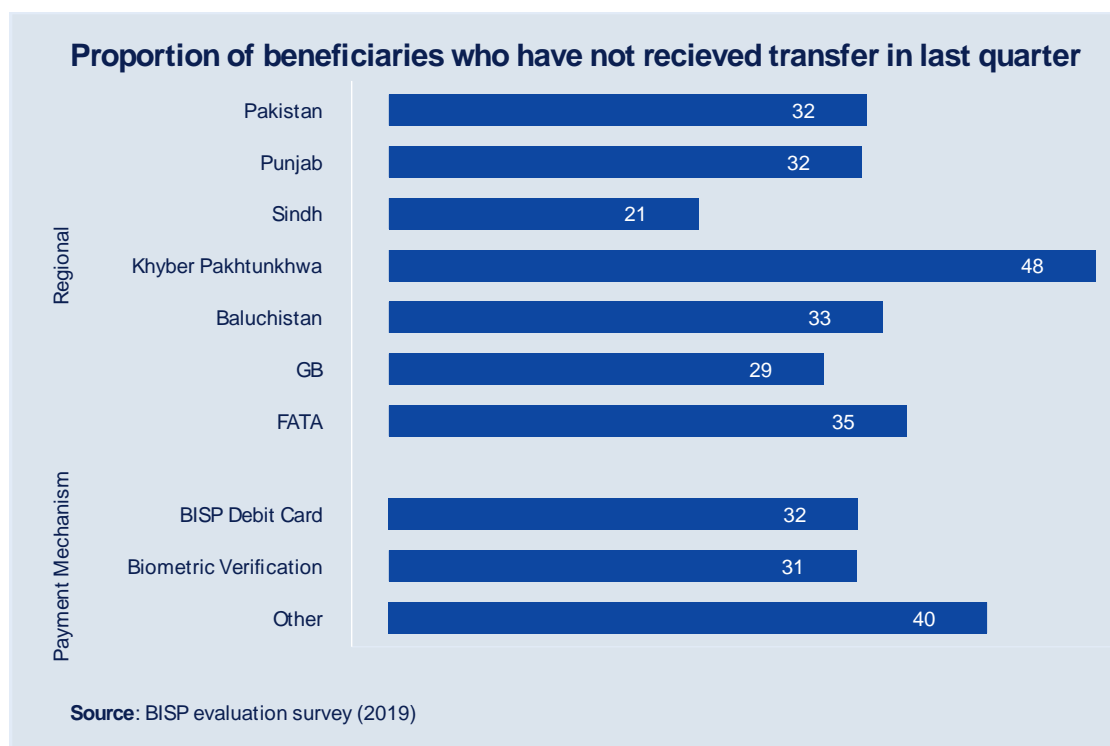
Figure 6 suggests that this is certainly the case for some beneficiaries in our evaluation sample, reporting that approximately a third of all beneficiaries had not received a

<sup>10</sup> OPM (2016)

<sup>11</sup> OPM (2019a)

transfer in the quarter preceding the 2019 evaluation survey. There is significant variation across regions of Pakistan, with the fewest beneficiaries in Sindh not having received a transfer in the last quarter (21%), and the most beneficiaries in Khyber Pakhtunkhwa (48%).

**Figure 6 Proportion of beneficiaries who have not received a transfer in the last quarter**



The infrequency of payments can place a burden on beneficiaries, particularly when the dates of the transfer are not adequately communicated to beneficiaries. Whilst beneficiaries across all provinces indicated that they usually expected to receive their payments quarterly, payments could be delayed without any prior information being provided to beneficiaries. This led to unnecessary costs for beneficiaries as they spent money to travel to payment points only to find their transfer was not available.

*‘Our last payment came after almost six months and despite several trips to the BISP tehsil office we were not provided with any timelines or explanations for the delay in payment. It was not only mentally distressing but also many beneficiaries spent extra cost on transport to the BISP office.’ (Female beneficiaries FGD, Rural Sibi, Balochistan)*

Beyond this the qualitative research indicated that delays in payments placed significant burden on households in terms of having to cut back on planned expenditure. In general across the districts visited for the qualitative research respondents indicated that they most commonly had to cut back on food and education expenditure when their transfer was delayed, with many reporting that they delays had induced many to borrow to make ends meet.

*‘If BISP payment gets delayed, I feel quite stressed because I pay my daughters school fee from it. Last year, payment was delayed by more than six*

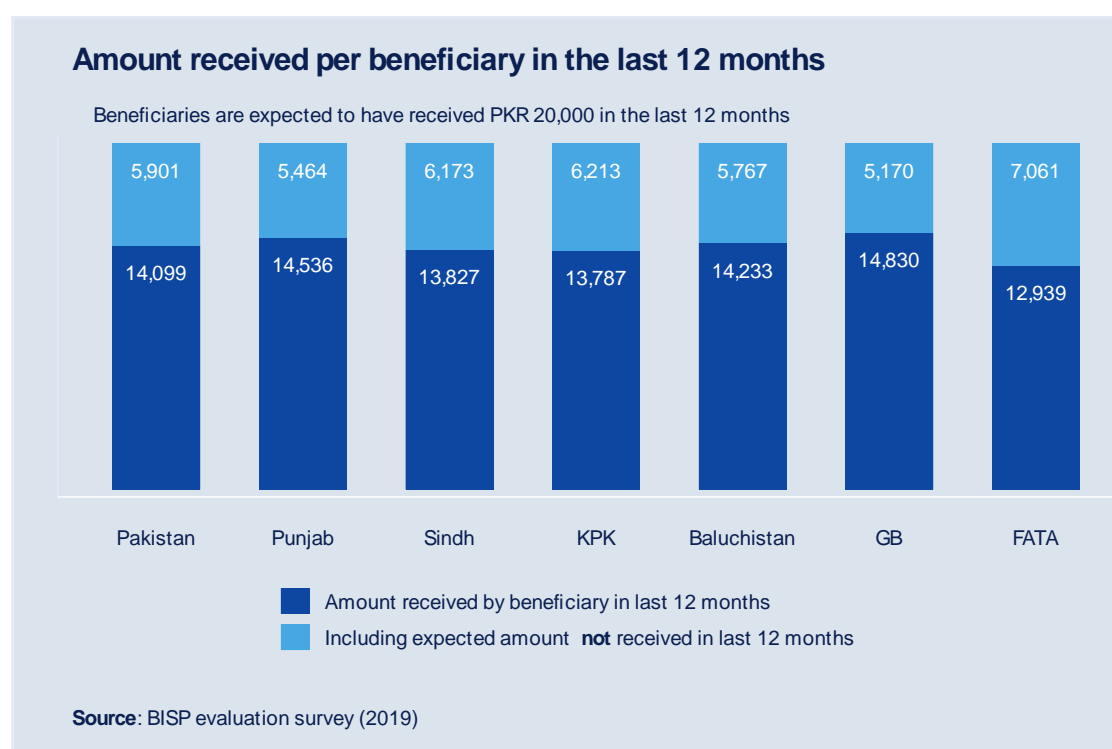
*months and finally we had to borrow money from my brother in law to pay her fee.’ (Female beneficiary IDI, Urban Khairpur, Sindh)*

### 3.3.3 Transfer value received in last 12 months

Over the reference period of the 2019 survey each BISP beneficiary was expected to have received PKR 20,000 in an annual cycle spread over quarterly payments. As would be expected based on the discussion above relating to the number of payments received in the last 12 months Figure 7 reports that on average beneficiaries had received PKR 14,536 in the last 12 months, equivalent to 70% of the total value that a beneficiary would have expected to receive in that period.

Allowing for slight variations in the payment cycle acknowledging that the 12 month recall period for the 2019 evaluation may not exactly coincide with the BISP quarterly payment cycle we would expect beneficiaries to have received at least three quarterly payments for a total of PKR 15,000. However, as Figure 7 reports, on average this target has not been achieved either at national level or across the regions of Pakistan.

**Figure 7 Value of transfer received per beneficiary in last 12 months**



This represents a significant reduction in the performance of the payment system since the 2016 round of evaluation, which found that beneficiaries had received 79% of the total expected amount of the annual transfer (PKR 18,000 at the time)<sup>12</sup>. This

<sup>12</sup> OPM (2016)

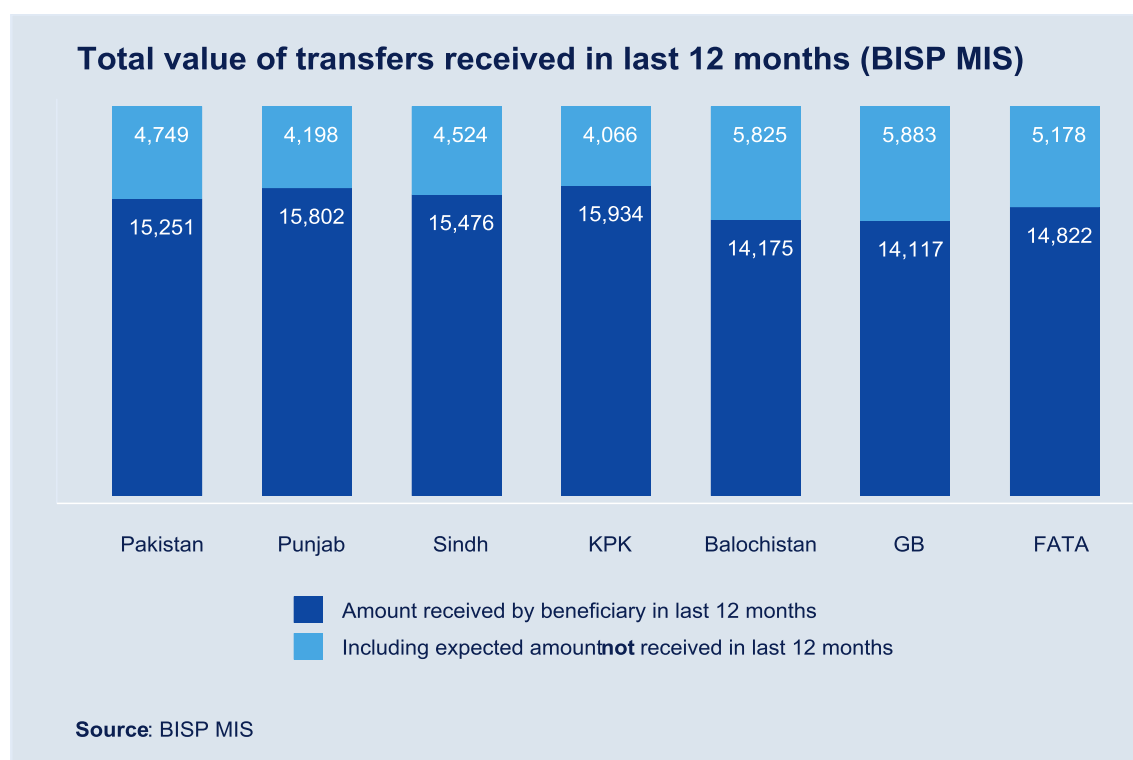
corresponds to an 11% reduction in the proportion of the total transfer that was actually delivered to a beneficiary within a 12 month cycle.

To validate our findings from the self-reported data we confirmed our findings by using records of payments made to beneficiaries' accounts that is housed in the BISP MIS. Please note that these are only available for beneficiaries who receive benefits through the BDC and BVS payment mechanisms, for which withdrawal data is kept electronically and not for beneficiaries who receive benefits through the Pakistan Post system. These findings are presented in Figure 8.

We find that the BISP MIS reports similar results to the self-reported data, indicating that on average beneficiaries received PKR 15,251 or 76% of the total expected value of the transfer in the last 12 months.

This compares more closely to the self-reported data restricted to only beneficiaries who receive benefits through the BDC or BVS mechanisms. These beneficiaries reported that they had received PKR 14,445, or 72% of the total expected value of the transfer in the last 12 months.

**Figure 8 Total value of transfers received in last 12 months as per MIS (BDC & BVS beneficiaries only)**

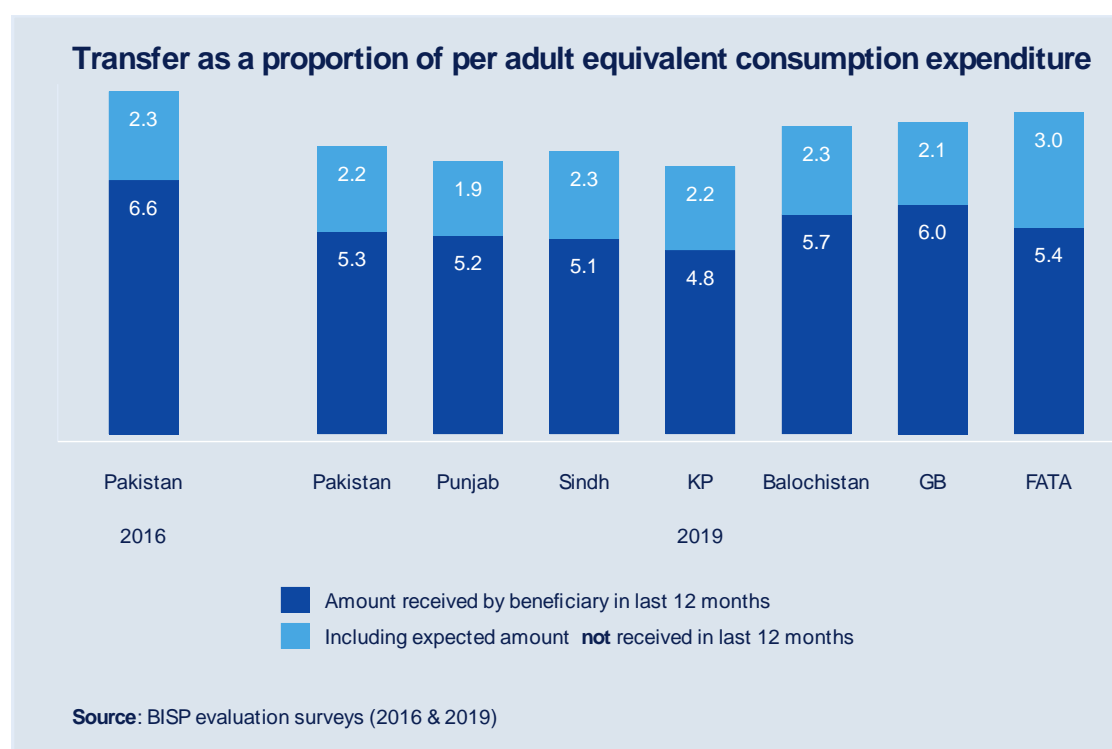


### 3.3.4 Per adult equivalent value of the transfer

The total value of the transfer as described above is only one aspect to consider, in terms of the importance of the transfer for BISP beneficiaries. Given that at least the unconditional component of the transfer is a flat transfer, that is the same amount is given to every beneficiary regardless of household demographics such as household size, it is also important to consider the value of the transfer in relation to household income.

In particular Figure 9 presents the value of the transfer as a proportion of per adult equivalent consumption expenditure. If a beneficiary had received the full amount of the cash transfer in the 12 months preceding the evaluation survey this would be equivalent to 7.5% of per adult equivalent monthly consumption expenditure. This represents a significant reduction from the 2016 round of evaluation of 15%, when if beneficiaries had received the full amount of the transfer, it would have been equivalent to 8.9% of per adult equivalent consumption expenditure.

**Figure 9 Transfer as a proportion of per adult equivalent consumption expenditure**



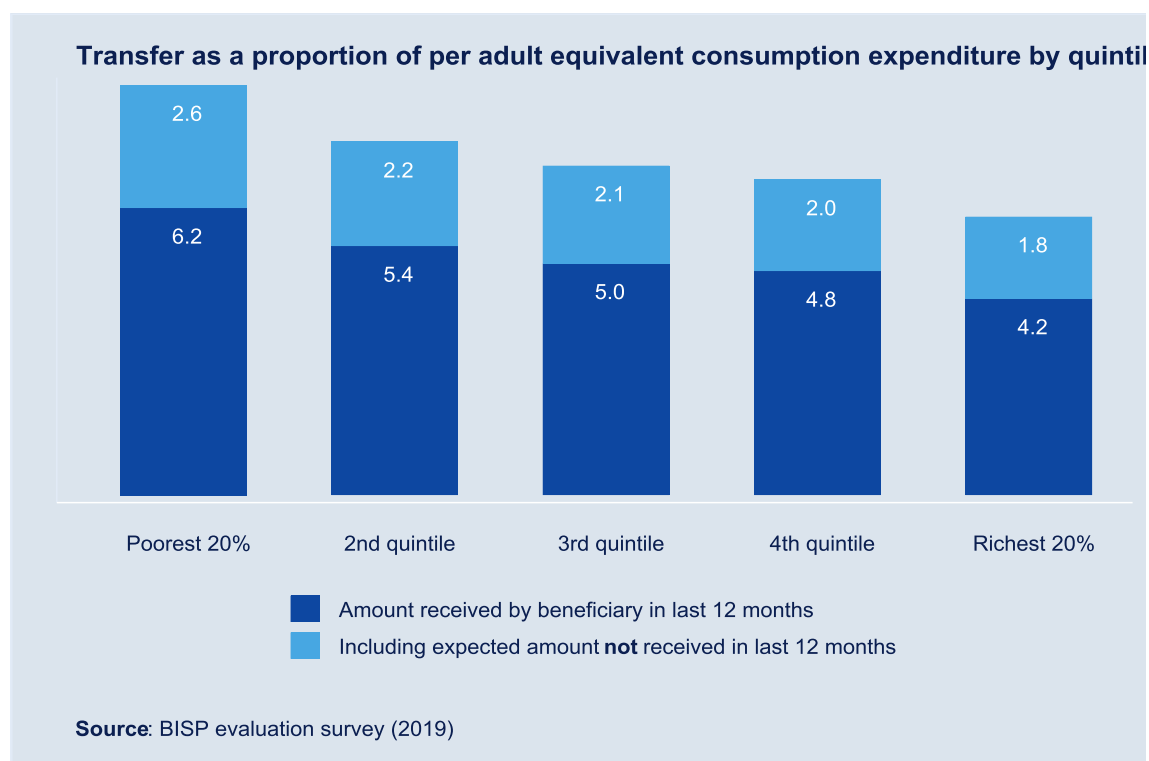
We see a similar pattern when we consider the amount that the beneficiary actually received in the 12 months prior to the evaluation survey, which in 2019 was equivalent to just 5.3% of per adult equivalent monthly consumption expenditure. This represents a 20% reduction from what was observed during the 2016 round of evaluation.

Figure 10 presents the same analysis but disaggregated by quintiles of per adult equivalent consumption expenditure of BISP beneficiaries. This demonstrates significant differences between the value of the transfer as a proportion of per adult equivalent consumption expenditure between the very poorest households and relatively better off beneficiaries.

For the poorest 20% of the BISP beneficiaries if the full value of the transfer had been received this would equate to 8.8% of per adult equivalent consumption expenditure, comparing to 6% for the richest 20% of BISP beneficiaries.



**Figure 10 Transfer as a proportion of per adult equivalent consumption expenditure by quintile**

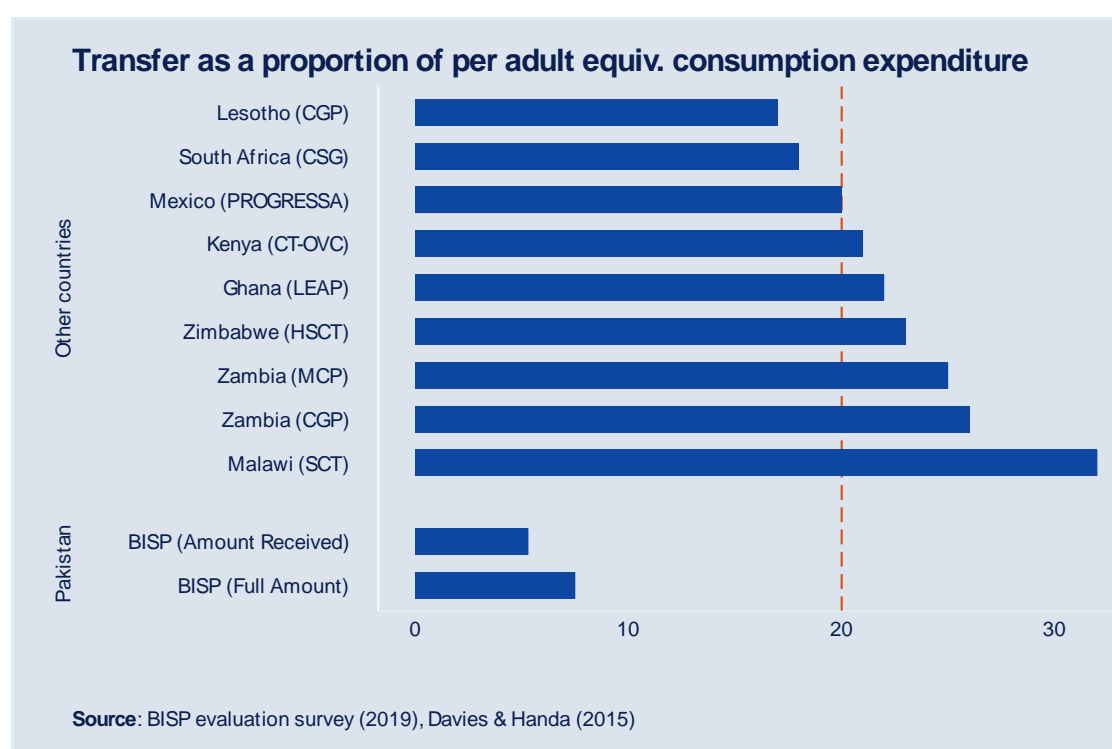


### 3.3.5 Size of the transfer can affect potential impacts

Whilst there is no gold standard for setting the transfer value many programmes attempt to anchor the value to some stated programme objective such as ‘eliminating the poverty gap’, ‘eliminating the food poverty gap’, or providing a percent of the poverty line. Under the original design of the programme it was expected that original monthly stipend of PKR 1,000 would equate to 20% of the average consumption expenditure of eligible households<sup>13</sup>.

The analysis presented above demonstrates that at present the value of the BISP transfer is far from this benchmark. Figure 11 highlights the importance of this finding by offering a comparison of other unconditional cash transfers across the world, demonstrating that the BISP ranks the lowest in terms of the size of the transfer relative to per adult equivalent consumption expenditure of its beneficiaries.

<sup>13</sup> World Bank (2010)

**Figure 11 Comparison of transfer sizes across other cash transfers**

This finding is important as *Davies and Handa (2015)* note in a review of evaluations of similar poverty targeted unconditional cash transfers that a crucial threshold for the value of the transfer as a proportion of per adult equivalent consumption expenditure appeared to be 20%. In their review programmes that transferred significantly less than this threshold had small and selective impacts on beneficiary households, whilst those that transfer more than this threshold show widespread impacts and tend to have an overall transformative effect on beneficiary households.

### 3.4 User costs related to collecting the transfer

As noted in Section 3.1 above the vast majority of households receive their transfer through either the BDC (27%) or the BVS (65%) payment mechanisms, with just 8% receiving their transfer through other payment mechanisms.

Under the BDC mechanism beneficiaries collect their transfer through any ATM in Pakistan, or from a franchise/retail agent of a partner bank through a POS machine. Under the BVS mechanism a beneficiary can collect her transfer through the branch networks, retail agents, franchises or partner mobile phone companies of 6 banks

Table 5 provides details of the types of user costs associated with collecting the BISP cash transfer. This includes time taken and monetary cost of collecting the transfer, the proportion who could not collect the transfer on their first attempt, as well as the amount of “fees” that beneficiaries had to pay in order to collect the transfer.

**Table 5 User costs related to collecting the transfer**

	Province/Region							Payment mechanism		
	Pakistan	Punjab	Sindh	KPK	Balochistan	GB	FATA	BDC	BVS	Other
<b>Costs to collect</b>										
Proportion who took more than one trip to collect	13	16	15	11	12	14	6	10	14	16
Time taken to travel to pay point (minutes)	37	35	33	33	47	44	51	45	35	37
Total cost of travel to collect (PKR)	100	62	93	60	135	209	117	125	82	166
Average time waiting at pay point (minutes)	27	26	31	27	27	20	29	29	27	18

### 3.4.1 Cost of collecting the transfer

The qualitative research indicated that transport was the main cost that they incurred during the collection of the transfer. Beneficiaries in remote communities who still receive payments under the BDC payment mechanism indicated that they solved this challenge by pooling their BDC ATM cards, and asking a single person to collect the money, sometimes at a charge from the person collecting the transfer. Beneficiaries who now receive their payments through the BVS payment mechanism are obliged to collect the transfer themselves and so solved the issue of transport cost by travelling in groups to reduce the cost of transport.

*‘We hire rickshaws or (Chingchies) and four or five of us share the cost, which per person comes to around PKR 20 one way.’ (Female beneficiary FGD, Rural Dadu, Sindh)*

Overall Table 5 suggests that there is a reasonable spread of payment points across all payment mechanisms with beneficiaries having to travel on average 37 minutes to collect the cash transfer. There is some regional variation, with beneficiaries in Balochistan, Khyber Gilgit-Baltistan and FATA having to travel further than their compatriots in other regions of Pakistan.

There were also some noticeable differences between the different payment mechanisms, with beneficiaries of the BVS system having statistically significant lower travel times. This strongly correlates with findings from the TPM exercise<sup>14</sup> carried out separately from this evaluation and reflects the greater ease with which the BVS can spread to more remote communities given that it uses a wider network of possible payment partners.

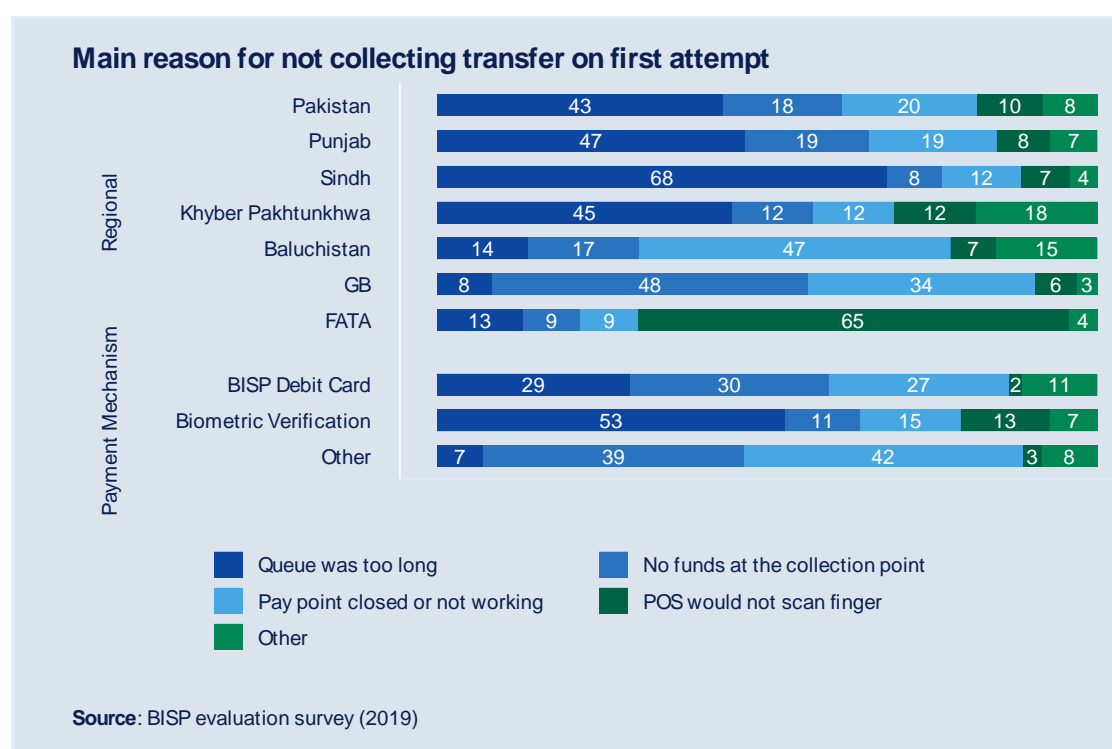
<sup>14</sup> OPM (2019b)

The direct costs of the transfer appear to be relatively low, with beneficiaries spending on average just PKR 100, which amounts to just 2% of the quarterly value of the transfer. However, it should be noted that this evaluation did not record all possible direct costs, and in particular costs such as food consumed whilst waiting for the transfer to be collected. The TPM exercise<sup>15</sup> reports that the average total income lost when collecting their last transfer to be PKR 300 or 6% of the value of the quarterly transfer.

### 3.4.2 Multiple trips to collect the transfer

Not every beneficiary was successful in collecting the transfer on their first attempt, with 13% of beneficiaries reporting that they had had to visit the payment point more than once to collect their last transfer. A slightly higher proportion of beneficiaries of the BVS system reported taking multiple trips to collect the transfer, though this may well reflect their shorter travel time, and relative ease of returning to the payment point.

**Figure 12 Main reason for not collecting transfer on first attempt**



Overall the main reasons for multiple trips across all payment mechanisms were that the *queue was too long*, *no funds at the payment point*, or *the pay point was closed or not working*. Long queues appeared to be a particular problem for the BVS payment mechanism. The TPM exercise<sup>16</sup> can help to explain this finding, which reported that at the time of spot checks at POS sites the average size of the queue waiting at any one

<sup>15</sup> OPM (2019a)

<sup>16</sup> OPM (2019b)

time was up to just over 60 beneficiaries. The size of queues appears to be exacerbated by interruptions to the disbursement of money due to disconnection with either the bank or NADRA's database which affected almost a third of POS sites at the time of the spot check.

It should be noted that in particularly remote communities the cost of collecting the transfer can be considerable, particularly when multiple trips are required to collect the transfer. For example in both rural communities of Sibi district in Balochistan beneficiaries who were receiving payments through the BDC mechanism indicated that the ATM was at such a distance the cost of a round trip could amount to PKR 1,000, a fifth of the value of the cash transfer. They also noted that because of delays to payments that were not communicated to them they sometimes ended up paying considerably more on transport.

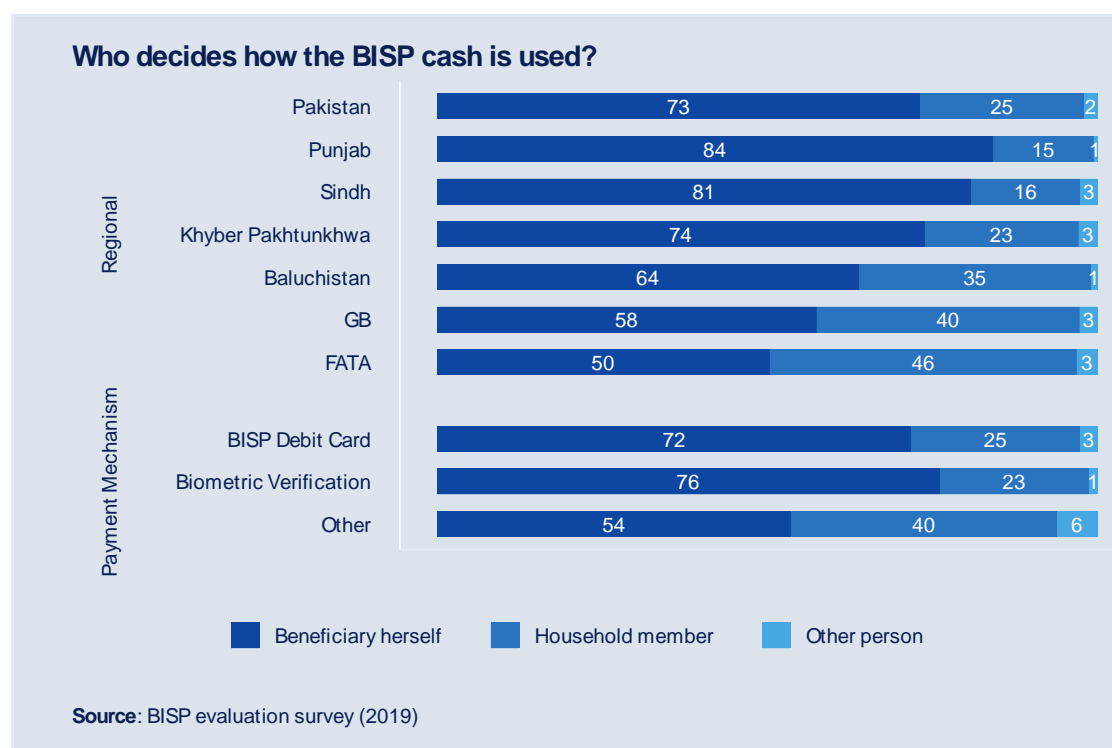
*'Sometimes we have to make multiple trips because either the cash has not arrived or the ATM machine runs out of money or is not working. As a result for collecting PKR 5000 we end up spending PKR 3000.'* (Female beneficiary FGD, Rural Sibi, Balochistan)

### **3.5 Control over the BISP cash transfer**

The BISP cash transfer is targeted at ever-married women within households that have been deemed via the BISP poverty score to be eligible. Critical to the programme theory of change is the objective to promote women's empowerment, and crucial to this objective is that the beneficiary herself retains control over how the transfer is utilised.

Overall Figure 13 describes a positive picture in this regard with almost three quarters of beneficiaries reporting that they remained as the main decision makers with regards to how the BISP cash transfer would be utilised in their household.

There is, however, significant regional variation in this finding with beneficiaries in Punjab and Sindh in particular more likely to retain a decision making role in the use of the transfer, compared to beneficiaries in Gilgit-Baltistan and FATA who were significantly less likely to do so.

**Figure 13 Who decides how the BISP transfer is used?**

A key driver for the switch to the BVS payment mechanism was to help ensure that a woman would retain the cash herself, given that a beneficiary must be present to collect the transfer under this system in order to scan her biometric information. Figure 13 provides some evidence to support this hypothesis, with beneficiaries who receive their transfer through the BVS payment mechanism 6% more likely to be the main decision makers in how the BISP cash is used, with this result statistically significant.

The qualitative research supports this finding supporting the theory that when a beneficiary is obliged to collect the transfer herself, as she is through the BVS mechanism, she is more than likely to be able to retain control over the transfer.

Women indicated that this was because under the BDC system in some instances husbands would simply take the ATM card to collect the transfer themselves, which led to difficulties for some in actually receiving the money.

*'I prefer the BVS more than debit card one. When payment was made through ATM, my husband would just grab the card from me and take the money out. Many times we have gotten into serious arguments over this but I still could not do much about it. Now with BVS, I take the money and keep it with me.'*  
(Female beneficiary IDI, Rural Malakand, KP)

Husbands of beneficiaries also expressed that they felt that the BVS payment mechanism had led to them being less able to exert control over the transfer, if their wives were obliged to collect the transfer themselves.

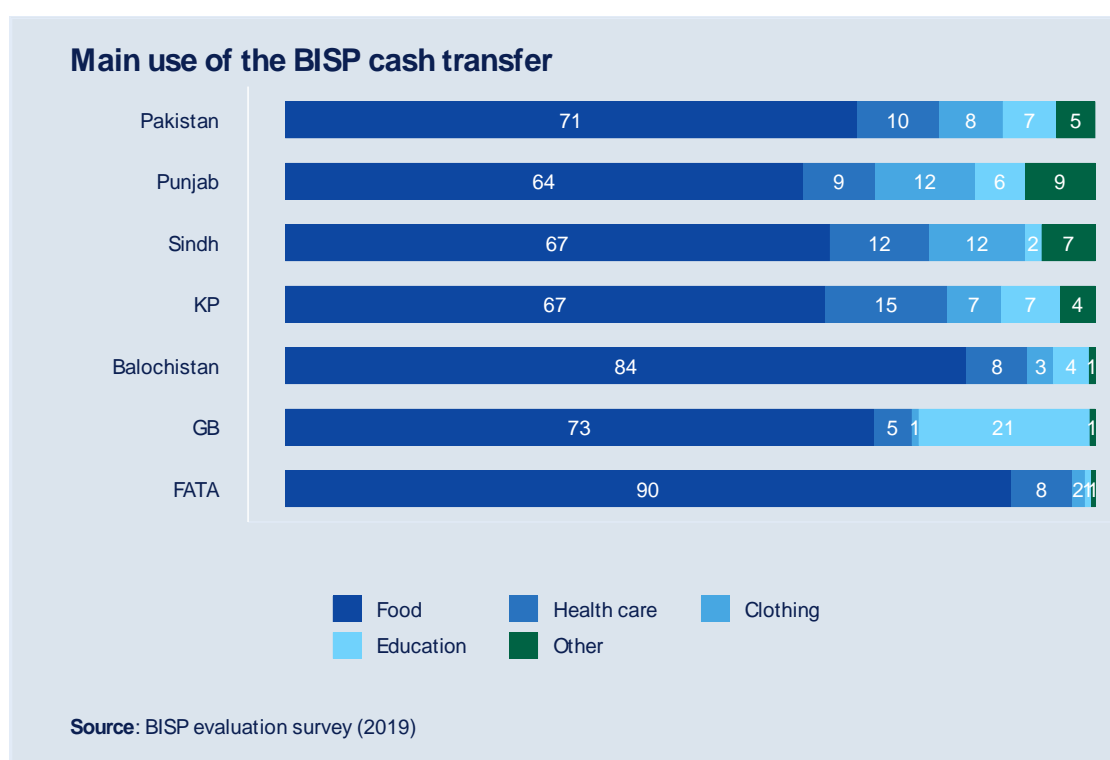
*'My wife does not have full control of the money and we take mutual decisions about where to spend it. Before I had more control when there was BDC now with BVS my wife collects the money herself and therefore has more control over it.'* (Male beneficiary IDI, Rural JhalMagsi, Balochistan)

The extent to which women were able to control cash received through the BISP was viewed as a significant behavioural shift in the local context of communities that included a significant number of BISP beneficiaries. Non-beneficiary respondents to the qualitative research indicated that almost exclusively cash was controlled by men as the primary providers for the family. In these cases women were given money as per household or personal requirements, and thus were in many ways accountable to their husbands for the cash that they received. This compares to beneficiary households where women reported more autonomy in their use of money, a result of receiving transfers from BISP.

### 3.6 Use of the transfer

Figure 14 reports the main self-reported use of the BISP cash transfer by beneficiaries themselves. Overwhelmingly the main reported use of the BISP cash transfer is on food, with 71% of beneficiaries reporting this to be the case. Aside from expenditure on food some beneficiaries report that the main use of the BISP transfer is on health expenditure (10%), clothing (8%), and education (7%).

**Figure 14 Main use of the BISP cash transfer**



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## Part C: Impact Findings



## 4 Impact on consumption, poverty, and child nutrition

### Evidence summary

In this section we report the impact of the BISP on consumption, poverty, and child nutrition. The key findings are as follows.

In the 2019 round of evaluation we find that the **BISP is generating only modest improvements to beneficiaries' consumption expenditure**, and only for the sample of PSM households, i.e. including the evaluation sample that also includes the very poorest of BISP beneficiaries.

This modest impact appears to be generated by **modest improvements to food consumption expenditure**, and in particular in Sindh, the province where beneficiaries have on average most recently received the most recent BISP payment.

Furthermore, we find that the **BISP is not currently having a statistically significant effect on reducing poverty**, whether measured by a food poverty line or a poverty line that also includes the cost of basic needs such as shelter.

A big driver of this finding is that the **welfare of beneficiaries has already increased significantly over time** since 2011, demonstrated by a sub-set of beneficiaries in the sample that have been tracked over 5 rounds of research, who have seen large decreases in poverty over the period.

There do remain some **design and implementation challenges** which limit the potential for further gains in for poverty reduction on current BISP beneficiaries, until the current update to the NSER is completed.

**We do not find evidence that the BISP is having a statistically significant effect on improving child nutrition outcomes.** This is of concern given that average child malnutrition is at levels that would be considered an emergency by the World Health Organisation for the population of children aged 0-59 months in our evaluation sample.

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 vulnerable households in Pakistan against chronic and transient poverty.

### 4.1 Household consumption expenditure and poverty

Income is difficult to measure and is subject to short-term volatility relating to the availability of work and to seasonality. As a result it is standard for national surveys in Pakistan, such as the Pakistan Living Standards Measurement Survey, to estimate consumption expenditure instead. This produces what is known as the monthly

consumption expenditure per adult equivalent as the standard proxy for household welfare<sup>17</sup>.

### 4.1.1 Consumption expenditure

Previous rounds of impact evaluation<sup>18</sup> of the BISP have shown consistent and strong impact on consumption expenditure that was shown to be attributable to beneficiaries receiving the BISP cash transfer. In this round of evaluation we find much more modest and restricted impact of the BISP on consumption expenditure.

At the national level we find that a positive and significant impact of the BISP on consumption expenditure of PKR 35, but only for the PSM estimates of impact, conducted on a sample of all beneficiaries, including the very poorest of beneficiaries with BISP poverty scores further away from the BISP eligibility threshold. We do not observe a statistically significant impact of the BISP for CCT households.

Table 6 demonstrates that this impact appears to be deriving from an increase in food consumption expenditure, with the BISP having an attributable positive impact of PKR 34 on food consumption, again only for the PSM estimates of impact and not for the RD estimates of impact. In this case we observe a positive and statistically significant impact for CCT beneficiary households in the PSM sample.

Across the regions of Pakistan the only observable positive impact on total per adult equivalent consumption expenditure is in Sindh, the strongest result observed Table 6 where we find that BISP has led to a positive and statistically significant impact of PKR 63 for the RD sample and PKR 69 for the PSM sample. As with the national sample, this impact is driven by food consumption expenditure and not non-food consumption expenditure.

**Table 6 BISP Impact on consumption expenditure**

	Mean (treatment)		Sample size (treatment)		Impact Estimate	
	All bens	RD bens	RD	PSM	RD	PSM
<b>Per adult equivalent consumption expenditure</b>						
<i>Pakistan</i>	3,369	3,427	4,113	4,891	-20	35**
<i>Punjab</i>	3,867	3,905	1,032	1,168	-38	65
<i>Sindh</i>	3,434	3,527	969	1,171	63*	69**
<i>Khyber Pakhtunkhwa</i>	3,563	3,602	770	910	-30	-26
<i>Balochistan</i>	2,830	2,905	482	587	52	56
<i>Gilgit-Baltistan</i>	2,994	3,028	560	670	-94	-46
<i>FATA</i>	2,911	2,934	300	n/a	40	n/a
<i>CCT arm</i>	3,490	3,546	1,042	1,259	26	30
<b>Per adult equivalent food consumption expenditure</b>						
<i>Pakistan</i>	1,715	1,736	4,113	4,891	-10	34***

<sup>17</sup> We follow the Pakistan Bureau of Statistics method for the calculation of per adult equivalent consumption expenditure. Details of its estimation are provided in Annex C

<sup>18</sup> OPM (2016), OPM(2014), OPM(2013)

	Mean (treatment)		Sample size (treatment)		Impact Estimate	
<i>Punjab</i>	1,911	1,927	1,032	1,168	-9	36
<i>Sindh</i>	1,735	1,767	969	1,171	41**	60***
<i>Khyber Pakhtunkhwa</i>	1,808	1,823	770	910	-25	-19
<i>Balochistan</i>	1,478	1,515	482	587	34	71**
<i>Gilgit-Baltistan</i>	1,576	1,583	560	670	-62	-27
<i>FATA</i>	1,540	1,533	300	n/a	27	n/a
<i>CCT arm</i>	1,798	1,821	1,042	1,259	14	42***
<b>Per adult equivalent non-food consumption expenditure</b>						
<i>Pakistan</i>	1,653	1,690	4,113	4,891	-10	-7
<i>Punjab</i>	1,956	1,978	1,032	1,168	-29	21
<i>Sindh</i>	1,699	1,759	969	1,171	21	5
<i>Khyber Pakhtunkhwa</i>	1,755	1,778	770	910	-5	-43
<i>Balochistan</i>	1,352	1,389	482	587	17	29
<i>Gilgit-Baltistan</i>	1,418	1,445	560	670	-32	-37
<i>FATA</i>	1,371	1,401	300	n/a	12	n/a
<i>CCT arm</i>	1,692	1,725	1,042	1,259	12	-7
<b>Source:</b> BISP impact evaluation survey (2019). Notes: (1) Asterisks (*) indicate that an impact estimate is statistically significant: *** $p < .01$ ; ** $p < .05$ ; * $p < .10$ .						

To unpick this result it is worth considering the evidence provided in Figure 6 in Section 3.3.2. This reports that beneficiaries in Sindh were considerably more likely to have received the BISP transfer more recently prior to the evaluation survey than beneficiaries in other regions of Pakistan.

Global evidence can help us to understand the relevance of this finding. *FAO (2016)* reports on the importance of the regularity with which cash transfers are paid. The authors cite, as an example, the Lesotho Child Grants Programme (CGP) which also paid beneficiaries on a quarterly basis and also with similar experience of delays in making payments, as well a relatively lower value of the transfer compared to similar programmes<sup>19</sup>. The evaluation of the CGP reported that because of this the effects of the CGP on food consumption tended to be concentrated around payment dates.

Given that beneficiaries in Sindh were significantly more likely to have been paid more recently than their compatriots in other regions of Pakistan, it is likely that this has contributed to the observed impact on consumption expenditure, particularly as we observe that this is driven by food consumption expenditure.

## 4.1.2 Poverty

Poverty rates of BISP beneficiaries remain high, with 65% of all beneficiaries defined as poor by the CBN poverty line. However, using definitions provided by the Pakistan

<sup>19</sup> See Figure 11 in Section 3.3.5

Bureau of Statistics<sup>20</sup>, Figure 15 demonstrates that 85% of BISP beneficiaries are either poor or vulnerable to poverty – i.e. they are just above the poverty line and remain vulnerable to falling back into poverty.

There is a large degree of variation in this finding across regions of Pakistan, with beneficiaries in Balochistan, Gilgit-Baltistan, and FATA amongst the poorest with the poverty rate just under 80% in each of those regions, whilst over 90% of beneficiary households in these regions of Pakistan are poor or vulnerable to poverty. Meanwhile beneficiaries in Punjab are the least likely to be poor with just over half of beneficiaries defined as poor by the CBN poverty line in that province, although 76% are poor or vulnerable to poverty.

**Figure 15 Poverty levels of BISP beneficiaries**

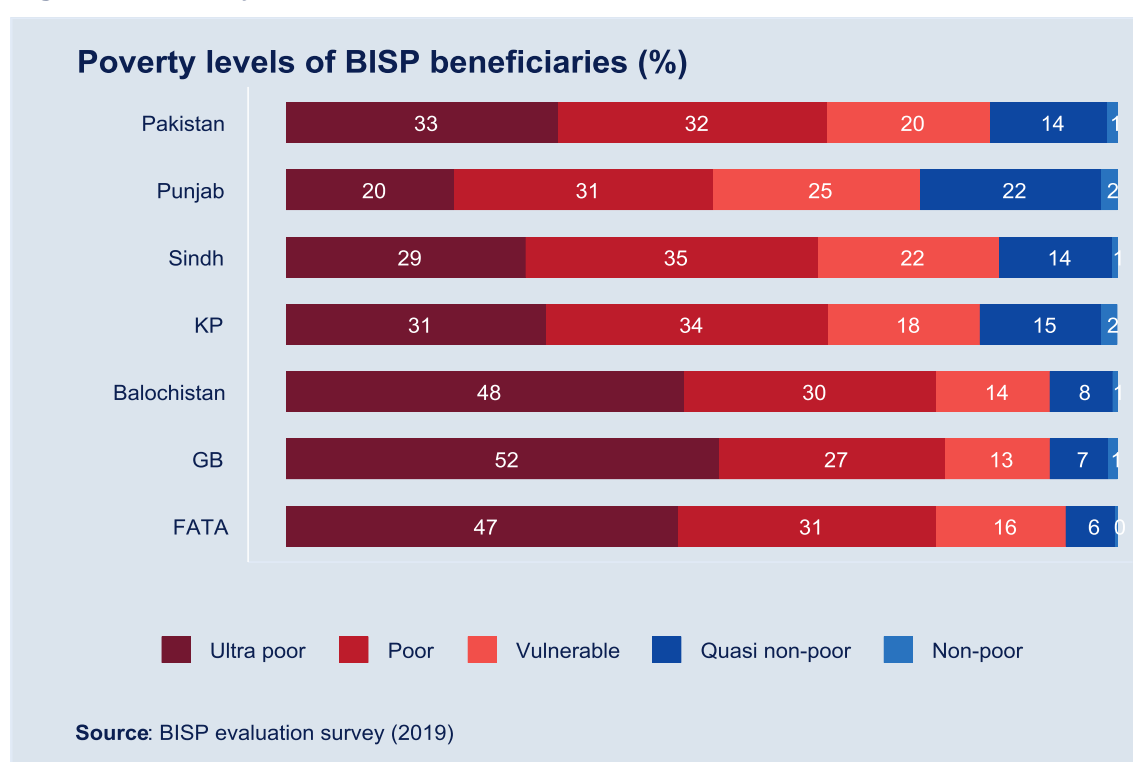


Table 7 presents the impact of the BISP on poverty for the 2019 round evaluation. We present estimates of poverty against two poverty lines. The Cost of Basic Needs (CBN) poverty line which has been the standard poverty line used by the Pakistan Bureau of Statistics since 2015, and the Food Energy Intake (FEI) poverty line which was used in Pakistan prior to 2015 and is reported here to provide continuity with previous rounds of evaluation.

<sup>20</sup> Ultra poor = up to 75% of poverty line; Poor = up to 100% of poverty line; Vulnerable to poor = up to 125% of poverty line; Quasi non-poor = up to 200% of poverty line; Non-poor = over 200% of poverty line

## Poverty lines

**Food Energy Intake (FEI):** which calculates the total per adult equivalent consumption expenditure for households which are on the threshold of adequate caloric intake, which in Pakistan was defined as at least 2,350 calories daily per adult equivalent. This is converted into a poverty line estimating the required per adult equivalent consumption expenditure required to achieve 2,350 calories. This methodology was the standard used by the Pakistan Bureau of Statistics until 2015. The value of the FEI poverty line adjusted for inflation to our evaluation survey is PKR 2,919.

**Cost of Basic Needs (CBN):** in addition to the FEI this methodology also adds on the cost of other essentials such as clothing, education and shelter. This methodology was adopted as the standard used by Pakistan Bureau of Statistics in 2015. The value of the CBN poverty adjusted for inflation to our evaluation survey is PKR 3,881

As would be expected given the relatively modest results against consumption expenditure we do not find statistically significant evidence that the BISP is continuing to have an impact on poverty, whether measured by the CBN or FEI poverty lines. This result holds both at national level, for both the UCT and CCT components, as well as across all of the regions of Pakistan.

**Table 7** BISP impact on poverty

	Mean (treatment)		Sample size (treatment)		Impact Estimate	
	All bens	RD bens	RD	PSM	RD	PSM
<b>CBN Poverty Line</b>						
<i>Pakistan</i>	65	63	4,113	4,891	1	0
<i>Punjab</i>	51	50	1,032	1,168	1	-1
<i>Sindh</i>	64	60	969	1,171	-1	-1
<i>Khyber Pakhtunkhwa</i>	63	63	770	910	1	0
<i>Balochistan</i>	79	77	482	587	-2	-2
<i>Gilgit-Baltistan</i>	79	78	560	670	2	3
<i>FATA</i>	78	76	300	n/a	-11	n/a
<i>CCT arm</i>	64	63	1,042	1,259	-1	-2
<b>FEI Poverty Line</b>						
<i>Pakistan</i>	34	32	4,113	4,891	5	-1
<i>Punjab</i>	21	20	1,032	1,168	1	-1
<i>Sindh</i>	29	24	969	1,171	-2	-1
<i>Khyber Pakhtunkhwa</i>	30	30	770	910	1	-1
<i>Balochistan</i>	50	48	482	587	-1	-3
<i>Gilgit-Baltistan</i>	53	50	560	670	2	4
<i>FATA</i>	47	46	300	n/a	-10	n/a
<i>CCT arm</i>	29	29	1,042	1,259	1	-1
<b>Source:</b> BISP impact evaluation survey (2019). Notes: (1) Asterisks (*) indicate that an impact estimate is statistically significant: *** p < .01; ** p < .05; * p < .10.						

### 4.1.3 Explaining the lack of impact on consumption expenditure and poverty

Given that previous rounds of evaluation have shown consistently stronger results against both consumption expenditure and poverty, and given the purpose of the BISP it is important to further understand the results presented in Table 6 and Table 7 for the 2019 round of evaluation. We provide evidence to demonstrate that these results are in part driven by a number of factors that have meant that the value of the transfer is no longer as meaningful for beneficiaries in generating impacts on poverty or consumption expenditure as in previous rounds, in the sense that the value of the transfer as a proportion of per adult equivalent consumption expenditure has fallen over time. We discuss these in turn below.

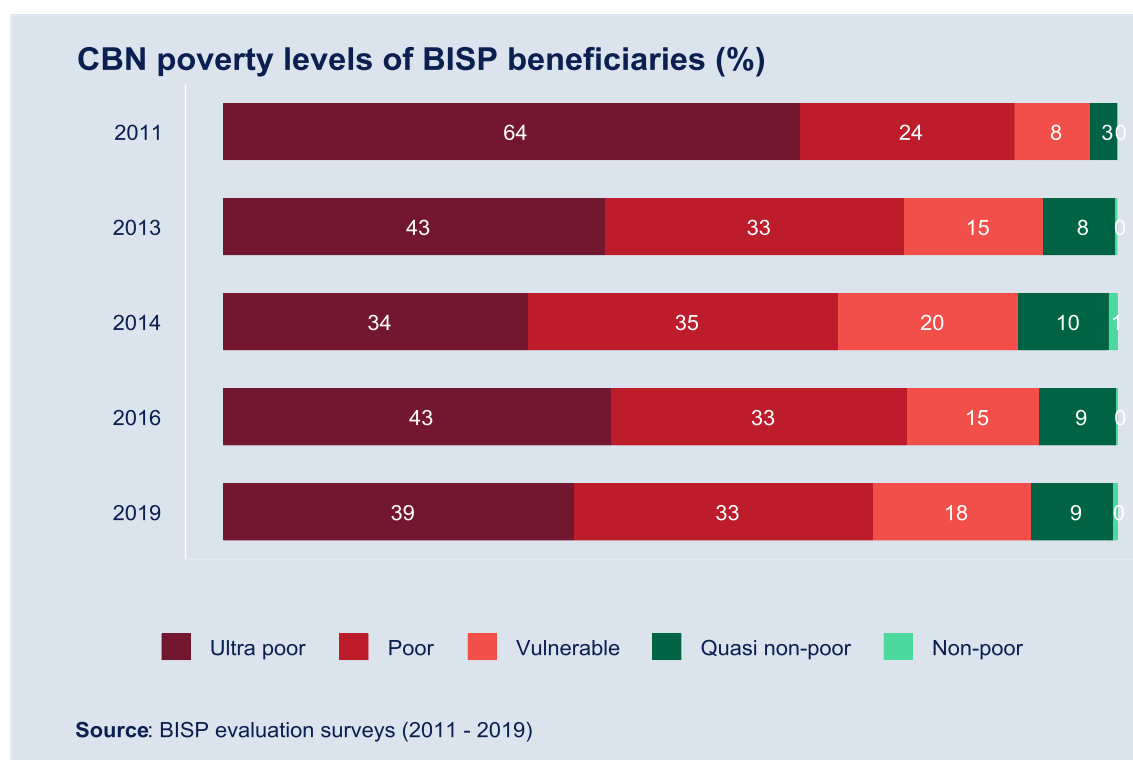
#### Real gains for BISP beneficiaries' welfare over time

In a separate report<sup>21</sup> we provide analysis for the sub-set of 1,588 beneficiary households that have been tracked over time through 5 rounds of research in 2011, 2013, 2014, 2016, and most recently in 2019. Whilst this sample does not include beneficiaries in FATA and GB, and is not reflective of the population distribution of beneficiaries across Pakistan, the analysis it allows is instructive of how welfare has changed over time for BISP beneficiaries.

Figure 16 reports these results, demonstrating significant decrease in the levels of poverty experienced amongst beneficiary households with the CBN rate of poverty falling from almost 90% in 2011 to 72% in 2019. Over this period we have also seen the proportion of beneficiaries classified as *ultra-poor* fall significantly from 64% in 2011 to 39% in 2019.

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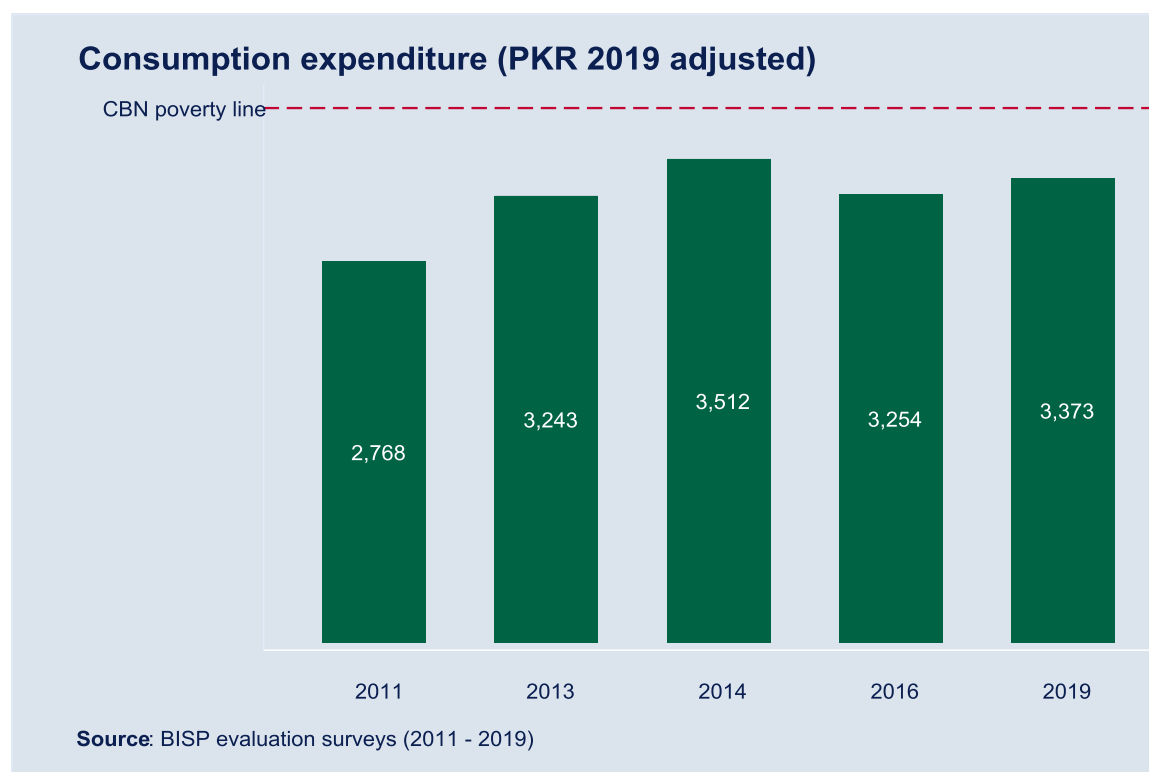
<sup>21</sup> OPM (2019c)

**Figure 16 CBN poverty levels of BISP beneficiaries over time**

Falling rates of poverty over time are reflected by significant increases in per adult equivalent consumption expenditure over time, which increased in real terms by 22% over the period 2011 to 2019 to PKR 3,373<sup>22</sup> as presented in Figure 17 below. This significant increase in per adult equivalent consumption expenditure helps to explain the finding presented in Section 3.3.4 that demonstrates a fall in the value of the BISP transfer as a proportion of households per adult equivalent consumption expenditure.

<sup>22</sup> Presented in 2019 prices.

**Figure 17 Per adult equivalent consumption expenditure of beneficiary households over time**



### Improvements in welfare and BISP targeting

Under the design of the programme the BISP aims to provide benefits to the poorest 20% of households in Pakistan. Whilst the BISP is currently undertaking a re-targeting exercise through a refresh of the National Socio-Economic Registry (NSER)<sup>23</sup>, at the time of the evaluation all beneficiaries in the evaluation sample were originally targeted through the first rollout of the NSER in 2011.

Given the real gains to beneficiaries in welfare as described by consumption expenditure and poverty terms it is unsurprising that we find evidence that the proportion of BISP beneficiaries who remain in this “poorest 20%” group has fallen over time. To demonstrate this we benchmark our sub-set of panel households against the Pakistan Household Income & Expenditure Survey (HIES) 2015/16 survey data, and their position within the consumption expenditure distribution.

<sup>23</sup> The NSER is a national census of measure household welfare in Pakistan and is what is used to target BISP beneficiary households through the implementation of a Proxy Means Test (PMT) based Poverty Score Card (PSC)



**Figure 18 BISP beneficiary position in national consumption expenditure distribution**

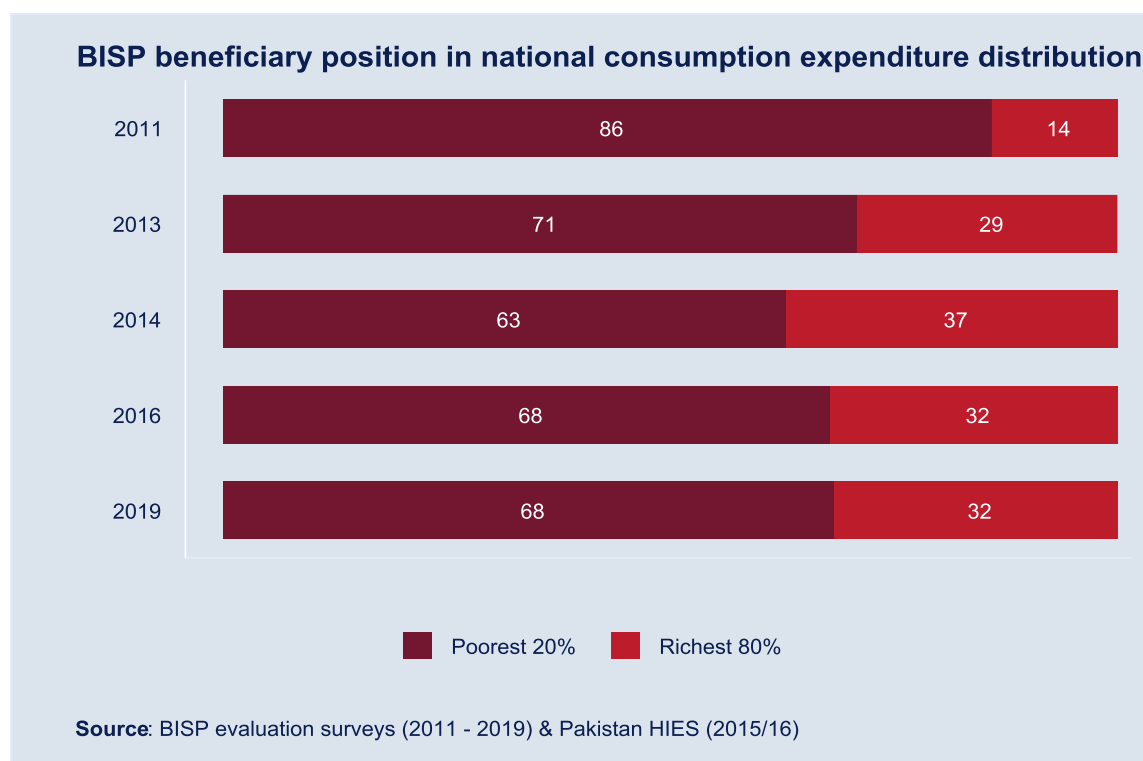


Figure 18 places BISP beneficiaries in the national income distribution over time using the Pakistan HIES (2015/16) as a benchmark. This indicates that the proportion of BISP beneficiary households who have levels of per adult equivalent consumption expenditure that would place them amongst the poorest 20% of Pakistanis has fallen by 16% in the period 2011 to 2019, from 86% of beneficiaries in 2011 to just 68% of beneficiaries in 2019.

This reflects the real improvements in the welfare of beneficiary households demonstrated above, and is significant because the BISP is intended to provide benefits to the poorest 20% of households in Pakistan, and the value of the transfer is set to protect the particular consumptions of these households. As the welfare of beneficiaries improves, and improves in part due to the receipt of transfers from the BISP, they are no longer in the core target group for the BISP, i.e. the poorest 20%. This also implies that further reductions in poverty become more difficult, given that the value of the transfer is intended to support the poorest 20% of Pakistanis and not those higher in the consumption expenditure distribution.

This finding highlights the importance of the on-going exercise to update the NSER, and to reclassify the eligibility status of households for the BISP programme. Given the positive results against poverty reported by previous evaluations, it can be expected that when the BISP is again reaching predominantly the poorest 20% of households that there will be further gains against poverty produced by the programme.

### Design and implementation challenges

Whilst the clear improvement in beneficiaries' welfare over time explains to a large extent the lack of impact observed on consumption expenditure and poverty in this

latest round of evaluation there remain a number of design and implementation challenges that will continue to affect the programme.

Section 3.2 demonstrates that despite the best efforts of the BISP to make periodic increases to the nominal value of the transfer, the real value of the transfer has fallen by 9% since 2010, a result of year-on-year inflation averaging approximately 7%.

This finding, in combination with increases in beneficiaries' level of consumption expenditure over time, has contributed to the value of the transfer relative to per adult equivalent consumption expenditure falling over time. Section 3.3.4 reports that the BISP transfer currently amounts to 7.5% of per adult equivalent consumption expenditure if the full value of transfer has been received. This represents a 25% decrease since 2011, when the value of the transfer amounted to 10%<sup>24</sup> of beneficiaries' per adult equivalent consumption expenditure.

The evidence provided in Section 3.2, helps to explain these results. The first piece of evidence is presented in Figure 3 which demonstrates that despite continual nominal increases to the value of the quarterly transfer since the inception of the programme the real value of the transfer has fallen by 9% since 2010, a result of year-on-year inflation averaging approximately 7%.

Finally Section 3.3.2 demonstrates the performance of the payment mechanism in the 12 months preceding the 2019 evaluation survey. It reports that beneficiaries on average did not receive all of the quarterly payments in the 12 month cycle, resulting in beneficiaries receiving just 70% of the total amount expected. This represents an 11% reduction in performance as compared to the 2016 round of evaluation when beneficiaries received 79% of the total value expected in a 12 month cycle.

### **Considering the value of the BISP transfer**

Although a large driver of the finding of no impact on poverty and consumption expenditure in the 2019 round of evaluation can be explained by the substantial gains to the welfare of BISP beneficiary households observed over the period 2011 to 2019, this evaluation also finds that the real value of the transfer has declined, despite efforts by BISP to provide periodic nominal increases, and it is therefore useful to consider the current value of the transfer.

To understand the relation of the transfer value to poverty it is useful to consider the poverty gaps presented in Figure 19, which present both the gap to the CBN poverty line as well as the FEI poverty line. A poverty gap measures the distance between a household's level of per adult equivalent consumption expenditure and the poverty.

Given the objective of the BISP to *cushion the negative effects of food inflation on the poor*, it is most appropriate to consider the gap to the FEI poverty line, which provides the monetary value in per adult equivalent terms of a basket of goods that meets the minimum caloric requirements<sup>25</sup>. Figure 19 reports a FEI poverty gap of 9%, which given the FEI poverty line of PKR 2,919 (in 2019 prices), means that the average

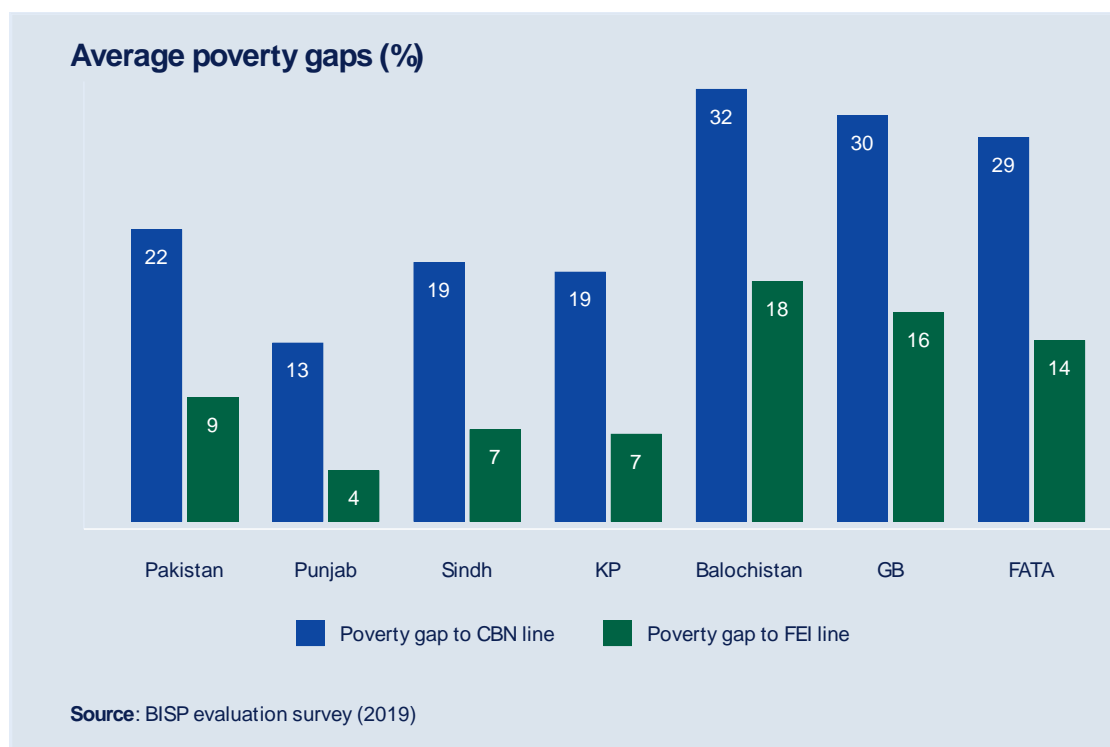
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<sup>24</sup> OPM (2011)

<sup>25</sup> As defined by the Pakistan Bureau of Statistics at the amount of consumption expenditure that would deliver at least 2,350 calories per adult equivalent daily

beneficiary household even after having received benefits from the BISP would require an additional PKR 263 per adult equivalent monthly in order to provide for the basic caloric requirements of their household.

**Figure 19 Average poverty gaps (%)**



Whilst there is no gold standard rule to setting the transfer size most programmes attempt to anchor the size to some stated project objective. Other transfers, and in particular across Sub-Saharan Africa for example, that explicitly have food security as stated objectives<sup>26</sup> set the value of the transfer to eliminate the food poverty gap.

If the BISP were to wish to set the value of the transfer to fully satisfy the food poverty gap, this would imply more than doubling the quarterly value of the transfer. Given the monthly per adult equivalent food poverty gap of PKR 263, the average BISP household (with 7 per adult equivalent members<sup>27</sup>) would require an additional PKR 1,841 per month, which equates to an additional PKR 5,523. This would take the total quarterly value of the transfer to PKR 10,523. This could be scaled downwards depending on the level of the food poverty gap that was deemed appropriate to fulfil.

Clearly this would involve a difficult design choice and a difficult political choice. However, given that the NSER is in the process of being updated this may offer an opportune space in which to conduct a considered review of the value of the cash transfer offered to beneficiary households, as well as aspirations for the total number of

<sup>26</sup> Davis and Handa (2015)

<sup>27</sup> Members under the age of 18 are weighted as 0.8 recognising that they have lower food requirements than adults – see Annex C for a full discussion

beneficiaries. Increasing the transfer to the degree described above would clearly require either a dramatic increase in the level of funding available to the BISP, or a re-consideration of the number of BISP beneficiaries that are targeted to receive funding.

The BISP may also consider alternative approaches to setting the value of the transfer. For example, setting the value of the transfer so that it pushes consumption expenditure to meet the value of the consumption expenditure enjoyed by the next decile of households<sup>28</sup>. Alternatively the BISP could consider varying the transfer by household size, so that larger households receive greater amounts, though of course this would come with administrative costs in addition to increasing the value of the transfer. Both of these options, and others, would require analysis of both the NSER as well as the most recent round of the Pakistan HIES conducted in 2018 and 2019. Analysis would simulate the expected benefits to targeted households as well as the total programmatic costs of varying transfer sizes and beneficiary numbers. This analysis is outside of the scope of this evaluation.

## **4.2 Multi-dimensional poverty**

Whilst 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 to social protection 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 presented in the box below. The MPI is particularly useful as it enables a reader to quickly understand both whether a household faces poverty but also to determine which particular deprivations are driving this poverty.

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<sup>28</sup> The BISP targets approximately 20% of households in Pakistan, this would imply meeting the value of consumption expenditure of the 3<sup>rd</sup> decile.

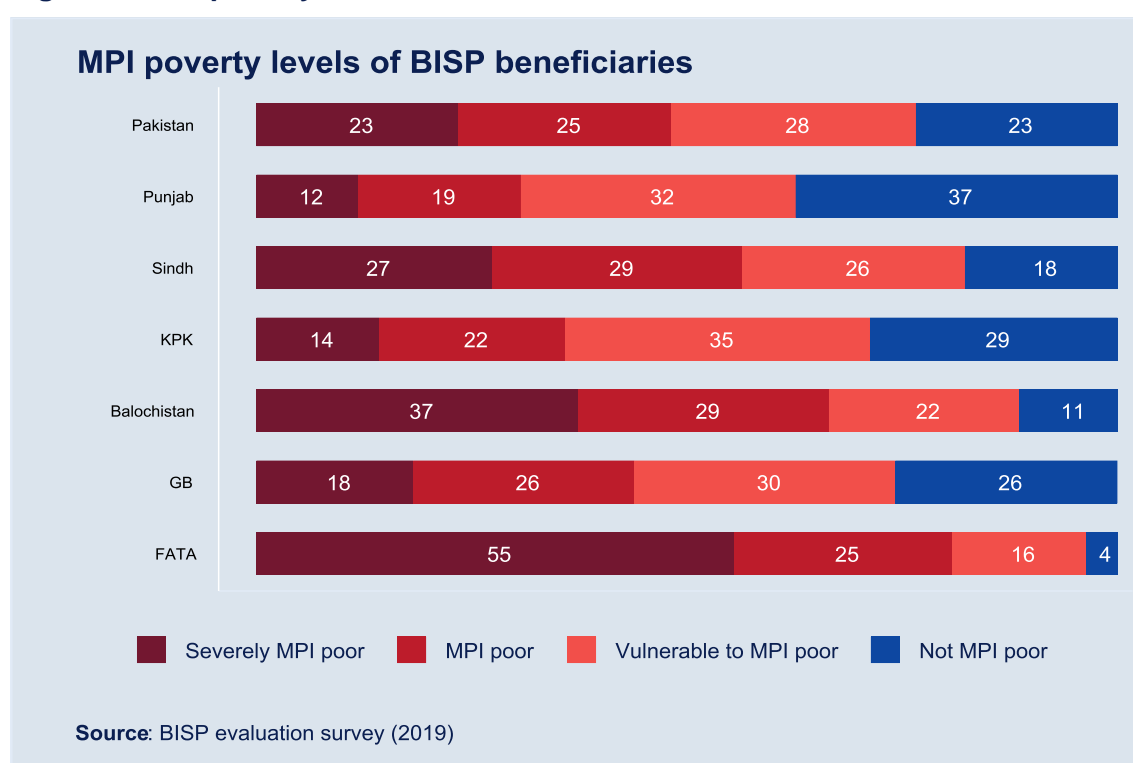
## Multi-dimensional Poverty Index

The MPI presented in this report has 3 dimensions, (education, health and living standards) and 10 indicators. 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 one third 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. **Health (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<sup>29</sup>
3. **Living standards (each indicator weighted equally at 1/15)**
  - a. **Sanitation:** deprived if access to toilet does not meet MDG standard
  - b. **Drinking water:** deprived if drinking water does not meet MDG standard
  - c. **Flooring:** deprived if the floor is dirt, sand or dung
  - d. **Cooking fuel:** deprived if household cooks with wood or charcoal
  - e. **Assets:** deprived if household does not own more than one of : TV, bike, motorbike, refrigerator or radio and does not own a car

Figure 20 reports the MPI poverty levels for BISP beneficiaries, and we find a broadly similar pattern to that of monetary poverty observed in Figure 15 above. 77% of all BISP beneficiaries are MPI poor or vulnerable to MPI poverty. There is, however, some differences between monetary and MPI poverty when we consider the regional variation. Whilst Balochistan and FATA remain as the poorest regions when MPI poverty is considered, Gilgit-Baltistan is not one of the poorest regions by MPI poverty, although it was when monetary poverty was considered.

<sup>29</sup> As measured by the World Food Programme *Food Consumption Score* (WFP, 2008)

**Figure 20 MPI poverty levels of BISP beneficiaries<sup>30</sup>**

## BISP beneficiaries face multiple deprivations

To further understand why households are considered poor it is useful to consider the multiple deprivations that are faced by BISP beneficiary households. These are illustrated in Figure 21 which reports the proportion of households that are deprived on the 10 indicators that are used to estimate the MPI.

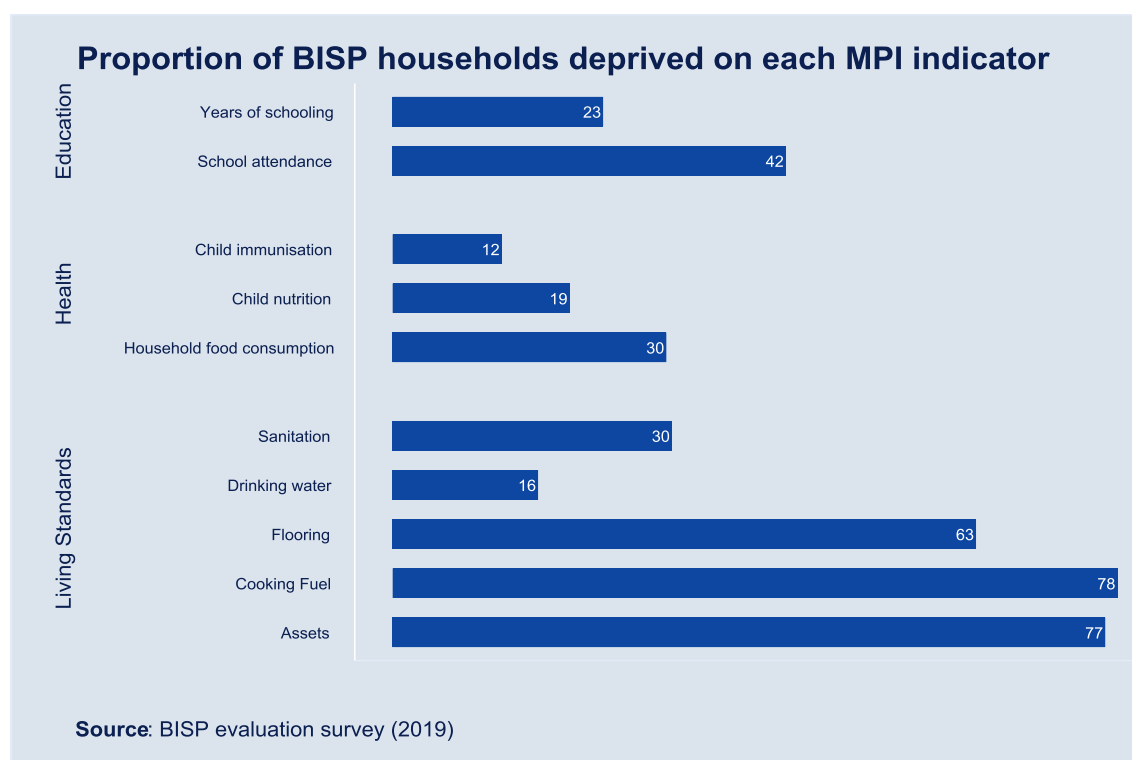
Education is a significant source of deprivation for BISP beneficiary households. We explore the impact of the BISP on education in Section 6, but Figure 21 demonstrates that just under half of all BISP beneficiary households contains a school aged child who is not currently attending school. This is further compounded by the average level of education in the household where we find that almost a quarter of beneficiary households do not contain a household member who has completed at least primary level of education.

Health is also an important source of deprivation. In particular we find that 30% of beneficiary households do not have adequate food consumption as measured by WFP Food Consumption Score, echoing the finding presented in Section 4.1.2 regarding the

<sup>30</sup> Severely MPI poor indicates deprivations in at least a half of all weighted MPI indicators; MPI poor indicates deprivations in at least a third of all weighted MPI indicators; Vulnerable to MPI poor indicates deprivations in at least a fifth of all weighted MPI indicators; Not MPI poor indicates deprivations in less than a fifth of weighted indicators.

proportion of households below the FEI poverty line. Child health is also a concern, and given that not all households contain a child in the relevant age categories, that 12% of BISP beneficiary households contain a child that is not immunised against DPT or measles and 19% contain a child who is malnourished should be of concern.

**Figure 21 Proportion of BISP households deprived on each MPI indicator**



Finally significant proportions of households are deprived against living standard indicators. In particular we find that 78% of households are use unsafe cooking fuel, such as charcoal which are linked to chronic conditions, particularly in children, such as asthma. This is linked to deprivations against flooring and assets which reflect the quality of housing in which beneficiary households live

Furthermore, just under a third of households are deprived in terms of sanitation and 16% were deprived in terms of drinking water. This is important as there are substantial linkages between these deprivations and other deprivations, in particular child health<sup>31</sup>.

### BISP impact on MPI poverty

Table 8 reports the impact of the BISP on MPI poverty. In a finding that is consistent with estimates of impact for monetary based poverty we find that the BISP does not have a statistically significant effect on the proportion of households who are MPI poor. This holds both at the national level as well as within the regions.

<sup>31</sup> WHO (2006)

**Table 8 BISP Impact on MPI poverty**

	Mean (treatment)		Sample size (treatment)		Impact Estimate	
	All	bens	RD	PSM	RD	PSM
<b>MPI Poverty</b>						
<i>Pakistan</i>	48	44	4,060	n/a	2	n/a
<i>Punjab</i>	31	29	1,032	n/a	3	n/a
<i>Sindh</i>	56	51	969	n/a	-2	n/a
<i>Khyber Pakhtunkhwa</i>	36	32	770	n/a	0	n/a
<i>Balochistan</i>	66	62	482	n/a	1	n/a
<i>Gilgit-Baltistan</i>	44	45	560	n/a	2	n/a
<i>FATA</i>	80	79	300	n/a	-4	n/a
<i>CCT arm</i>	51	51	1,042	n/a	-8	n/a

**Source:** BISP impact evaluation survey (2019). Notes: (1) Asterisks (\*) indicate that an impact estimate is statistically significant: \*\*\*  $p < .01$ ; \*\*  $p < .05$ ; \*  $p < .10$ .

### 4.3 Child nutrition

Infant and child nutrition is secured when the child not only 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 for a healthy life for infants and toddlers in the households.

#### Child malnutrition measures

**Wasting** is a short-term measure of current or acute malnutrition which identifies whether children are of adequate weight given their current height. Wasting in individual children can change rapidly in response to current food intake, disease, infection, or a combination of these factors.

**Stunting** is a longer-term measure of past or present chronic malnutrition which identifies whether children are of adequate height given their current age. Stunting occurs when growth falters or stops altogether because of a prolonged period of poor nutrition.

**Underweight** is a composite measure of child malnutrition that measures the weight-for-age of a child. A child who is underweight may be stunted, wasted, or both.

Figure 22 presents a worrying picture of the nutritional status of children aged 0-59 months in beneficiary households, which reports levels of wasting and stunting that



would be classified by the World Health Organisation (WHO) as signalling an on-going crisis in terms of child nutrition<sup>32</sup>.

On average for children in beneficiary households across Pakistan we find rates of wasting at 21% and stunting at 44%, both of which are significantly higher than the emergency thresholds set by the WHO. Of particular concern are the very high rates of wasting observed in Balochistan, FATA, and Sindh – with rates in Balochistan (34%) clearly indicative of an on-going nutritional crisis. For stunting, rates in Sindh, Gilgit-Baltistan, and Balochistan are also of concern – indicative of protracted periods of poor nutrition for children aged 0-59 months.

Figure 22 also reports high proportions of children who are underweight, with 35% of children aged 0-59 months underweight across Pakistan. Reflecting the relatively high rates of stunting and wasting, the highest proportions of children underweight can be found in Sindh, Balochistan, and FATA.

**Figure 22 Child malnutrition (0-59 months)**

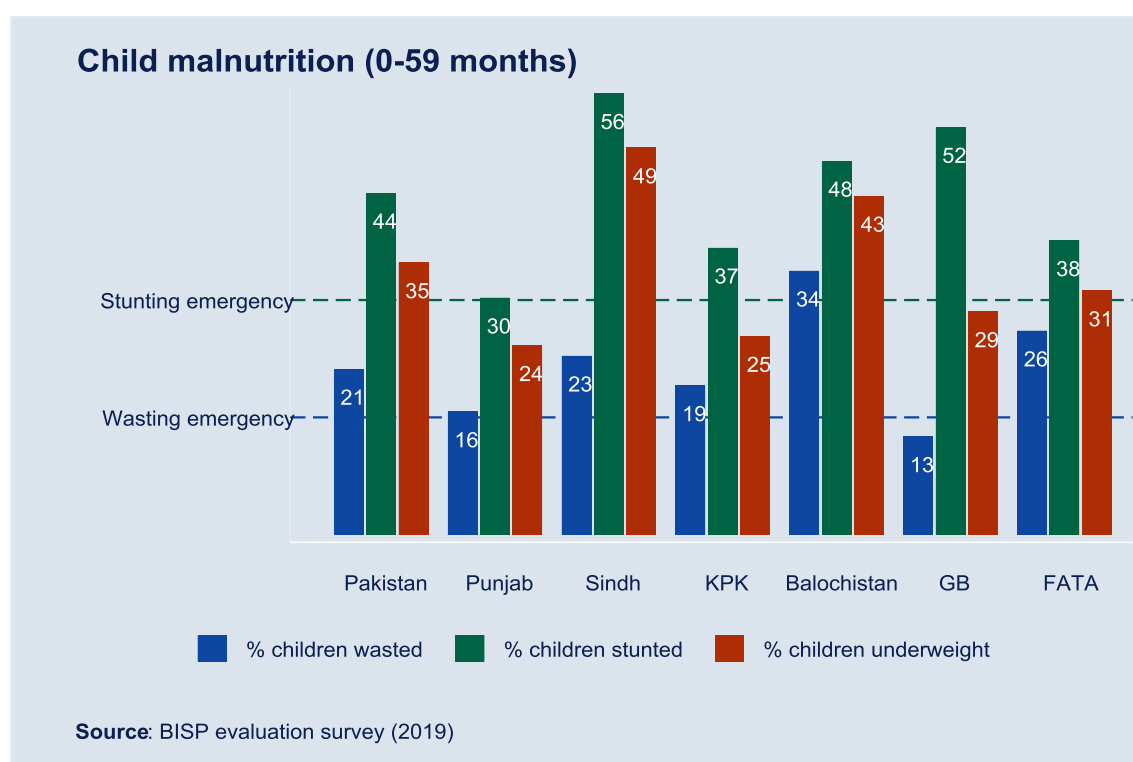


Table 9 indicates that we do not find that a statistically significant effect of the BISP on child nutritional status, whether this is measured by wasting, stunting, or underweight, either for boys or girls in the evaluation sample.

This finding is at odds with previous rounds of evaluation which consistently found that the BISP had an impact on reducing the level of wasting observed for female children

<sup>32</sup> The WHO classification for the degree of malnutrition within a population of children aged 0-59 months. This indicates that rates of wasting higher than 15% and rates of stunting higher than 30% are considered to be *very high*, indicating a child nutrition crisis, *World Bank (2008)*

aged 0-59 months<sup>33</sup>. However, this is most likely the result of the reduced real value of the transfer discussed in Section 3.2 and the subsequent modest results that the BISP is currently generating against food consumption expenditure discussed above in Section 4.1.1.

The BISP could reasonably be expected to generate positive outcomes against child nutrition through a causal chain whereby it affords beneficiaries the ability to increase their food consumption, which directly impacts child nutrition for children who have been weaned and indirectly impacts child nutrition if mothers have improved nutritional outcomes for children who are still breastfeeding. However, this relies on the assumption that the BISP transfer value is of sufficient value to generate a sufficient increase in food consumption expenditure. The analysis presented in Section 4.1 suggests that as of the 2019 round of evaluation that this is not the case.

**Table 9 BISP impact on child nutrition**

	Mean (treatment)		Sample size (treatment)		Impact Estimate	
	All bens	RD bens	RD	PSM	RD	PSM
<b>Proportion of children aged 0-59 months wasted</b>						
<i>All children</i>	21	21	1,984	2,567	-2	-1
<i>Male</i>	23	23	1,059	n/a	-2	n/a
<i>Female</i>	20	19	925	n/a	-3	n/a
<b>Proportion of children aged 0-59 months stunted</b>						
<i>All children</i>	44	43	1,984	2,567	6	0
<i>Male</i>	45	45	1,059	n/a	0	n/a
<i>Female</i>	42	42	925	n/a	10	n/a
<b>Proportion of children aged 0-59 months underweight</b>						
<i>All children</i>	35	35	1,984	n/a	-1	n/a
<i>Male</i>	36	36	1,059	n/a	-6	n/a
<i>Female</i>	34	34	925	n/a	5	n/a
<b>Source:</b> BISP impact evaluation survey (2019). Notes: (1) Asterisks (*) indicate that an impact estimate is statistically significant: *** p < .01; ** p < .05; * p < .10.						

## The importance of adequate child nutrition

The importance of providing adequate child nutrition can be understood from the global literature which finds significant links between early childhood development and the long-term welfare of those same children. Survivors of malnutrition in early childhood suffer functional disadvantages as adults, including diminished intellectual performance, low work capacity, and increased risk of delivery complications<sup>34</sup>. Poor child nutrition outcomes, therefore, can be viewed through the lens of a significant channel for the transmission of inter-generational poverty.

<sup>33</sup> OPM (2013), OPM (2014), OPM (2016)

<sup>34</sup> Martorell (1999)

However, the literature also indicates that these effects are not necessarily permanent, and that addressing poor child nutrition outcomes before children reach the age of 6 can support children to catch-up, in terms of long-term outcomes, with their peers that did not experience malnutrition<sup>35</sup>. Increasingly social protection programmes and policies around the world include components that are specifically targeted at supporting child nutrition outcomes. The BISP has potential to be a vehicle to support nutrition messaging and interventions by working through BISP beneficiary committees that could seek to support progress in this domain.

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<sup>35</sup> Martins et. al. (2011)

## 5 Women's empowerment

### Evidence summary

In this section we report the impact of the BISP on women's empowerment. We do this by providing evidence of the impact of BISP on both the structures that may support or hinder female agency, as well as on outcomes that are enabled by greater female agency. The key findings are as follows:

#### Structures affecting female agency

The 2019 round of evaluation reports a **positive impact of the BISP on female mobility** within the communities of beneficiaries. Change in this dimension appears to be gradual and driven by a slow acceptance of women leaving the household to collect the BISP transfer.

Whilst involvement in household decision making remains low for many beneficiaries we find a **positive impact of the BISP on involvement in household decision making**. Beneficiaries also rank autonomy in decision making as one of the most important factors that led to the empowerment of women.

This was also reflected in a **greater social standing in the community** with a significant number of respondents to the qualitative research saying that community members were more willing to engage and interact with them.

#### Impact on female agency

We find that the BISP has had a **positive impact on the proportion of beneficiaries who personally save money**. However, the proportion of women who do so remains low, and this impact is restricted to beneficiaries in Punjab and Sindh.

We continue to find strong **and positive effects of the BISP on participation in voting** which is found for all beneficiaries across all regions of Pakistan. However, we do not find any evidence of an impact of the BISP on whether a woman can decide who she votes for with significant proportions of women having that decision made for them.

**Significant proportions of women experience different forms of Gender Based Violence**. Encouragingly we find that the **BISP has an attributable effect on reducing controlling behaviour experience by beneficiaries** from their husbands. Beneficiaries attributed this to the fact that they were more respected as they were now contributors to the household as well as the BISP helping to relieve some financial pressures.

#### Impact on family planning

We do not find a statistically significant impact of BISP on the use of contraception, nor the desire for children. This finding is to be expected given that the BISP does not target family planning activities to its beneficiaries.

In Section 2.2, we present the Theory of Change for BISP which summarises potential pathways for a regular cash transfer to positively impact women's empowerment. Empowerment should be seen as a *process*, not a one-off change. Over time, our evaluation has sought to understand women's own definition of empowerment, and measured changes in specific indicators of agency, mobility and decision-making. We have as used both survey data, as well as qualitative information to illustrate what empowerment means in BISP communities and how communities perceive change over time (if any). In this round of research, we continue to investigate these themes, with an additional focus on gender-based violence (GBV). In the sections below, we first explore the concept of empowerment and then present findings on various indicators that seek to assess changes in empowerment for BISP beneficiary women

## 5.1 Understanding empowerment

Female empowerment is typically understood 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<sup>36</sup>. *Alsop and Heinsohn (2005)*<sup>37</sup> 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<sup>38</sup> understood as underpinned by a 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. Such structures also affect the possibility of using one's agency to achieve desired outcomes<sup>39</sup>.

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.

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<sup>36</sup>Naila Kabeer, 'Resources, Agency, Achievements: Reflections on the Measurement of Women's Empowerment', in *Discussing Women's Empowerment - Theory and Practice*, vol. 3, Sida Studies (Stockholm, Sweden: Swedish International Development Agency, 2001), 17–59.

<sup>37</sup>Ruth Alsop and Nina Heinsohn, 'Measuring Empowerment in Practice: Structuring Analysis and Framing Indicators', Policy Research Working Paper Series (The World Bank, 1 February 2005), <http://econpapers.repec.org/paper/wbkwbwps/3510.htm>.

<sup>38</sup>For example Kabeer 2002, and the World Bank framework for measuring empowerment (Alsop and Heinsohn 2005).

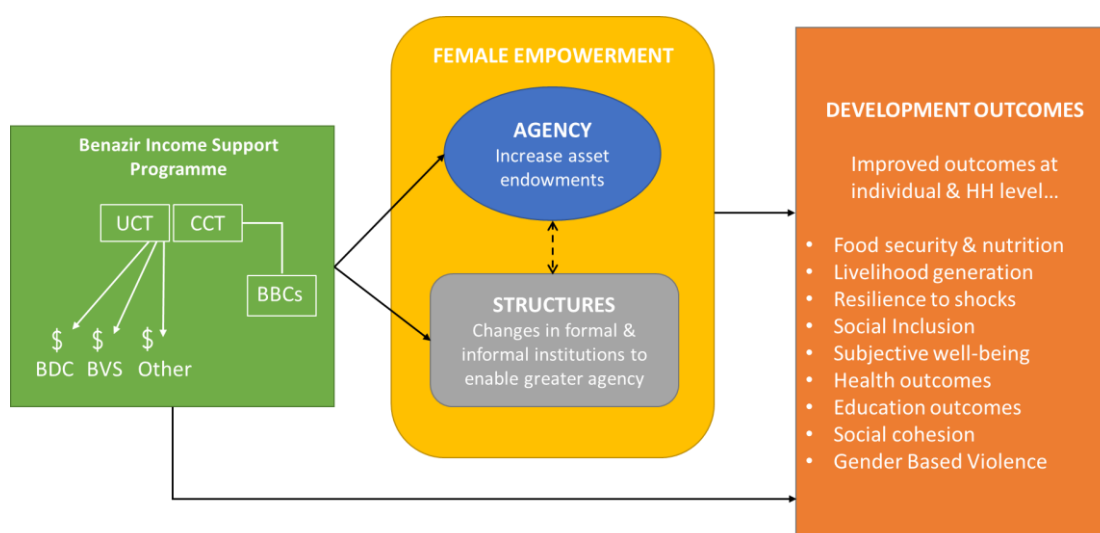
<sup>39</sup>Alsop and Heinsohn, 'Measuring Empowerment in Practice'.

The meaning of these concepts is highly contextualised however, as are processes of empowerment in practice, and the forms of change that women *themselves* prioritise and value<sup>40</sup>. Analyses of empowerment should be rooted in context, and in women's own definitions of the changes that they desire for themselves.

### Exploring BISP impact on women's empowerment

Figure 23 illustrates the ways in which BISP can influence female empowerment. We consider the impact of the unconditional cash transfer, as well as the impact of the CCT and BISP Beneficiary Committees set up to support CCT implementation. Our evaluation also assesses the impact of different payment modalities on empowerment outcomes. We build on the conceptualisation of empowerment provided in the literature and discussed by respondents themselves in earlier OPM qualitative researches.

**Figure 23 BISP and female empowerment**



We *hypothesise* that a cash transfer such as the BISP may not only impact core development outcomes directly (such as food security and nutrition) but may also impact these through increases in female empowerment:

1. Changes asset endowments which determine female agency:
  - a. It may increase economic assets – as money is spent on household and individual asset accumulation

<sup>40</sup>Andrea Cornwall and Jenny Edwards, 'Introduction: Negotiating Empowerment', *Ids Bulletin* 41, no. 2 (2010): 1–9, <http://onlinelibrary.wiley.com/doi/10.1111/j.1759-5436.2010.00117.x/abstract>; Dee Jupp, Sohel Ibn Ali, and Barahona, Carlos, *Measuring Empowerment? Ask Them: Quantifying Qualitative Outcomes from People's Own Analysis: Insights for Results-Based Management from the Experience of a Social Movement in Bangladesh* (Stockholm: Swedish international development cooperation agency (Sida), 2010).

- b. It may increase human assets – as money is spent on improving skills and children’s education; as well as greater food intake and better health care for women
  - c. It may increase psychological assets - as being named a beneficiary improves social status and controlling cash improves self-esteem
2. Changes (opportunity) structures which condition female agency:
- a. It changes family relations – a positive effect would occur if marital relations improve as burden of expenses is shared. A negative effect would occur tension as men retaliate against independence
  - b. It changes social norms around female mobility – a positive effect would occur if collection of cash is deemed to be culturally appropriate and increases acceptance of female mobility. A negative effect would occur if the transfer reinforces perceptions of ‘bad character’ women leaving homes.
  - c. It changes women’s roles and responsibilities – a positive effect would occur if women are seen as contributors towards household income, and there is increased female labour participation, especially if investments are made using cash. A negative effect would occur if the transfer induces double burden of child care and financial responsibility on women.

Changes in 1 & 2 are **mutually reinforcing** – greater economic assets for example can improve marital relations. The intended positive **impact** on female empowerment is manifested in improved **outcomes** for women. This includes greater bargaining power in decision making and improved education, health and psychological well-being.

This impact and the resulting change in development outcomes rests on certain **assumptions**. These include the assumption that the transfer is implemented effectively (targeting is accurate, payments are made on time); that the design itself reflects intended outcomes (payments are sufficiently large to have impact); and that supply-side constraints are resolved (for example, presence of schools and health facilities).

**Our evaluation therefore, seeks to assess if BISP has resulted in changes in women’s agency and structures that condition their agency.** This could be due to the effect of the cash transfer itself, or the implementation modalities associated with the cash transfer such as the Biometric Verification, the use of BISP Beneficiary Committees (BBCs) and conditionalities for a sub-group of households (CCT households).

## 5.2 Impact of BISP on structures affecting female agency

### 5.2.1 Impact on mobility

Restrictions on the mobility of women represent a significant structural condition that can impair the ability of women to express agency. This can limit the ability of women to access services such as health or education, or to take up economic opportunities<sup>41</sup>.

In the quantitative survey we measure women's mobility by the ability of women to leave their homes alone to visit various locations within their community, which reflects different aspects of woman's life. These include to travelling alone to the market, to a health facility, or to a friend's home.

Overall, there are still significant restrictions placed on the mobility of beneficiary women with the qualitative research noting that in many districts there were strict codes of conduct where women were not permitted to leave the household without being accompanied by a male member of the household. In fact Table 10 demonstrates that approximately 70% of women were not allowed to travel to either the market or the nearest health facility to their community, whilst just over 50% could not travel to a friend's house without a male chaperone.

**Table 10 BISP impact on mobility of women**

	Mean (treatment)		Sample size (treatment)		Impact Estimate	
	All bens	RD bens	RD	PSM	RD	PSM
<b>% of women who can travel alone to the market</b>						
<i>Pakistan</i>	31	31	4,108	4,899	9**	6***
<i>Punjab</i>	53	53	1,031	1,170	17**	15***
<i>Sindh</i>	28	29	969	1,171	6	3***
<i>Khyber Pakhtunkhwa</i>	23	24	767	907	7	6***
<i>Balochistan</i>	5	5	480	585	7	5
<i>Gilgit-Baltistan</i>	33	32	561	672	19*	5**
<i>FATA</i>	22	24	300	n/a	3	n/a
<i>CCT arm</i>	24	24	1,042	1,282	2***	3*
<b>% of women who can travel alone to health facility</b>						
<i>Pakistan</i>	28	28	4,108	4,899	8***	1***
<i>Punjab</i>	50	49	1,031	1,170	24***	3***
<i>Sindh</i>	26	27	969	1,171	9	0
<i>Khyber Pakhtunkhwa</i>	24	27	767	907	13*	1
<i>Balochistan</i>	5	5	480	585	2	0
<i>Gilgit-Baltistan</i>	20	20	561	672	0	0
<i>FATA</i>	21	22	300	n/a	1	n/a
<i>CCT arm</i>	22	21	1,042	1,282	16***	1***
<b>% of women who can travel alone to a friend's home</b>						
<i>Pakistan</i>	47	48	4,108	4,899	6*	1***

<sup>41</sup>Hossain and Kabir (2001)



	Mean (treatment)		Sample size (treatment)		Impact Estimate	
<i>Punjab</i>	75	74	1,031	1,170	20***	2***
<i>Sindh</i>	48	47	969	1,171	9	0
<i>Khyber Pakhtunkhwa</i>	33	33	767	907	11	0
<i>Balochistan</i>	9	9	480	585	10	1
<i>Gilgit-Baltistan</i>	60	62	561	672	-6	0
<i>FATA</i>	31	31	300	n/a	28	n/a
<i>CCT arm</i>	38	37	1,042	1,282	16***	1**

**Source:** BISP impact evaluation survey (2019). Notes: (1) Asterisks (\*) indicate that an impact estimate is statistically significant: \*\*\*  $p < .01$ ; \*\*  $p < .05$ ; \*  $p < .10$ .

There was also significant variation across the provinces, with the most mobile women found in Punjab where approximately half of all beneficiaries were permitted to travel to a market or health facility alone. This compares to Balochistan where only 5% of beneficiaries were permitted to do the same.

Nonetheless, Table 10 demonstrates consistent and positive impacts of the BISP on the mobility of women across all three categories, but most positively for the ability of women to travel to markets or health facilities alone. This is observed for the full samples of both UCT and CCT beneficiaries.

Whilst there positive and statistically significant impacts on the ability of women to travel to markets alone across the majority of the provinces, in the main we observe that the overall impact on the mobility of women appears to be driven by strong gains to the mobility of women in Punjab, women who are considerably more mobile than their peers in other provinces.

The qualitative research suggests that this may be because the process of changing cultural attitudes takes considerable time. For example in areas of Sindh, Balochistan and Khyber Pakhtunkhwa beneficiaries reported that it was still very common for women to be accompanied by men even in the case of collecting their BISP cash transfer. However, it appeared that there was a gradual shift in attitudes, with it now being permissible for women to travel in groups to travel to nearby POS to collect their BISP cash transfer. This, however, was restricted to places within the community.

*'We don't let our females go out on their own because they don't know how to deal with outside people. So we go to protect them. But in case of BISP cash collection, some women have started to go in groups because they are familiar with the process and usually someone in the group takes charge and guides the others. However, for far off places, females are still not allowed to go on their own.'* (Male beneficiaries FGD, Rural Noshki, Balochistan)

## 5.2.2 Impact on involvement in decision making

Cultural and institutional structures can limit the autonomy of women to make decisions and this can impact the ability of women to access services that they need, or to make beneficial decisions in the household such as diverting resources to girls within the household. For example, there is a large body of literature in South Asia, including Pakistan which finds that the ability of women to influence decision making has a

significant positive correlation with reproductive health services uptake, with influential males' decision-making power having the opposite effect<sup>42</sup>.

In fact, in empowerment ranking exercises beneficiaries ranked respect and autonomy in decision making power as among the most important factors that secured and empowered a woman. However, women's involvement in household decision making continues to be restricted for significant portions of beneficiaries, with Table 11 demonstrating that about half of beneficiaries were not involved in decisions about major household purchases and 40% were not involved in decisions to visit family. The qualitative research finds that when women were not involved in decision-making that it was a significant hindrance to them feeling that they could exert control over their own lives.

*'In our households, we are not given any importance and not consulted for anything. This weakens our position and we feel unimportant and useless.'*  
(Female beneficiary FGD, Rural Dadu, Sindh)

**Table 11 BISP impact on involvement of women in decision making**

	Mean (treatment)		Sample size (treatment)		Impact Estimate	
	All bens	RD bens	RD	PSM	RD	PSM
<b>% of women involved in decisions about major household purchases</b>						
<i>Pakistan</i>	48	54	4,108	4,899	4	5***
<i>Punjab</i>	56	63	1,031	1,170	13**	6***
<i>Sindh</i>	53	59	969	1,171	10	5***
<i>Khyber Pakhtunkhwa</i>	45	51	767	907	9**	6***
<i>Balochistan</i>	42	46	480	585	22**	6***
<i>Gilgit-Baltistan</i>	43	47	561	672	-10	3***
<i>FATA</i>	37	35	300	n/a	-1	n/a
<i>CCT arm</i>	54	60	1,042	1,282	21***	4***
<b>% of women involved in decisions about visits to family</b>						
<i>Pakistan</i>	56	62	4,108	4,899	10**	6***
<i>Punjab</i>	61	69	1,031	1,170	22***	4***
<i>Sindh</i>	57	63	969	1,171	7	6***
<i>Khyber Pakhtunkhwa</i>	58	63	767	907	14*	9***
<i>Balochistan</i>	44	48	480	585	4***	6***
<i>Gilgit-Baltistan</i>	65	64	561	672	-4	2
<i>FATA</i>	46	42	300	n/a	-4	n/a
<i>CCT arm</i>	60	66	1,042	1,282	18**	4***
<b>Source:</b> BISP impact evaluation survey (2019). Notes: (1) Asterisks (*) indicate that an impact estimate is statistically significant: *** p < .01; ** p < .05; * p < .10.						

<sup>42</sup>Hou and Ma (2011)

Despite this we find that the BISP is continuing to have strong effects on the ability of women to engage in decision making within the household. In fact Table 11 demonstrates that, at least for the PSM estimates of impact, positive and statistically significant increases in the proportions of women who are involved in decision making, both at the national level for both UCT and CCT beneficiaries, but also across all provinces of between 3 and 6 percentage points. The RD estimates of impact do not find positive and statistically significant estimates of impact in all provinces, but when considered in combination with the PSM estimates suggest that the strongest effects are in Punjab and Khyber Pakhtunkhwa.

The qualitative research supports the finding that the BISP has had a significant impact on family relations, particularly between husbands and wives. Whilst men continue to exert the main decision making authority and control over family expenditures, the qualitative research suggests that there was an evident shift in the attitude of all family members, and in particular husbands. Most female respondents associated this directly with their receipt of the BISP cash transfer, as they were now contributors to the household budget.

*‘Now my husband and father in law have more respect for me because of BISP and my husband gives me much more importance than before.’ (Female beneficiary IDI, Rural Dadu, Sindh)*

*‘Yes, definitely there is a change in men’s attitude after BISP. They talk to us more and even us our opinions in family matters. Women are also finally given some importance and it is all because of BISP cash.’ (Female beneficiary FGD, Urban Lower Dir, KP)*

### **5.2.3 Impact on beneficiaries’ social standing within the community**

Beyond the impact at the household respondents, both beneficiaries and non-beneficiaries, reflected that the BISP was increasing the social standing of beneficiary women within the community. A significant number of women reflected that members of the community were now more willing to interact and engage with them, which they attributed to the perception that as BISP beneficiaries they had a better financial standing.

*‘Shopkeepers are more willing to give us rations on credit, because they know that we will pay them back.’ (Female beneficiary FGD, Rural Sargodha, Punjab)*

*“By showing BISP card we can get groceries from the local shopkeeper on loan and then pay him later on, which is a big facility.” (Female beneficiary FGD, Rural Ghizar, GB)*

Furthermore, the qualitative research noted that when beneficiaries were required to travel to payment points themselves, they had begun to form informal collectives to support each other. This allowed beneficiaries to travel as groups to collect payments, or for visits to BISP tehsil offices. Respondents indicated that this had both increased their social interaction, but had also strengthened their position in the community.

*‘Not just to save money but we feel much safer when we are together and everyone in the village also knows that we are together and for what purpose we are going. So no one says anything. Otherwise, people here don’t like*

*women walking around in the village.’ (Female beneficiary FGD, Rural Lower Dir, KP)*

## 5.3 Impact of BISP on female agency

### 5.3.1 Impact on women’s ability to personally save

If women have the ability to retain control over the transfer and if women are able to have some autonomy within the household in terms of involvement in decision making we can expect that beneficiaries may exert this bargaining power to retain control over financial assets. To explore this we asked women in the quantitative survey whether they were *personally* able to save any money.

In some instances the ability to save money can have multiplier effects for a beneficiary, particularly if that beneficiary is able to invest that money in some productive activity. The qualitative research indicated that in cases where women had been able to save money over a sustained period of time that this had indeed been invested in productive activities that increased the income of the household.

*‘I saved my BISP cash transfer and now have invested in a small kiosk where my son sells soft drinks and snacks. So BISP has helped our family in improving our financial flow and also provided us with additional income.’*  
(Female beneficiary IDI, Urban Khairpur, Sindh)

*“I have helped establish a home store for my husband. I had been saving from my BISP payment for almost two years and had managed to save a pretty decent amount.”* (Female beneficiary IDI, Urban Quetta, Balochistan)

**Table 12 BISP impact: proportion of women who can personally save**

	Mean (treatment)		Sample size (treatment)		Impact Estimate	
	All bens	RD bens	RD	PSM	RD	PSM
<b>% of women who can personally save</b>						
<i>Pakistan</i>	10	10	4,107	n/a	4*	n/a
<i>Punjab</i>	20	20	1,031	n/a	12**	n/a
<i>Sindh</i>	12	12	969	n/a	12**	n/a
<i>Khyber Pakhtunkhwa</i>	6	6	766	n/a	0	n/a
<i>Balochistan</i>	5	5	480	n/a	4	n/a
<i>Gilgit-Baltistan</i>	1	2	561	n/a	-5	n/a
<i>FATA</i>	2	1	300	n/a	2	n/a
<i>CCT arm</i>	11	11	1,042	n/a	5	n/a

**Source:** BISP impact evaluation survey (2019). Notes: (1) Asterisks (\*) indicate that an impact estimate is statistically significant: \*\*\*  $p < .01$ ; \*\*  $p < .05$ ; \*  $p < .10$ .

Table 12, however, reports that relatively few beneficiary women have been able to save money, with just 10% of women reporting that they had personally been able to save money. There is significant variation in this finding, with Punjab being a notable

exception with fifth of women reporting that they were personally saving, whilst 12% reported that they were personally saving in Sindh.

In the remainder of provinces of Pakistan, however, the proportion of women who reported that they could personally save ranged from just 1% in Gilgit-Baltistan, to 6% of women in Khyber Pakhtunkhwa.

Nonetheless, Table 12 reports a positive and statistically significant increase in the proportion of women who can personally save of 4 percentage points that is attributable to the BISP. This appears to be driven by an impact on beneficiaries in the two provinces where women are most likely to save, Punjab and Sindh. In both cases we find that the BISP has led to a positive and statistically significant increase in the proportion of women who can personally save of 12 percentage points.

This finding is consistent with our earlier finding that women in these two provinces were the most likely to be able to retain control over the money that they receive from the BISP cash transfer, as demonstrated in Section 3.5.

Findings from the qualitative research suggest that the BISP already has an important tool, which if more systematically exploited, could have the potential to generate further gains. Research in CCT districts noted that BBCs were playing a role in supporting female agency, in communities where they had an active presence. In addition to their main function of supporting beneficiaries' engagement with BISP, it was noted that in some areas of Gilgit-Baltistan that BBC members had initiated vocational training for members to support their economic empowerment.

*'We have done some fruit preservation trainings for our members because it is a traditional skill and can be an opportunity for women to earn some money by selling their products in the market. That is going to be our next step to link up the women with the market.'* (BBC Mother Leader, Rural Gigit, GB)

There is strong global evidence that women's savings groups can generate significant effects in terms of the economic empowerment of women. For example, *Karlanet. al (2017)* find in a study of Village Savings and Loans Associations (VSLAs) across Ghana, Uganda, and Malawi over three years that women's access to VSLAs had increased the number of household businesses operating by 6%, as well as increasing the survivability and profitability of those businesses. BBCs are potentially a powerful vehicle for such engagement in Pakistan for BISP beneficiaries.

### **5.3.2 Impact on participation in voting**

Pakistan has historically low rates of participation by women in voting in Pakistan. In order to become a BISP beneficiary a core pre-condition is that a women must be in possession of a valid Computerised National Identity Card (CNIC). Given that CNIC is also required to vote in Pakistan, this requirement is likely a key channel if the BISP is to have an impact on beneficiaries' participation in the political process.

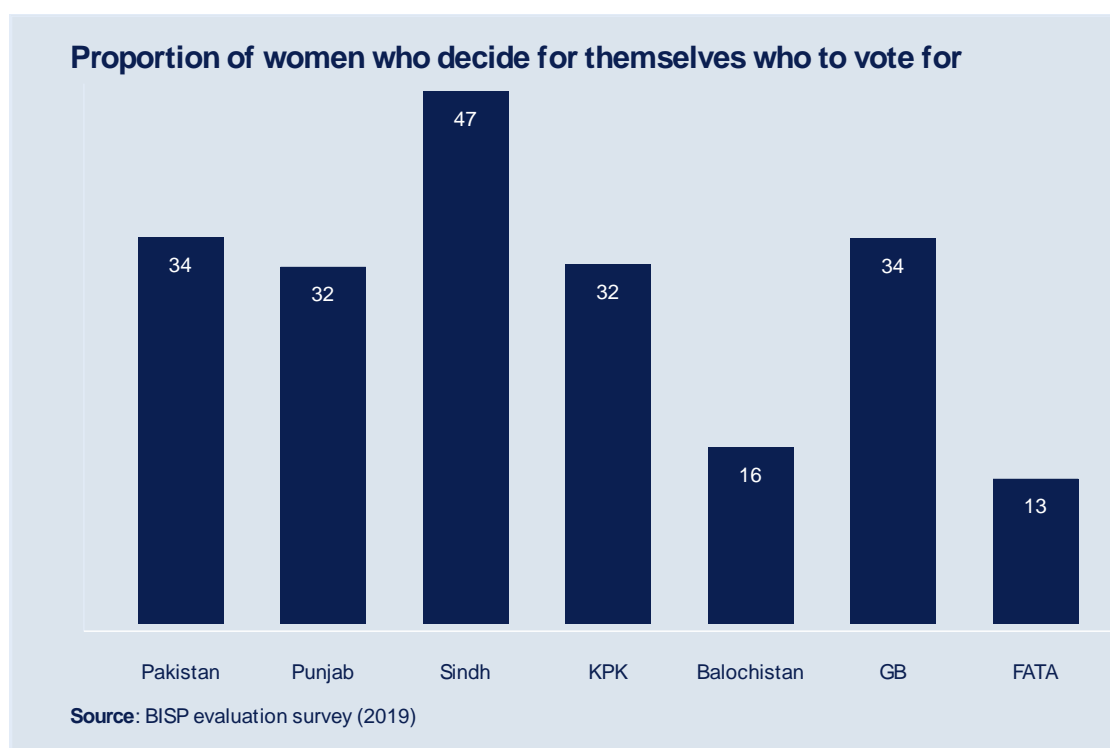
Table 13 reports that we find strong, positive, and statistically significant impacts on the proportion of women who are able to vote in local and national elections in Pakistan. This finding is consistent with the observed impact on mobility reported earlier in Section 5.2.1.

**Table 13 BISP impact on participation in voting**

	Mean (treatment)		Sample size (treatment)		Impact Estimate	
	All bens	RD bens	RD	PSM	RD	PSM
<b>% of women who vote</b>						
<i>Pakistan</i>	90	90	4,095	4,899	14**	15***
<i>Punjab</i>	98	98	1,003	1,170	18***	22***
<i>Sindh</i>	97	96	966	1,171	16***	18***
<i>Khyber Pakhtunkhwa</i>	72	71	747	907	6*	12***
<i>Balochistan</i>	89	89	449	585	3	7***
<i>Gilgit-Baltistan</i>	98	99	622	672	8	7***
<i>FATA</i>	77	75	308	n/a	n/a	n/a
<i>CCT arm</i>	93	93	1,042	1,282	21***	20***
<b>Source:</b> BISP impact evaluation survey (2019). Notes: (1) Asterisks (*) indicate that an impact estimate is statistically significant: *** $p < .01$ ; ** $p < .05$ ; * $p < .10$ .						

However, and consistent with the findings presented in Section 5.2.2 that reports that there are still significant proportions of women who are not involved in decision making, we find that many women who do engage in voting, do not have a say in who they are voting for.

In fact, as demonstrated by Figure 24, only a third of women who vote reported that they also then choose which candidate or party to vote for. There is some significant variation across the provinces with beneficiaries, with almost half beneficiaries in Sindh saying they can select who to vote for, compared to significantly lower proportions of beneficiaries who report the same in Balochistan and FATA. Whilst not reported in Table 13, we do not find that the BISP has a statistically significant effect on a beneficiary's ability to decide who she votes for, either at the national level or across the provinces.

**Figure 24 Proportion of women who decide for themselves who to vote for**

### 5.3.3 Impact on education

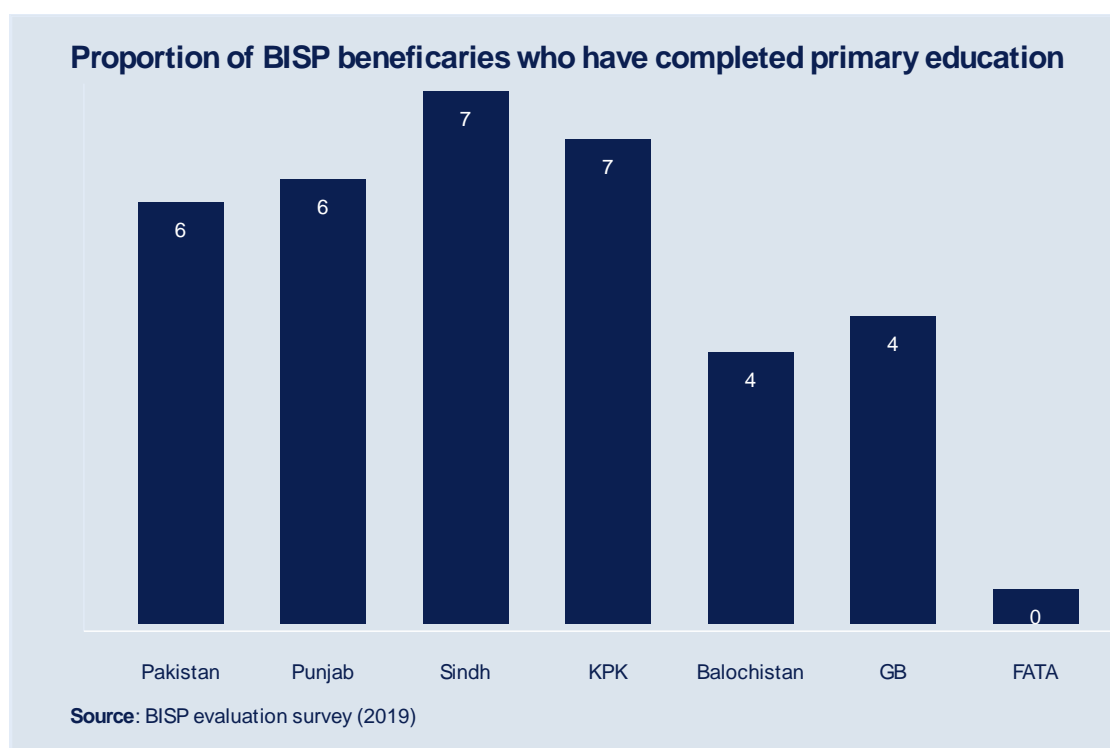
Literacy and education are important human asset endowments that can determine female agency. They allow for access to greater information, knowledge, skills and understanding<sup>43</sup>, as well as being an important resource in its own right. Furthermore education can both support access to other resources, or support the achievement of desired outcomes such as education for children in the household.

Figure 25, clearly demonstrates that the average BISP beneficiary has extremely low levels of education, with just 6% of all BISP beneficiaries across Pakistan having completed primary education. Levels of education are lowest in Balochistan and Gilgit-Baltistan, for which only 4% of beneficiaries have completed primary education, and in particular for FATA where less than a percent of beneficiaries have completed primary education.

This is also an important finding in the context of the engagement of BISP with its beneficiaries, highlighting the need for BISP to tailor any future programming, or communication, to the needs of this group.

<sup>43</sup> Aldred (2013)



**Figure 25 Proportion of beneficiaries who have completed primary education**

Despite this finding, we find elsewhere in the report that the BISP, at least through the CCT is having an impact on the education of girls. Section 6 notes that the CCT is increasing the enrolment rates of girls, and doing so to a greater degree than boys. Furthermore, Section 6.7 provides evidence that once in school there is no disparity between the achievements of girls and boys as measured by numeracy and English literacy assessments.

### 5.3.4 Impact on Gender Based Violence

Our evaluation assessed the impact of BISP on Gender Based Violence (GBV) for the first time. GBV is prevalent in Pakistan and accepted as a norm by many— for example 34% of ever-married women have experienced spousal physical, sexual, or emotional violence (DHS 2017-18)<sup>44</sup> and 34% of women believe a husband is justified in beating his wife when she argues with him (2013 data)<sup>45</sup>. The evaluation team sought to understand if a long-standing support programme specifically targeted at women had had any impact on this deep-rooted phenomenon, either in its occurrence in beneficiary households or perceptions about it.

<sup>44</sup>National Institute of Population Studies- NIPS/Pakistan and ICF, 'Pakistan Demographic and Health Survey 2017-18', 1 January 2019, <https://dhsprogram.com/publications/publication-fr354-dhs-final-reports.cfm>.

<sup>45</sup>World Bank, 'World Development Indicators | Data', accessed 30 October 2012, <http://data.worldbank.org/data-catalog/world-development-indicators>.



Several aspects of GBV were measured, both qualitatively and quantitatively. These included experiencing controlling behaviour, emotional violence, and physical violence. Questions in the survey focussed on interactions between respondents and their husbands – Intimate Partner Violence (IPV) is the most common form of GBV and according to the DHS 2017-18, 80% of ever-married women who have experienced physical violence since age 15 report their current husband as the perpetrator, while 8% name a former husband as the perpetrator.

#### Quantitative measures of gender based violence used in this evaluation

This evaluation uses the following measures of gender based violence. We focus only on currently married women, and only ask about violence perpetrated by husbands. We also only asked these questions if privacy of respondent could be assured and if the respondent felt comfortable.

**Controlling behaviour:** a woman was said to have experienced controlling behaviour if her husband had done any of the following in the last 12 months:

- If he got jealous or angry if she talked to other men
- If he frequently accused her of being unfaithful
- If he did not permit her to meet her female friends
- If he tried to limit contact with her family
- If he insisted on knowing where she was at all times

**Emotional violence:** a woman was said to have experienced emotional violence if her husband had done any of the following in the last 12 months:

- Said or done anything to humiliate her in front of others
- Threatened to hurt her or someone she cares about
- Insulted her or made her feel bad about herself

**Physical violence:** a woman was said to have experienced physical violence if her husband had done any of the following in the last 12 months:

- Pushed, shaken, or thrown something at her
- Slapped her
- Twisted her arm or pulled her hair
- Punched her with her fist or with something that could hurt her
- Kicked, dragged or beaten her up
- Choked or burned her on purpose
- Threatened to attack her with a knife, gun, or other weapon

Table 14 indicates that the most common forms of GBV related to husbands exerting controlling behaviour or perpetrating emotional violence towards their wives, with more than a third of women reporting to have experienced this type of GBV across both UCT and CCT beneficiary households.

The qualitative research indicates that this type of behaviour is often associated with a shortage of resources that was then followed by a conflict in decision making over how these resources should be used. Encouragingly respondents to the qualitative research reported that the frequency with which this type of behaviour occurs has reduced since they started receiving the BISP cash transfer. Many respondents indicated that this was because they had to ask their husbands for money less frequently.

*‘Now I don’t ask my husband for money for some expenses and spend my BISP payment instead. So there are less arguments and fights. However, his attitude is still the same and if I start asking him again for money he would start fighting and abusing me.’ (Female beneficiary FGD, Urban Thatta, Sindh)*

Furthermore, beneficiary women reported that since they had become beneficiaries they felt that their husbands were offering them more respect and were more communicative, which was said to have had a positive impact on their relationships. Beneficiaries attributed this to the fact that they were increasingly seen as contributors to the household, as well as the fact that the BISP cash transfer went at least some way to relieving some financial pressures on the household.

*‘Yes, definitely there is a change in men’s attitude after BISP. They talk to us more and even us our opinions in family matters. Women are also finally given some importance and it is all because of BISP cash.’ (Female beneficiary FGD, Urban Lower Dir, KP)*

Results from the impact analysis provide support to this perceived increase in respect that women felt from their husbands. Table 14 reports a statistically significant decrease in the proportion of women who said that they experienced some form of controlling behaviour from their husbands. In fact we find a 9 percentage point reduction in the proportion of UCT women who experience this type of behaviour, and a 3 percentage point reduction for CCT women.

**Table 14 BISP Impact on gender based violence<sup>46</sup>**

	Mean (treatment)		Sample size (treatment)		Impact Estimate	
	All bens	RD bens	RD	PSM	RD	PSM
<b>% of women who experienced controlling behaviour from their husband</b>						
UCT	39	38	3,210	n/a	-9**	n/a
CCT	34	34	890	n/a	-3*	n/a
<b>% of women who experienced emotional violence from their husband</b>						
UCT	33	32	3,210	n/a	3	n/a
CCT	41	42	890	n/a	0	n/a
<b>% of women who experienced physical violence from their husband</b>						
UCT	24	23	3,210	n/a	-2	n/a
CCT	30	30	890	n/a	5	n/a
<b>Source:</b> BISP impact evaluation survey (2019). Notes: (1) Asterisks (*) indicate that an impact estimate is statistically significant: *** $p < .01$ ; ** $p < .05$ ; * $p < .10$ .						

We do not, however, find any impact of either the UCT or the CCT on the proportion of women who experience either emotional or physical violence at the hands of their husbands. Domestic violence remains a common problem for the women of Pakistan, as has been documented elsewhere, including in the Pakistan DHS. In our evaluation we find that significant proportions of women have experience both forms of violence, with approximately a quarter of UCT beneficiaries having experienced physical violence and almost a third of CCT beneficiaries having experienced the same.

<sup>46</sup> This module was conducted for currently married women for whom we were able to secure privacy. This subset did not have sufficient sample size to conduct provincial level analysis for the UCT arm.

During the qualitative research significant proportions of female respondents in Balochistan, Khyber Pakhtunkhwa, Sindh, and parts of Gilgit-Baltistan indicated that domestic disputes led to physical violence quite commonly, and on occasions that this exceeded acceptable limits.

*'I have had to go to the hospital many times for first aid because of my husband's beating.'* (Female beneficiary IDI, Rural Malakand, KP)

Female respondents also noted the social stigma attached to domestic violence, and their fears about reporting on their husbands. In many cases this meant that victims of domestic violence were unwilling or afraid to seek the support that they needed, including medical care.

*'My husband hits me on even small matters and sometimes is very violent but I never speak to anyone about it or have gone to a hospital for treatment because I don't want people to know and talk about me.'* (Female beneficiary IDI, Rural JhalMags, Balochistan)

*'Once my husband hit me so much that I was bleeding heavily but still I did not go to the hospital because of embarrassment and social stigma attached to domestic violence.'* (Female beneficiary IDI, Urban Ghizer, GB)

Furthermore, the qualitative research finds no evidence of changes in attitudes of men towards the use of physical violence as an acceptable form of behaviour with their wives, often feeling that it was alright to hit a woman because they were *less intelligent* or because *men had the right to correct family women if they were wrong*. In fact, male respondents in Khyber Pakhtunkhwa, Balochistan, and Gilgit-Baltistan were often vocal, and in some cases proud, about the need to resort to violence during domestic disputes with their wives.

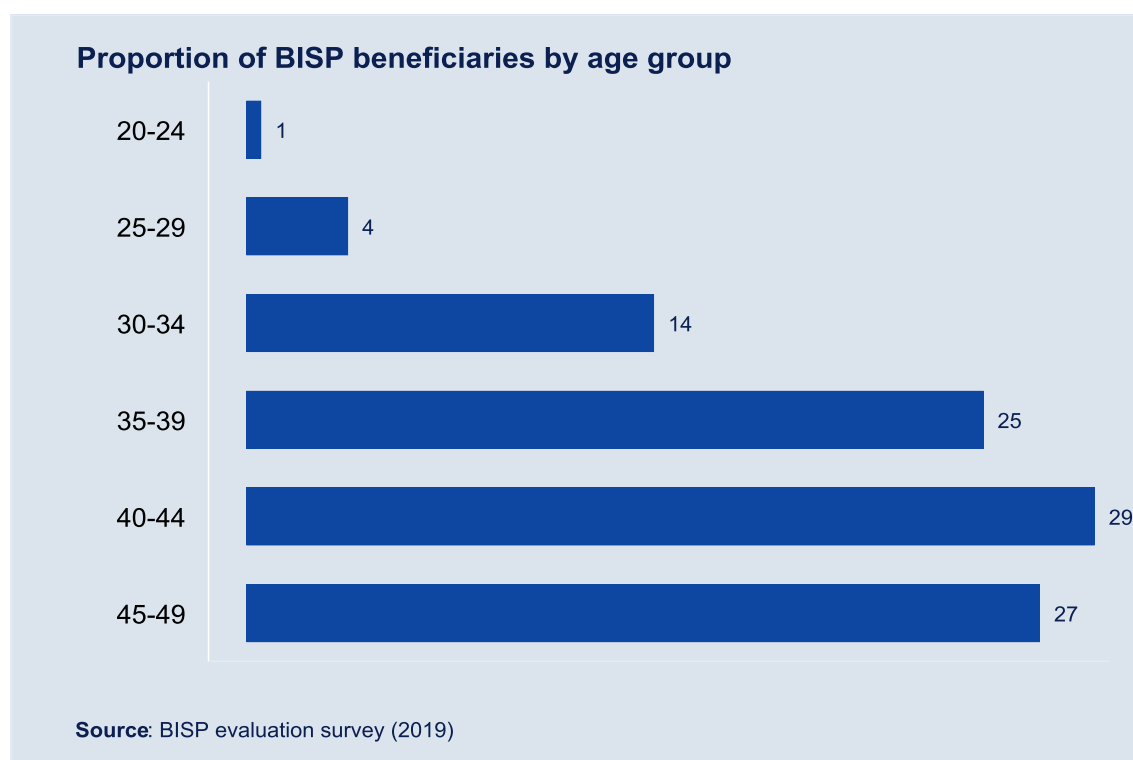
*'Women's brains are in their feet and they don't understand a lot of things so naturally one loses patience and then things can also get physical.'* (Male beneficiary FGD, Rural Mardan, KP)

## **5.4 Impact of BISP on family planning**

In this section we explore the impact of BISP on family planning. In understanding some of the findings presented below it is important to consider the age profile of BISP beneficiaries, as the age of a woman is strongly correlated with her use of contraception as well as her desire for more children.

This is presented in Figure 26, which shows that more than 80% of BISP beneficiary women are aged 35 or older. That there are significantly fewer women in younger age groups is related to the fact that current beneficiaries to a great extent were targeted in the roll-out of the original NSER conducted in 2010-2011.

This means at the time of the 2019 evaluation survey, we would expect all beneficiary respondents to be at least 25 years old. That there is a small proportion of beneficiaries in the 20-24 year group is likely due to a change in status of a beneficiary, for example a woman living in an eligible household who got married after the initial NSER roll-out could appeal to BISP to become a beneficiary.

**Figure 26 Proportion of BISP beneficiaries by age group**

### 5.4.1 BISP impact on use of contraception

Our evaluation assessed the impact of BISP on the use of contraception for the first time. In order to assess the use of contraception by BISP beneficiaries we consider two measures. The Contraceptive Prevalence Rate (CPR) for currently married women aged 18-49 years, which measures the proportion of women in this age group who are currently using any form of contraception. In addition we consider the proportion of women in this age group who are using any modern form of contraception<sup>47</sup>.

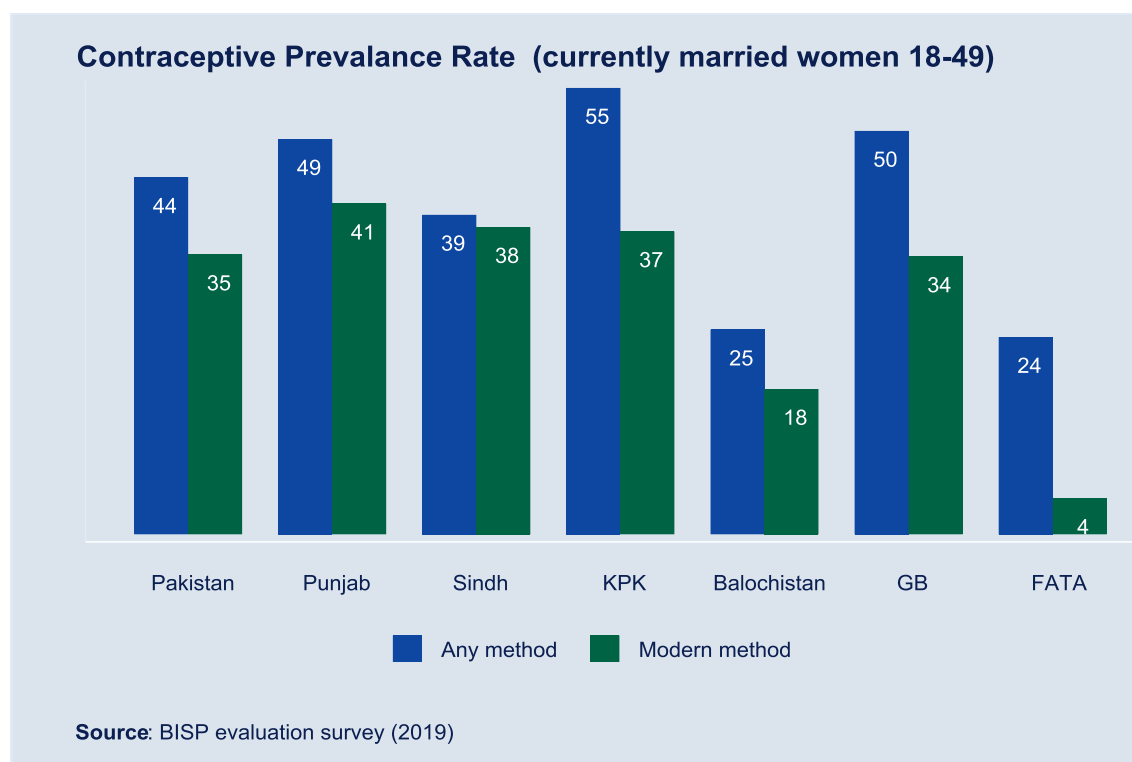
Figure 27 reports the CPR and use of modern contraceptive methods for BISP beneficiaries who are currently married. It shows a CPR of 44%, whilst 35% are using a modern method of contraceptive. There is significant regional variation with beneficiary women in Khyber Pakhtunkhwa, Gilgit-Baltistan, and Punjab the most likely to be using any form of contraception, whilst beneficiary women in FATA and Balochistan have much lower CPRs.

There is also a large difference between the CPR and the proportion of women who are using a modern method. This suggests that many beneficiary women are still using

<sup>47</sup> Modern methods include: male and female sterilisation; injectables, intrauterine devices; contraceptive pills; implants; female condoms; male condoms; the standard days methods; lactational amenorrhoea method; and emergency contraception.

traditional methods of contraception<sup>48</sup> which have reduced efficacy as compared to modern methods. This is particularly true in Khyber Pakhtunkhwa, Gilgit-Baltistan, and FATA.

**Figure 27 Contraceptive prevalence rate**



It is also worth noting that the observed CPR and use of modern methods for BISP beneficiary women is relatively high compared to the national average, which the Pakistan Demographic Health Survey (DHS) 2017/18 reports at 34% and 25% respectively.

This difference can be explained by the age profile of BISP beneficiary women, as discussed above. Whilst the national averages reported in the Pakistan DHS 2017/18 are reported for all currently married women aged 15-49, our sample of women by the design of BISP is restricted to currently married women aged 18-49. Furthermore the average age of BISP beneficiary women is significantly higher at 40 years, compared to the national average of currently married women as reported in the DHS 2017/18 at 32 years.

Comparing therefore the CPR and the use of modern methods to the rates reported in the Pakistan DHS 2017/18 for older age groups (Figure 28) reports similar rates of contraceptive use to BISP beneficiary women.

<sup>48</sup> Traditional methods include: rhythm method; withdrawal; folk methods

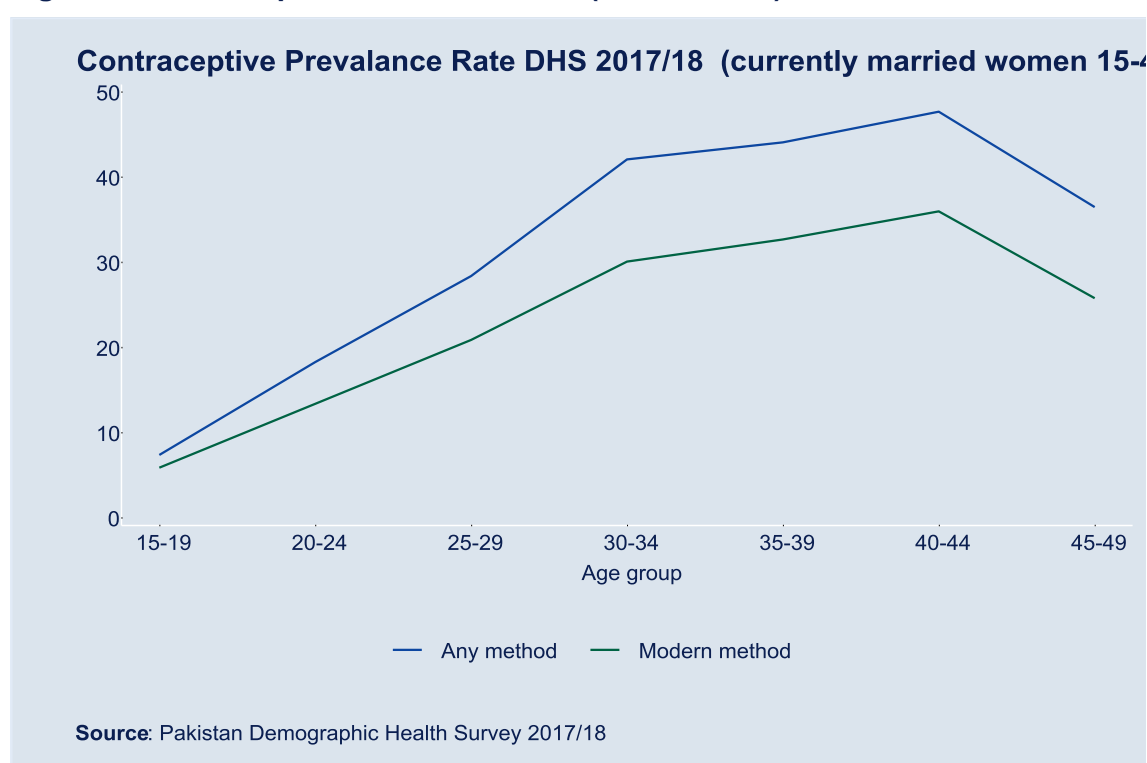
**Figure 28 Contraceptive Prevalence Rate (DHS 2017/18)**

Table 15 presents the results of the estimation of impact on the use of contraception by BISP beneficiary women aged 18-49 who are currently married. This finds that there is no evidence that the BISP is having a statistically significant impact on the use of contraception.

Whilst the BISP has plans to support improving access to family planning services, including with the Population Council and the Punjab Population Innovation Fund (PPIF) in Punjab<sup>49</sup>, at the date of the BISP impact evaluation survey the BISP did not include any specific component that focussed specifically on family planning at scale for its beneficiaries. As a result the finding that BISP beneficiary women do not have different behaviour regarding contraception to their comparable peers is not surprising.

**Table 15 BISP impact on use of contraception**

	Mean (treatment)		Sample size (treatment)		Impact Estimate	
	All bens	RD bens	RD	PSM	RD	PSM
<b>Contraceptive prevalence rate</b>						
UCT	44	45	2,490	n/a	-5	n/a
CCT	41	41	780	n/a	1	n/a
<b>Proportion of women using any modern contraceptive method</b>						

<sup>49</sup> <https://bisp.gov.pk/innovative-model-launched-to-improve-access-to-family-planning-services-for-bisp-beneficiaries-in-rahim-yar-khan-september-16-2019/>

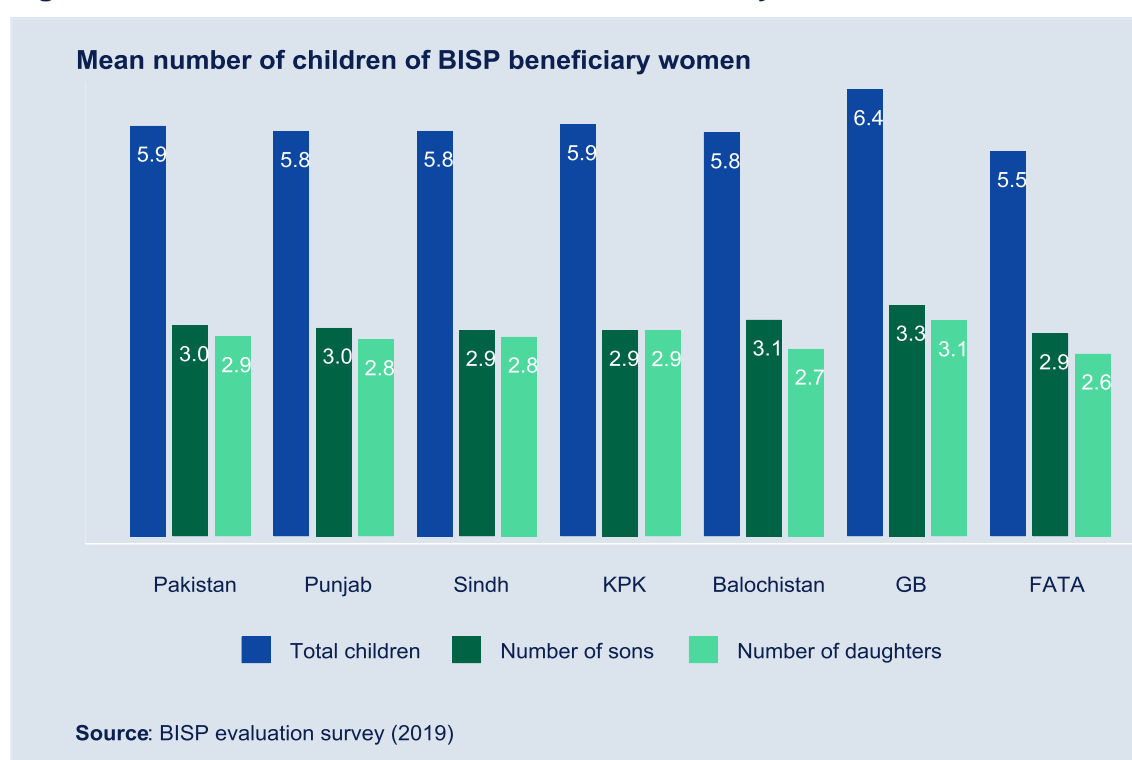
	Mean (treatment)		Sample size (treatment)		Impact Estimate	
UCT	35	35	2,490	n/a	-5	n/a
CCT	33	33	780	n/a	1	n/a
<b>Proportion of women using any traditional contraceptive method</b>						
UCT	9	10	2,490	n/a	-1	n/a
CCT	8	8	780	n/a	3	n/a

**Source:** BISP impact evaluation survey (2019). Notes: (1) Asterisks (\*) indicate that an impact estimate is statistically significant: \*\*\*  $p < .01$ ; \*\*  $p < .05$ ; \*  $p < .10$ .

## 5.4.2 Desire for children

In providing context for the desire of BISP beneficiaries to have more children it is first important to understand how many children BISP beneficiaries currently have, particularly given the age profile of BISP beneficiaries described above. Figure 29 reports that on average BISP beneficiaries have 5.9 children, with no significant variation across the provinces with the exception of Gilgit-Baltistan where BISP beneficiaries have on average 6.4 children. For BISP beneficiaries overall children are equally split between the genders, with the exception of beneficiaries in Balochistan, who have marginally more sons than daughters.

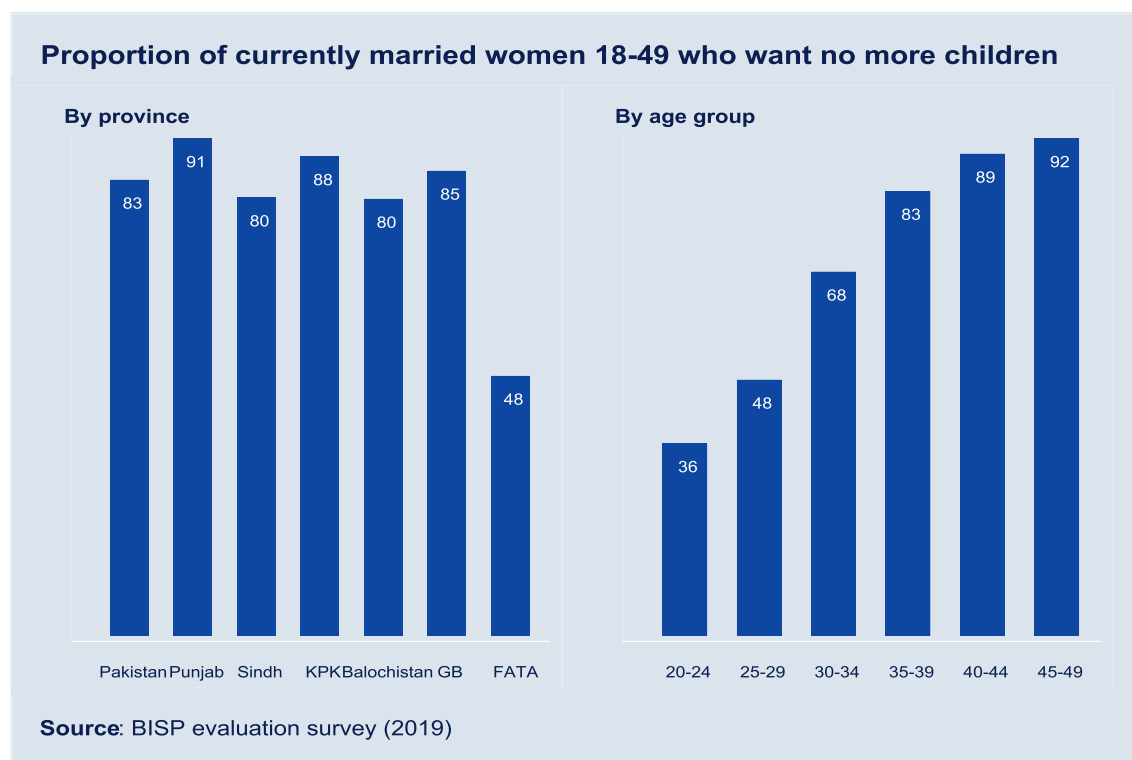
**Figure 29 Mean number of children of BISP beneficiary women**



Given the age profile of BISP beneficiaries and that they already have, on average, a relatively large number of children the finding presented in Figure 30 that more than 80% of beneficiaries do not want any more children, although a significantly lower proportion of beneficiaries in FATA express the same. As to be expected Figure 30 also

reports that as beneficiaries get older fewer report that they want to have additional children.

**Figure 30 Proportion of currently married women who want no more children**



For beneficiaries who do express that they would like another child, Figure 31 reports that on average there is a strong preference for additional sons rather than daughters. On average across Pakistan beneficiaries who desire another child report that they would like an additional 1.7 sons as compared to 0.7 daughters. This difference is particularly striking in Gilgit-Baltistan and FATA.



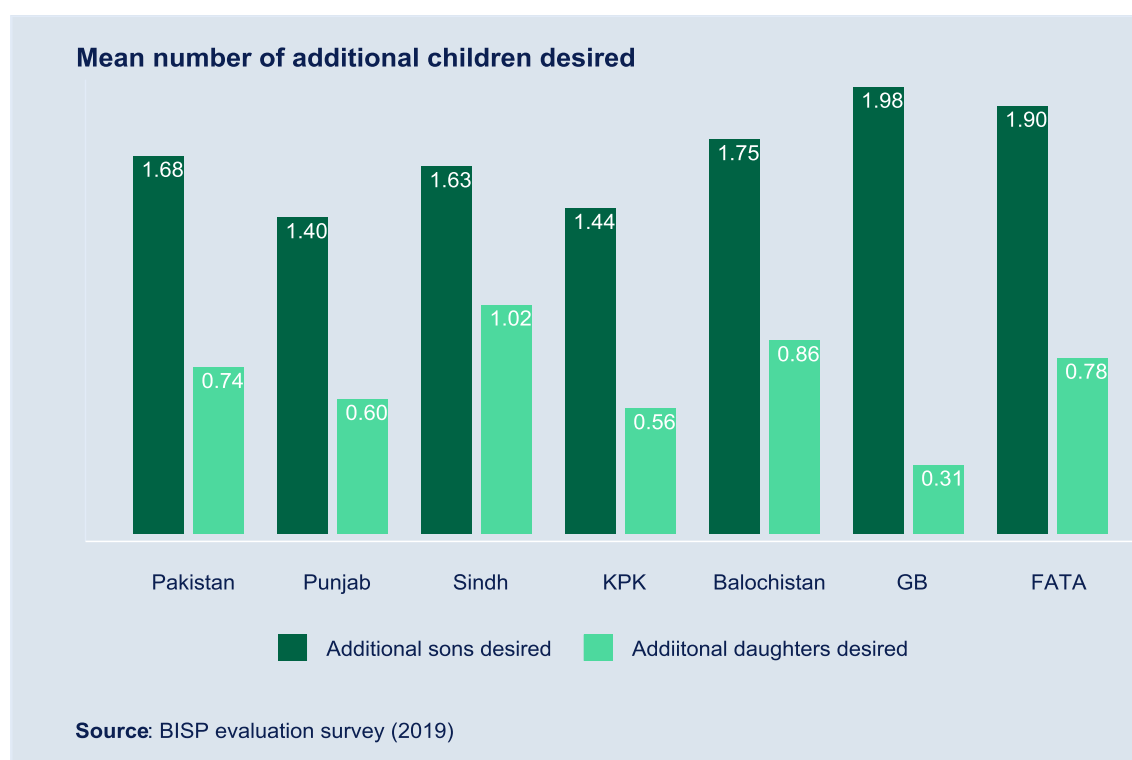
**Figure 31 Mean number of additional children desired (for women who want another child)**

Table 16 reports the estimated impact of the BISP on the desire for children. As with the evaluation's findings against the use of contraception we find that the BISP does not have a statistically significant impact on the desire for children, as to be expected given that BISP does not specifically target family planning activities to all of its beneficiaries.

**Table 16 BISP Impact on desire for children**

	Mean (treatment)		Sample size (treatment)		Impact Estimate	
	All bens	RD bens	RD	PSM	RD	PSM
<b>Proportion of children who want no more children</b>						
UCT	83	82	2,055	n/a	-1	n/a
CCT	80	79	604	n/a		n/a
<b>Additional sons desired (for those who want additional children)</b>						
UCT	1.7	1.6	332	n/a	-0.4	n/a
<b>Additional daughters desired (for those who want additional children)</b>						
UCT	0.7	0.7	332	n/a	-0.1	n/a

**Source:** BISP impact evaluation survey (2019). Notes: (1) Asterisks (\*) indicate that an impact estimate is statistically significant: \*\*\*  $p < .01$ ; \*\*  $p < .05$ ; \*  $p < .10$ .

**Note:** the sample size of women who want additional children in the CCT arm is too small (123 beneficiaries) to estimate impact on the desire for additional sons or daughters

## 6 Education

### Evidence summary

In this section we report the impact of both the UCT and CCT components of the BISP on education. We measure the impact of the BISP on enrolment, attendance rates, and grade repetition. We also provide evidence on the main barriers to education access, as well provide a review of learning assessments applied to CCT beneficiaries. The key findings are as follows:

#### Impact of the BISP on education

We find evidence that the **CCT continues to increase the proportions of boys and girls who are enrolled in school**. This impact is strongest for girls, with the impact lessening for boys as they get older. We find that the opportunity cost may be too high for boys in the 10-15 year old age group compared to the 6-9 year old age group, with opportunities for boys to bring in an income increasing as they get older.

We find **weak evidence that the UCT increases enrolment rates** though this is only found for the PSM sample of boys and girls, and not the RD sample.

We find **no evidence that the UCT or CCT increases attendance rates** of boys or girls. However, in the case of CCT students we find that the average attendance rates are well above the 70% rate, on which receipt of the CCT top-up is conditional.

We find evidence that the **BISP reduces grade repetition of CCT beneficiaries**. However, this effect is restricted to girls.

#### Barriers to education

The **availability of schools** remains a key barrier to access, with children who live more than 30 minutes from the nearest Government primary school significantly less likely to attend school.

**Poverty remains a key barrier** with between 20 and 25% of respondents reporting the expense of education as a reason for a child's non-enrolment. This is not just driven by the expense of education but also the incentives to engage in child labour.

**Cultural norms remain a barrier for girls** and despite the impact on girls' enrolment, we find that many parents report that they do not approve of girls' education. Respondents reported that puberty was a key milestone at which it was no longer acceptable for a girl to leave the household.

#### Learning achievements

We find **no difference in the learning outcomes of boys or girls** who benefit from the CCT. However, we do provide some evidence of lower achievements compared to national averages.

The ability to access education is strongly influenced by both household factors, including poverty, as well as the wider environment including: the affordability of

education; the access to and quality of education and the prevailing market demand for labour.

In this section we report the impact of both the UCT and the CCT components of the BISP on a range of education related outcome indicators including enrolment, attendance and grade repetition. Under the CCT beneficiary households receive an additional top-up of PKR 750 per child aged 5-15 years old enrolled, with the receipt of this top-up conditional on that child achieving at least a 70% attendance rate for a given quarter.

The main argument given in the literature for a UCT is that the key binding constraint stopping beneficiary households from educating their children is simply a lack of financial resources<sup>50</sup>, and not the desire or access to education services. In this sense both the UCT and the CCT are attempting to solve a problem related to a lack of income, with the CCT providing an additional income effect with the additional PKR 750 per child top-up.

Alternatively one could argue for a CCT, if it is believed that there are some forms of market failures that prevent parents from educating their children even if they can afford it. For example, a lack of information regarding the true value of schooling, or a preference for educating some children but not others (for example preference for boys over girls) might lead to a sub-optimal level of education. The application of conditions is expected to correct for these market failures. In this way the CCT is also changing the relative price of schooling, i.e. it is increasing the opportunity cost for a household if their child engages in other activities (such as child labour) as opposed to enrolling in school.

Nonetheless an investigation of the impact of the BISP in both its UCT and CCT forms is important given the widely acknowledge link between low levels of education amongst children of poor parents and the persistence of poverty. Income poverty can lead to a cycle of lower education outcomes, as it reduces adequate investment in education, with poorer education outcomes leading to lifetime poverty leading to the inter-generational transmission of poverty.

## **6.1 Targeting of the CCT**

In principle children aged 5-12 years living in BISP beneficiary households in CCT districts are targeted to be included in the programme. To allow completion of primary school, children are permitted to remain beneficiaries until the age of 15 years.

However, there are a number of factors that are worth bearing in mind. The first is that the usual age for entry into Grade 1 of primary schools in Pakistan is 6 years. It is possible that children can enter primary school at ages 4 and 5 years into a pre-primary school grade known as “katchi class”, but given that public schools do not have formal teacher allocations for this pre-primary age group this practice is not consistent in all public schools of Pakistan, with a lack of an effective standard Early Childhood

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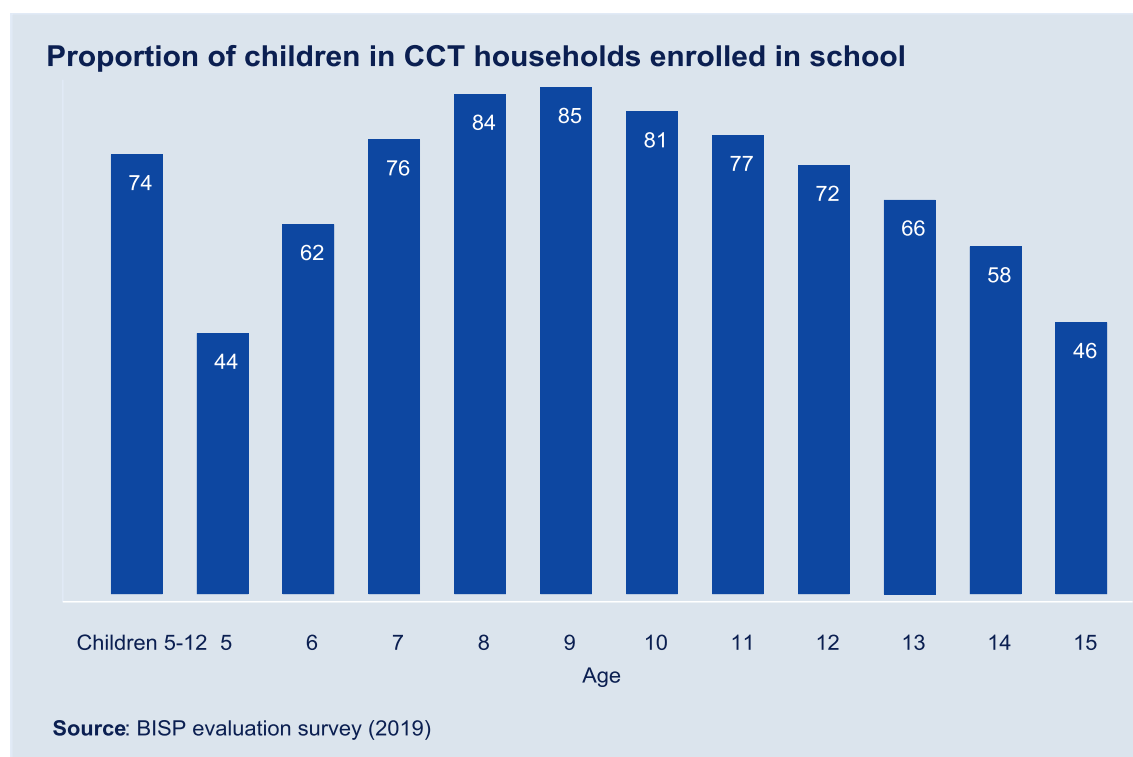
<sup>50</sup> Baird et. al. (2013)

Development (ECD) curriculum, teaching-learning materials, adequate classroom space, and a lack of qualified ECD teachers<sup>51</sup>.

### School enrolment of children in CCT households by age

In the core target age group of children aged 5-12 years Figure 32 demonstrates that 74% who live in a household where at least one child benefits from the CCT were enrolled in school at the time of the evaluation survey. There is, however, significant variation in the enrolment rates of children by age.

**Figure 32 Proportion of children in CCT households enrolled in school**



As expected, given the discussion above, Figure 32 reports that enrolment rates of 5 year olds is the lowest of all ages supported by the CCT. When the parents were asked why their 5 year old child was not enrolled by far the most common reason given for their non-enrolment was that the *child was too young*, with this being the case for 68% of 5 year old children in CCT households not enrolled at the time of the evaluation survey. The next most common reason was that the *child was not willing*, reported for 16% of 5 year old children in CCT households who were not enrolled at the time of the evaluation survey.

These findings strongly correlate with the observation that katchi classes are not consistently offered in Pakistani public schools due to the lack of formal public sector allocations to this class.

<sup>51</sup> UNICEF (2017)

It is also interesting to note how enrolment rates change as the child ages. At younger ages, (5 and 6 years old) enrolment remains below the average for 5-12 year olds, suggesting that some children in CCT households are starting primary school late. As children age there is then a drop-off in enrolment rates most notable as children get to 13 years and older. This is consistent with the finding that the national Net Enrolment Rate (NER) at middle and secondary school is significantly lower than the national primary NER<sup>52</sup>

### **Enrolment in CCT of children in CCT households by age**

To understand the success of registrations into the CCT programme Figure 33 presents two results. The first result reports the proportion of children in a CCT household who are direct beneficiaries of the CCT programme. On average we find that 57% of such children aged 5-12 years are CCT direct beneficiaries.

The second result reports the proportion of school going children in CCT households – i.e. those currently enrolled – who are CCT beneficiaries of the CCT programme. On average we find that 69% of such children aged 5-12 years are CCT direct beneficiaries. This result is important as it implies that just over 30% of children in CCT households are going to school, but are not receiving direct payments from BISP to support their education.

We also investigate, though do not report in Figure 33, this analysis for CCT households where there are only 3 children aged 5-12 years or less. This is important as under the original design of the CCT support was restricted up to 3 children. For this category we find that 70% of school going children in CCT households are direct CCT programme beneficiaries. This strongly suggests that the limit of support to 3 children or less is not a major factor in why some school going children are not supported by the CCT programme.

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<sup>52</sup> UNICEF (2017)

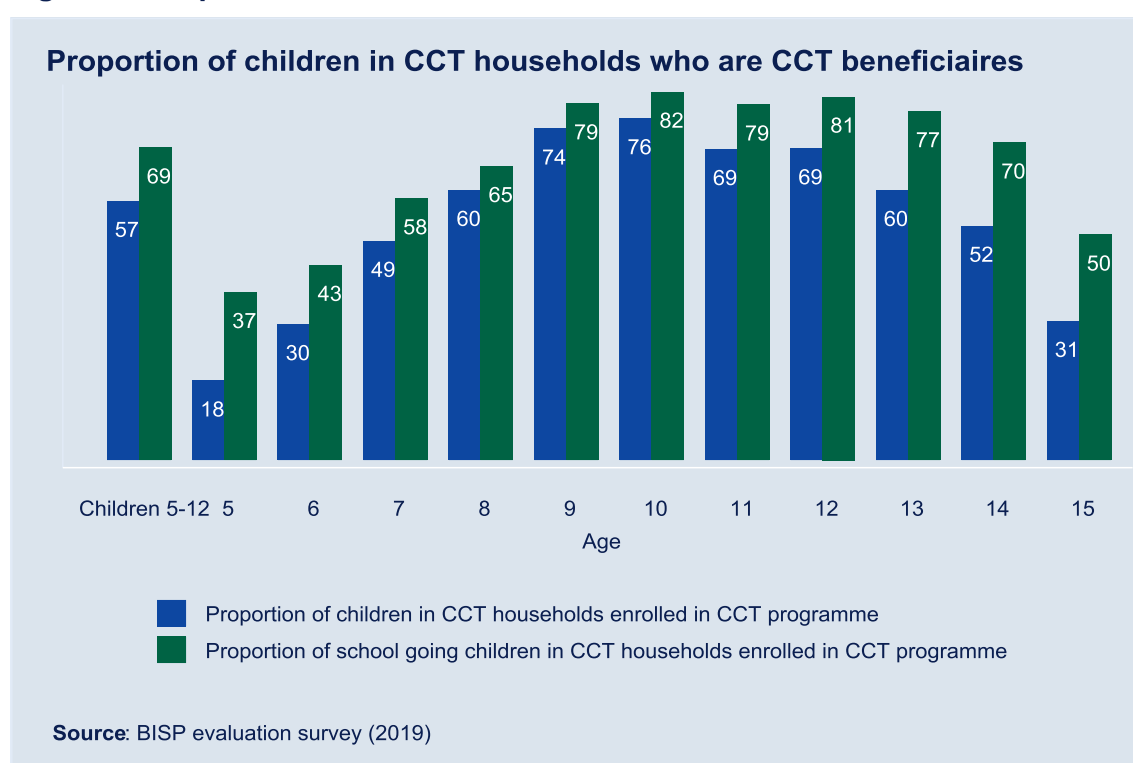
**Figure 33 Proportion of children in CCT households who are CCT beneficiaries**

Figure 33, reports that of school-going children, the least likely to be supported are those children aged 5 and 6 years, for whom only 37% and 43% respectively are direct CCT beneficiaries despite being enrolled in school. This improves as the child ages with just under or just over 80% of school going children aged 9 to 13 years being supported as direct CCT beneficiaries.

This suggests that BISP should pay particularly attention on the registration and enrolment of younger children – i.e. 5, 6, and 7 year olds the majority of which are not direct CCT beneficiaries, including for those in this age group that are in fact already enrolled in school.

## 6.2 Impact on enrolment

Table 17 presents the impact of the both the UCT and CCT components on school enrolment, that is whether children are attending school in the current academic year. We present the results for three groups of children: children aged 6-15 years; children aged 6-9 years; and children aged 10-15 years. The last two categories approximately correspond to the appropriate ages for primary school and middle school respectively<sup>53</sup>, although it should be noted that all children in the sample are attending primary school, with the CCT only providing support for primary education.

<sup>53</sup> Primary school corresponds in Pakistan to Grades 1-5, whilst Middle school corresponds to Grades 6-8. Whilst in theory one might expect a 9 year old to attend Grade 6, we find that more than 90% of 9 year olds in our sample are attending Grade 5 or below and so include them in this first category

Whilst the CCT is in theory also targeted at 5 year olds, evidence provided in Section 6.1 above suggests two reasons to exclude this age group from the main analysis. The first is that there is no formal allocation for pre-primary education in Pakistan, and despite some schools offering “katchi classes” for 5 year olds this is not implemented in any consistent fashion in Pakistan public schools. This is reflected by the fact that just 44% of this age group are currently enrolled in school, significantly lower than the average for either 5-12 year olds or 6-15 year olds. As demonstrated in Section 6.1 the main reason given for non-enrolment is that the *child is too young*.

This age group does also not appear to be systematically targeted by the BISP CCT. We find that just 18% of 5 year olds in CCT households are direct beneficiaries of the CCT<sup>54</sup>. Even restricting this analysis to 5 year olds in CCT households who are currently in school just 37% are also CCT direct beneficiaries, well below the average for 5-12 year olds of 69%.

As a result we restrict the analysis to omit 5 year olds. However, for completeness we report in Annex E the impact of the CCT on enrolment, as well as attendance and grade repetition for the 5-12 year old group. This does not change the overall interpretation of results, albeit with reduced effect sizes as would be expected given the inclusion of a group, 5 year olds, that are either too young to be served by the public school system in Pakistan, and who do not appear to be systematically targeted by the BISP CCT programme.

**Table 17 BISP impact on school enrolment by age**

	Mean (treatment)		Sample size (treatment)		Impact Estimate	
	All bens	RD bens	RD	PSM	RD	PSM
<b>Proportion of children aged 6-15 years enrolled</b>						
<b>UCT</b>	66	68	9,708	10,883	1	1**
Male	73	75	5,045	5,663	6	1
Female	58	61	4,663	5,216	-4	1
<b>CCT</b>	71	72	2,983	3,384	14***	8***
Male	80	81	1,223	1,620	6	5***
Female	62	63	1,159	1,764	23***	11***
<b>Proportion of children aged 6-9 years enrolled</b>						
<b>UCT</b>	67	70	3,504	4,031	2	3***
Male	71	73	1,836	2,120	4	3***
Female	64	66	1,668	1,914	-1	3***
<b>CCT</b>	78	78	1,208	1,385	13***	11***
Male	82	83	655	734	13**	7***
Female	73	73	553	649	15**	15***
<b>Proportion of children aged 10-15 years enrolled</b>						
<b>UCT</b>	65	68	6,204	6,864	0	0
Male	74	76	3,209	3,549	8	0
Female	55	58	2,995	3,311	-6	0
<b>CCT</b>	67	68	1,775	2,001	14***	5***

<sup>54</sup> See Figure 33 above

	Mean (treatment)		Sample size (treatment)		Impact Estimate	
<i>Male</i>	78	79	936	1,028	1	4**
<i>Female</i>	56	56	839	973	26***	7***

**Source:** BISP impact evaluation survey (2019). Notes: (1) Asterisks (\*) indicate that an impact estimate is statistically significant: \*\*\*  $p < .01$ ; \*\*  $p < .05$ ; \*  $p < .10$ .

## Impact of the CCT on school enrolment

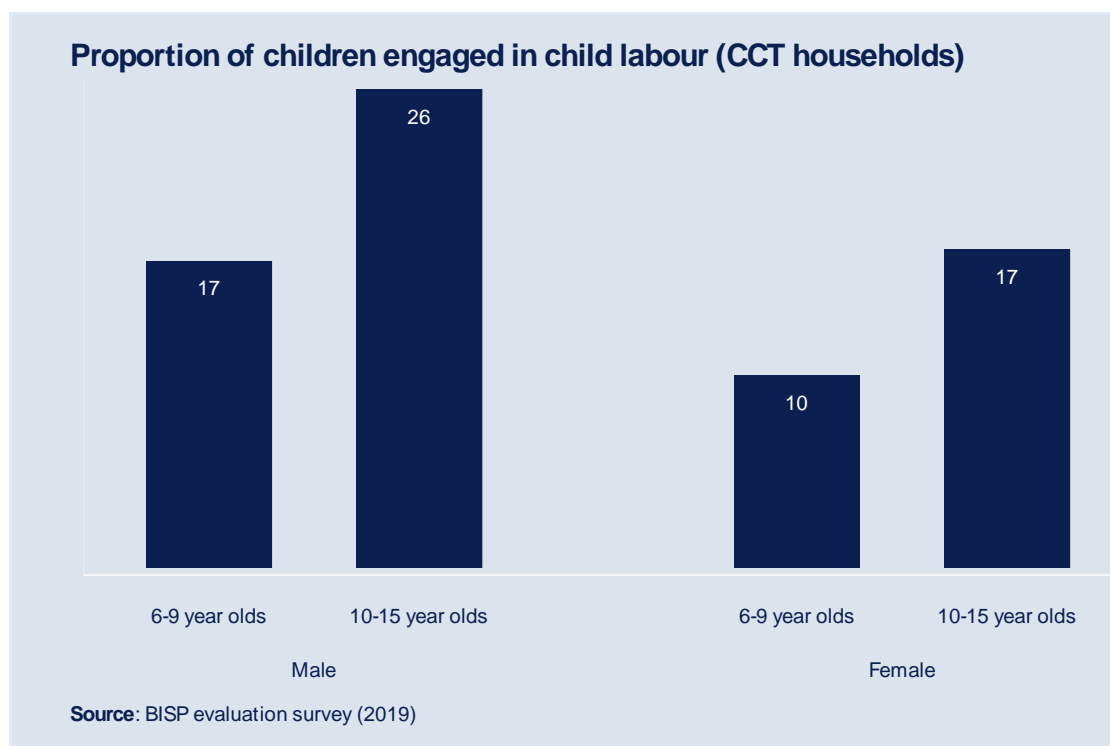
The results reported for the impact of the CCT on school enrolment show that the CCT has a positive a statistically significant effect on school enrolment of between 8 and 14 percentage points for all children aged 6-15 years old depending on whether the PSM or RD estimate of impact is considered. That is relative to an appropriate counterfactual BISP beneficiaries are between 8 and 14 percentage points more likely to be enrolled in school, and that this difference can be attributed to the BISP.

Given that the PSM estimate of impact also includes household with BISP poverty scores further away from the eligibility threshold, and are indeed poorer on average, a possible interpretation of the positive but lower impact observed for the PSM estimate is that the direct income effect on these poorer households is weaker. That is the additional top-up of PKR 750 does not have as significant effect on overcoming the financial barriers to education as it does for the relatively better off households included in the RD analysis.

For the full sample of children aged 6-15 years we find a positive impact of the CCT of between 23 and 11 percentage points in the RD and PSM samples respectively for girls, meaning that relative to the an appropriate counterfactual girls who benefit from the CCT are between 23 and 11 percentage points more likely to be enrolled in school and that this difference is attributable to the BISP. However, the impact on boys enrolment is less strong, with the RD results indicating a positive sign, but not being statistically significant, whilst the PSM results indicated that the CCT increased boys enrolment by 5 percentage points.

To better understand this outcome it is useful to consider the disaggregation of children into primary and middle school aged children, i.e. children aged 6-9 years and children aged 10-15 years. For boys we find that the CCT has a positive impact on enrolment for only children aged 6-9 year olds of 13 percentage points, but we do not find a positive impact of the CCT on the 10-15 year old group with the RD sample and a weaker result from the PSM sample of 4 percentage points.



**Figure 34 Proportion of children engaged in child labour (CCT households)**

For boys a possible interpretation of these results can be found in Figure 34. This reports the proportion of children engaged in child labour<sup>55</sup> by gender and age. This demonstrates that the highest rates of child labour observed were for boys aged 10-15 years old, with just over a quarter reported to be engaged in some form of child labour. This suggests that the opportunity cost of education was too high to be overcome by either the income effect of the CCT (i.e. the delivery of the UCT cash transfer and the PKR 750 top-up) or the price effect (i.e. that the conditions offset the relative price of schooling). This interpretation is further supported by the finding that 20% of boys aged 10-15 years old who were not currently enrolled in school reported that this was because they had to work.

On the other hand we find a positive and statistically significant impact on enrolment of girls regardless of age, with the CCT increasing enrolment of 6-9 year olds by 15 percentage points, for both the RD and PSM samples, and 10-15 year olds by 26 percentage points for the RD sample, and 7 percentage points for the PSM sample.

<sup>55</sup> We use the following definition of child labour: for children aged 5-11 years of age that in the week preceding the survey did at least one hour of economic activity or at least 28 hours of domestic work. For children aged 12-15 years that did at least 14 hours of economic activity, or at least 42 hours of economic activity and domestic work combined.

## Impact of the UCT on school enrolment

As is consistent with findings in previous evaluation reports we do not find that the UCT has an impact on school enrolment for either primary or middle aged school children, whether boys or girls.

However, Table 17 reports that there is a 3 percentage point increase the proportion of both boys and girls of primary school age (6-9 year olds) who are currently enrolled in school in the PSM sample that also includes households further away from the BISP eligibility threshold as defined by the BISP poverty score card.

This result is surprising, particularly given the analysis presented in Sections 3.2 and 4.1 of this report which suggests that the real value of the transfer has reduced over time, with no evidence of an increase in non-food consumption expenditure for the PSM sample.

## 6.3 Impact on attendance

Table 18 presents, conditional on a child being enrolled in school, the impact of both the UCT and the CCT on the attendance rate of children in the last two weeks that a school was in session. Overall we do not find an impact on attendance through either the UCT or the CCT components of the BISP.

As part of the operations of the CCT BISP Beneficiary Committees (BBCs) have a role to play in supporting adequate attendance of children. However, a separate TPM exercise conducted on the CCT<sup>56</sup> found that this practice was relatively rare. Overall the TPM found that just 20% of head teachers across CCT districts had been approached by a member of a BBC to support the attendance, with only 4% of teachers reporting the same. Furthermore the TPM found that less than 1% of head teachers had informed BBCs regarding a long period of absence of a child, rather informing the parent directly. The TPM found that this was in large part a lack of understanding of head teachers about the purpose of the BBCs and their role in the CCT.

**Table 18** BISP impact on school attendance rate in last two weeks (6-15 year olds)

	Mean (treatment)		Sample size (treatment)		Impact Estimate	
	All bens	RD bens	RD	PSM	RD	PSM
<b>UCT</b>	85	85	6,524	7,022	-3	0
<i>Male</i>	85	86	3,723	2,585	-3	-1
<i>Female</i>	85	85	2,801	1,804	-3	0
<b>CCT</b>	83	83	2,113	2,260	1	-1
<i>Male</i>	83	84	1,254	1,328	3	0
<i>Female</i>	81	81	859	934	-2	0

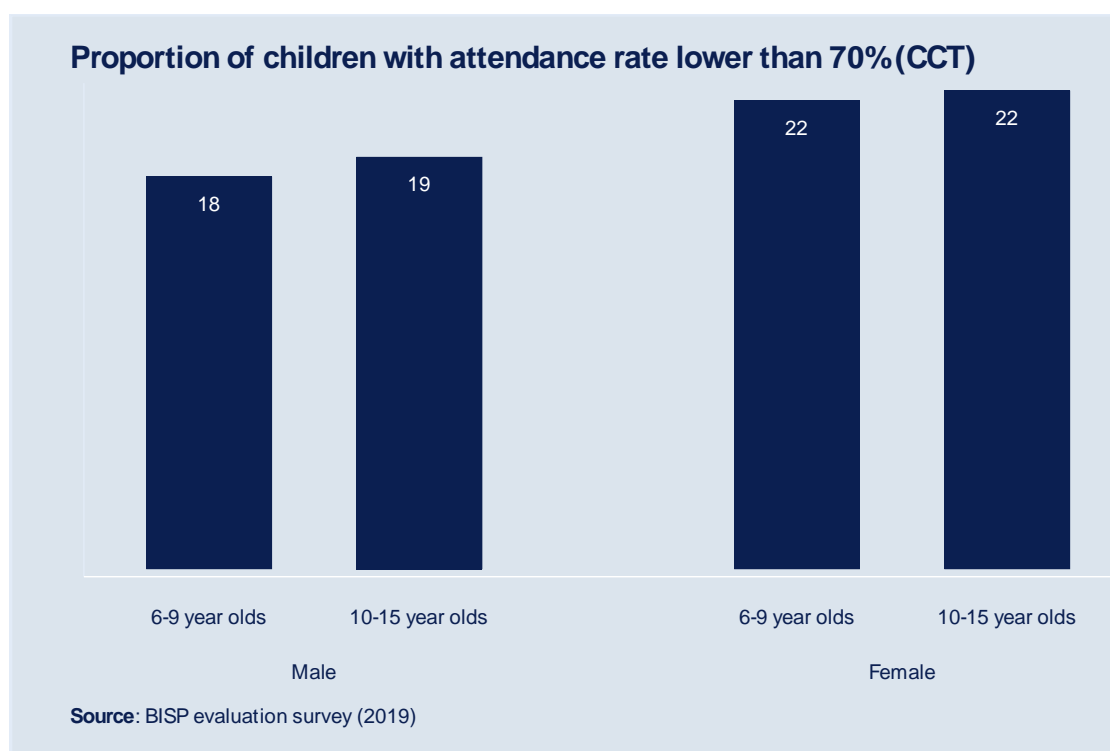
**Source:** BISP impact evaluation survey (2019). Notes: (1) Asterisks (\*) indicate that an impact estimate is statistically significant: \*\*\*  $p < .01$ ; \*\*  $p < .05$ ; \*  $p < .10$ .

<sup>56</sup> OPM (2018)

However, what is important to note in the case of the CCT for education is that the average attendance rate for both boys and girls is significantly above the minimum expected attendance rate for the conditionality of the CCT, which is set at 70%. On average boys had an attendance rate of 83%, whilst girls had an attendance rate of 81% suggesting that on average students are more than meeting the conditions of the CCT.

Furthermore, the qualitative research indicated that CCT beneficiary households had high awareness about the conditions around the CCT payments, facilitated through BBCs, and in particular around the minimum required attendance of 70%. Mothers across the Provinces indicated that they were quite conscientious about their child's attendance and in the majority of cases said that they kept a close watch on their child's school going habits.

**Figure 35 Proportion of children attendance rate lower than 70% (CCT)**



Nonetheless Figure 35 points out that there are still significant proportions of children who are not meeting the attendance rate commitment<sup>57</sup>. The BBCs have the potential to play an important role in addressing the needs of these children with lower than required attendance. However, as suggested by *OPM (2018)*, in order for BBCs to play

<sup>57</sup> The reader should note that this is an approximation that is based on recall of the two weeks prior to the survey that the school was in session, and not from school attendance records. Furthermore, not meeting the attendance conditionality is based on repeated quarters of below 70% attendance, and so this is likely an overestimation of the proportion of children who do not fulfil the conditionality of the CCT.

this role the communication about the CCT to schools and head teachers needs to be greatly strengthened.

## 6.4 Impact on grade repetition

Grade repetition can be a useful proxy of the academic performance of a child. For example *Ikeda and Garcia (2014)* find in a cross country analysis using data from the OECD's Programme for International Student Assessment (PISA) that non-repeaters tend to perform better than repeaters in terms of learning outcomes. Indeed in Pakistan performance on student assessments in one of the indicators on which the decision to allow a child to progress to the next grade is made<sup>58</sup>.

### Repetition rate

In this report we define the proportion of repeaters as the share of students enrolled in a given grade who have repeated that grade. That is the share of students in a given grade in the current academic year who were in that same grade in the previous academic year.

However, it should be noted that grade repetition is an imperfect measure of the learning performance of a child. For example, students can also be held back due to insufficient social or physical maturity in early grades, or in some cases students are not promoted simply because the schools that they attend do not have higher grades or lack sufficient places to accommodate them<sup>59</sup>.

Encouragingly Table 19 reports a statistically significant reduction in the proportion of CCT children who have repeated a grade in the current academic year of 11 percentage points, albeit only for the RD sample. However, this finding appears to be driven by a reduction in the proportion of girls who have repeated a grade, where we find that the CCT has had a statistically significant reduction of 21 percentage points. Whilst the estimate of impact has the appropriate sign (negative) for boys we do not find that this is statistically significant.

For UCT children we find higher overall rates of repetition of 17%, compared to the repetition rates of CCT children of 12%. Furthermore we do not find that the UCT has an attributable effect on repetition rates of either boys or girls.

**Table 19 BISP impact on grade repetition (6-15 year olds)**

	Mean (treatment)		Sample size (treatment)		Impact Estimate	
	All	bens	RD	PSM	RD	PSM
<b>UCT</b>	17	16	5,832	7,022	-5	0
Male	17	17	3,333	2,585	-2	0
Female	15	15	2,499	1,804	-9	0

<sup>58</sup> Government of Pakistan (2017)

<sup>59</sup> UNESCO (2012)

	Mean (treatment)		Sample size (treatment)		Impact Estimate	
<b>CCT</b>	12	11	1,811	2,260	-11***	3
Male	13	12	1,092	1,328	-4	3
Female	11	11	719	934	-21***	2

**Source:** BISP impact evaluation survey (2019). Notes: (1) Asterisks (\*) indicate that an impact estimate is statistically significant: \*\*\*  $p < .01$ ; \*\*  $p < .05$ ; \*  $p < .10$ .

## 6.5 Perceptions of barriers to education

Both the quantitative and qualitative research point to a number of barriers to education that are faced by children in BISP beneficiary households. In this sub-section we discuss each in turn.

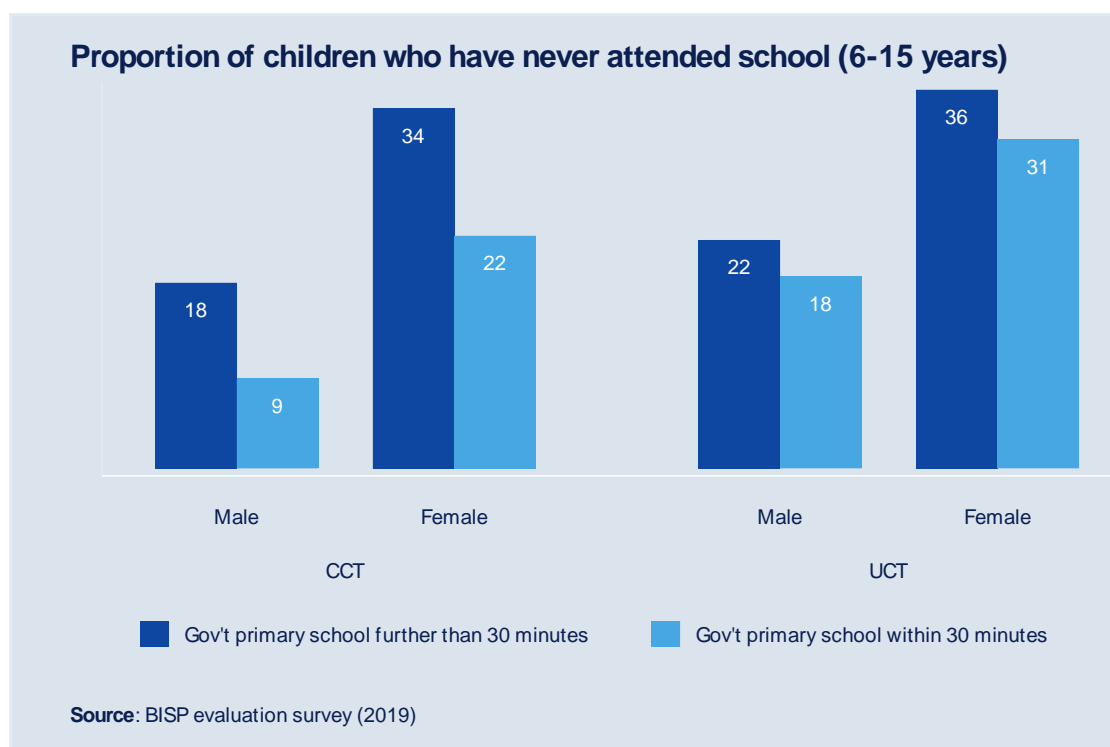
### Availability of schools

A challenge felt most often in the most remote communities was the proximity of schools to communities. The qualitative research highlighted that this was a particular challenge for girls in all areas of Pakistan with the exception of Gilgit-Baltistan. Cultural norms and concerns over security led some parents to not send their girls to school.

*‘School is quite far from our village and for girls it is neither socially acceptable and neither do we feel safe sending them alone.’ (Female beneficiary FGD, Rural JhalMagsi, Balochistan)*

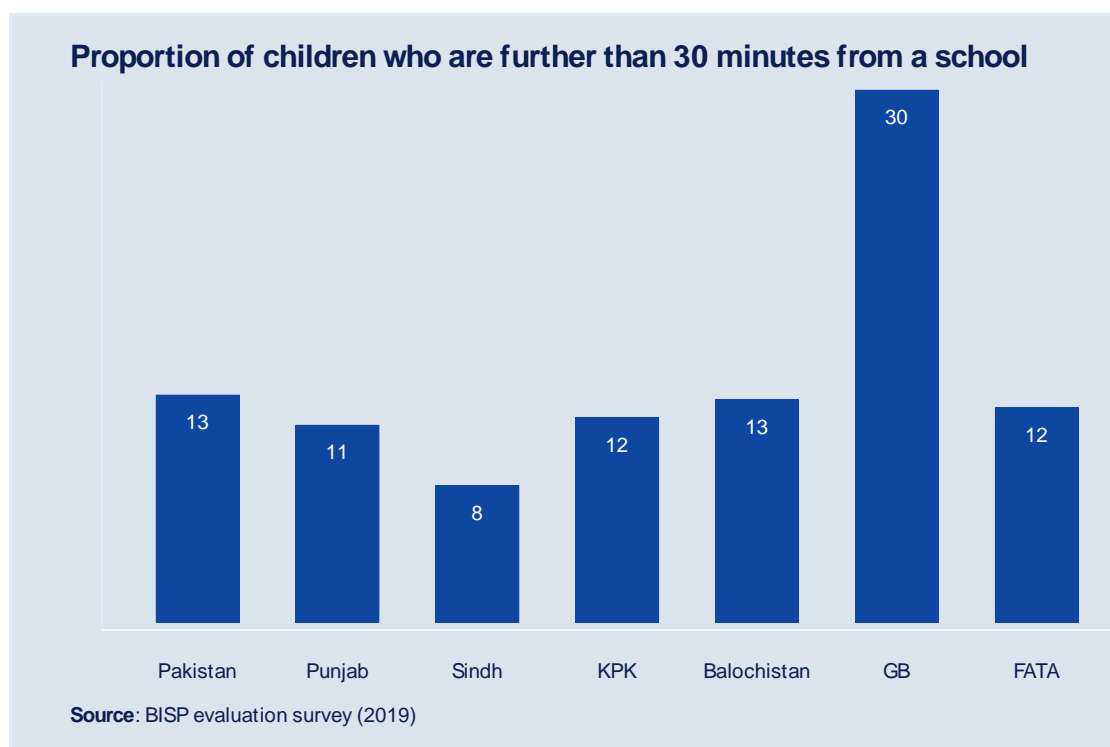
Figure 36 provides further evidence for this by demonstrating how distance to the nearest government primary school intersects with children who have never attended school at all. In both UCT and CCT samples, for both boys and girls we find that children are more likely to have never attended school, if the nearest government primary school was more than 30 minutes from their community.

**Figure 36 Proportion of children in beneficiary households who have never attended in school by distance to school**



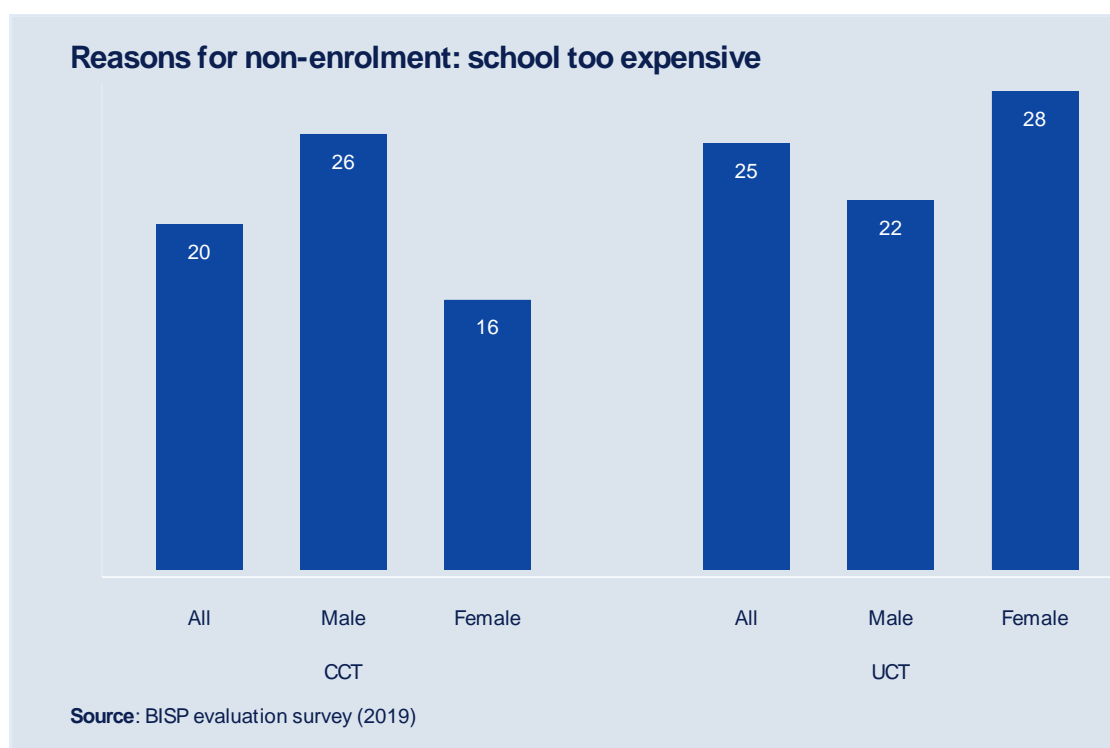
On average just over 10% of all BISP beneficiary children under both the UCT and the CCT component live more than 30 minutes from the nearest Government primary school. Figure 37 demonstrates that this is a particular challenge for children in Gilgit-Baltistan, for whom almost a third live more than 30 minutes from the nearest Government primary school.

**Figure 37 Proportion of children who live further than 30 minutes from a government school**



### Poverty and affordability of education

Poverty and the expense of schooling remains a significant challenge for many parents when it comes to the decision to send their children to school. Overall parents cited the expense of schooling as a reason for a child not being enrolled in 20% of cases in CCT beneficiary households and 25% of cases in UCT beneficiary households. Interestingly, and in support of the stronger results observed on girls' enrolment in Section 6.2, this was much less of a problem for girls in CCT beneficiary households, compared to UCT beneficiary households.

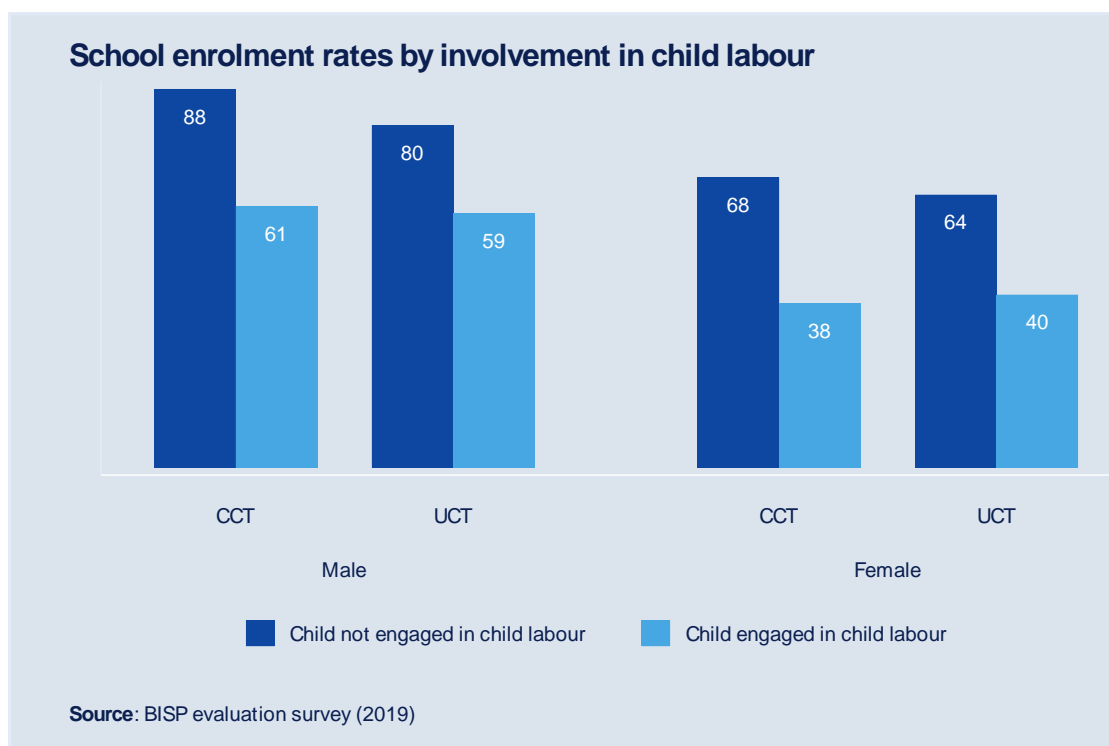
**Figure 38 Reasons for non-enrolment: school too expensive**

The qualitative research indicates that poverty restricts the access of children to schooling not only through the direct expense of schooling, but through the opportunity cost of education. That is parents, do not always value education in comparison to the returns that could be generated by children from other activities, and in particular child labour. Respondents also indicated that this outcome was more likely to occur when parents perceived the available government schools to be of poor quality.

*‘One of our son works in a local café nearby and manages to bring home Rs. 100 to 150 every day. We know that he is not interested in attending school so what is the point of getting him off his present work and also lose on the income because he will probably drop out of school in a few months.’ (Male beneficiary FGD, Rural Dadu, Sindh)*

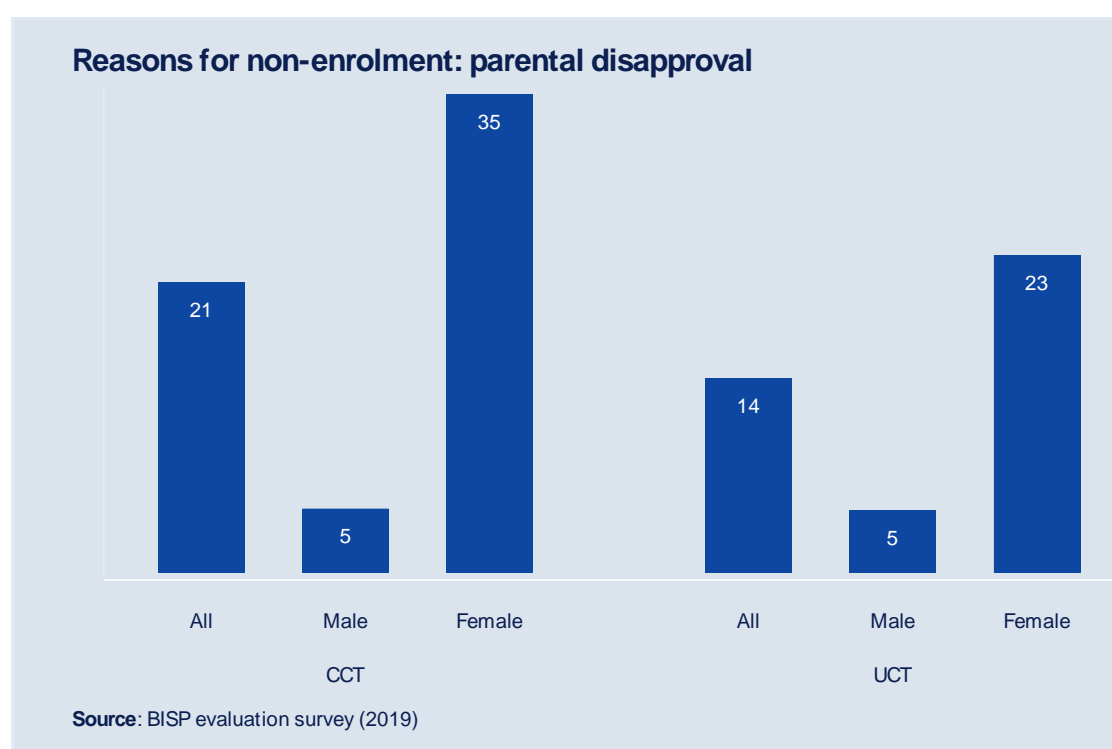
Child labour driven by poverty has a clear impact on the likelihood of a child being able to attend school. This is certainly the case for beneficiary households. Figure 39 indicates large disparities in the likelihood of being enrolled in school depending on whether or not the child also has to engage in some form of child labour.



**Figure 39 School enrolment rate by involvement in child labour (6-14 years)**

### Cultural norms and parental disapproval

Respondents to the qualitative research consistently reporting that they were very supportive of education, including girls' education. Despite this, however, Figure 40 demonstrates that we still find significant proportions of parents who do not approve of educating their children. This is particularly problematic for girls, for whom we find that parental disapproval is given as a reason for their non-enrolment in 36% of cases in CCT beneficiary households and 23% of UCT beneficiary households.

**Figure 40 Reasons for non-enrolment: parental disapproval**

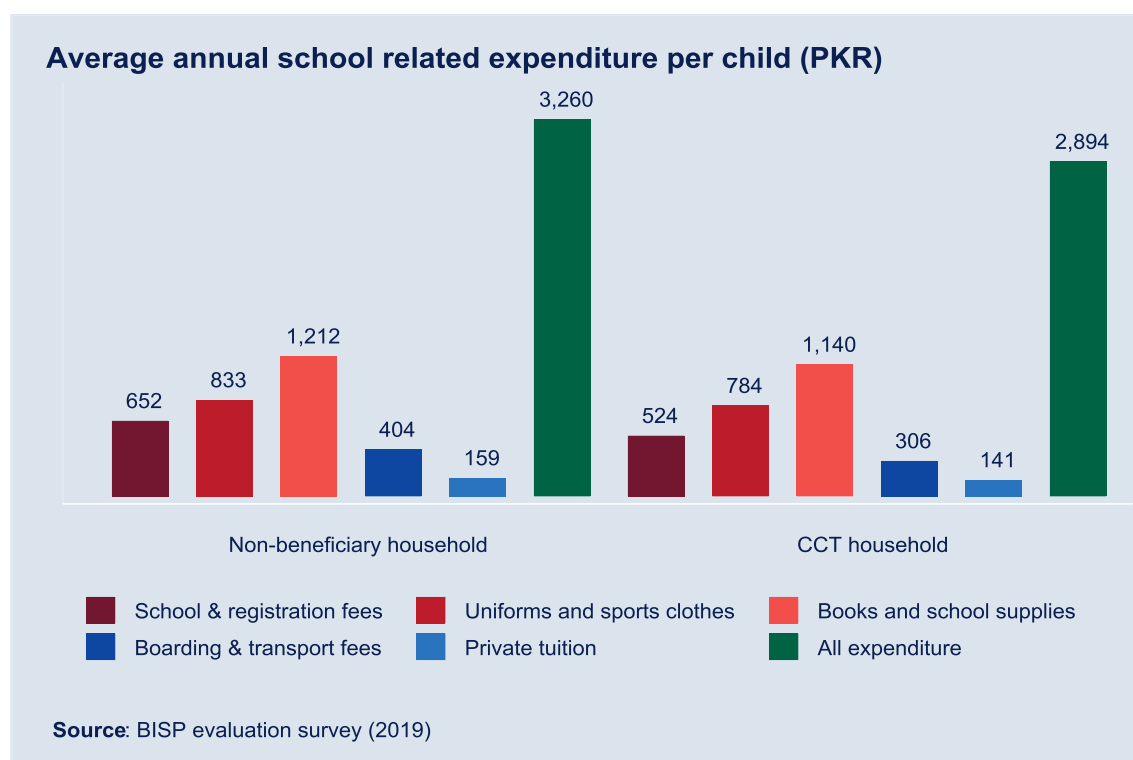
The qualitative research indicated that the cultural norms in some areas of Pakistan became a greater barrier to the education of girls' as they got older. In particular puberty was commonly mentioned as a point in a girls' life when it was no longer acceptable for her to leave the house, for a variety of reasons including that families fear that girls will engage in romantic relationships, that they will face sexual harassment, or in some cases that they should be expecting to get married.

*"After (baalihgh) hitting puberty girls are not allowed to go out, which means most are not send to school" (Female beneficiary IDI, Rural Khairpur, Sindh)*

## 6.6 Cost of education

Each CCT direct beneficiary is expected to receive an additional top-up of PKR 750 per quarter per child, which amounts to an annual total amount of PKR 3,000 per child. Figure 41 helps to put this amount into perspective reporting that on average a BISP beneficiary household who benefits from the CCT will spend annual PKR 2,894 per child that is enrolled in school. The main drivers of this expenditure are *books and supplies* as well as *uniforms and school clothes*. A small proportion of parents will provide private tuition in addition to regular classes for their child, but this expenditure is negligible on average at just PKR 141 per child per annum.

Whilst an average annual spend of PKR 2,894 suggests that the CCT top-up of PKR 750 per quarter, or PKR 3,000 per annum, is sufficient it is worth bearing in mind that this is not necessarily the ideal expenditure. To see some insight into this Figure 41 also reports the average annual expenditure for non-beneficiary households in the evaluation sample, who spend on average PKR 3,260 per child per annum.

**Figure 41 Average annual school related expenditure per child (PKR)**

## 6.7 Learning

One of the objectives of this evaluation was to benchmark the learning outcomes of CCT beneficiary children to understand not only whether the CCT was encouraging more children to attend school but whether or not CCT children were actually learning once in school.

We do this in this evaluation by implementing the same learning assessments as applied by the Annual Status of Education Report (ASER)<sup>60</sup> in English and Numeracy. These tests were applied to the one randomly select child per CCT beneficiary household.

### ASER Tests

The **Numeracy tests** assess the following:

- Can recognise at least 5 numbers 1-9
- Can recognise at least 5 numbers 10-99
- Is able to perform 2 digit subtraction
- Is able to perform 2 digit by 1 digit division

The **English literacy tests** assess the following

- Can read capital letters

<sup>60</sup> ASER (2019)

**ASER Tests**

- Can read small letters
- Can read words
- Can read whole sentences

We also restrict the analysis that follows to children who attend grades 1–6, which excludes 158 children (10%) that are being supported by the CCT component of the BISP, but who are in pre-primary school. We do this as the ASER tests are not designed to measure the academic performance of pre-schoolers.

### **6.7.1 Learning differences across the genders**

In this sub-section we report the differences in learning levels between CCT beneficiaries who are boys and girls. Given that our sample includes a range of children across different schooling grades our results are weighted by the proportion of children who are in different grades, to account for the differing distribution of children across grades between boys and girls.

Figure 42 provides the results of the numeracy tests. This shows that out of all CCT children tested, there are no statistically significant differences between the performance on any of the numeracy tests across boys and girls. This suggests that CCT beneficiaries regardless of gender have similar learning outcomes with regards to numeracy

However, we find that 23% of boys and 25%, regardless of grade, are not able to answer any numeracy test at all. This is problematic as 60% of all children who were not able to answer any numeracy exercise were in Grade 2 or above, suggesting very little learning as they progress through school for this group of children. As a reference children should be expected to be able to complete the *Number Recognition 10-99* by the end of Grade 1.

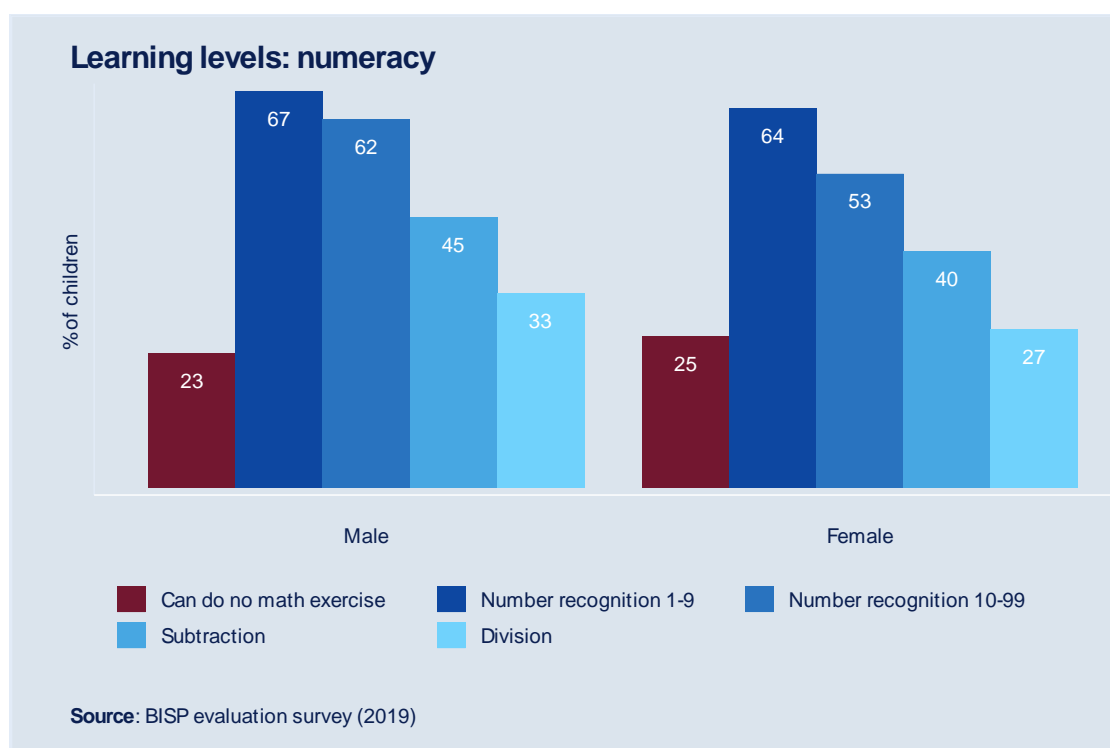
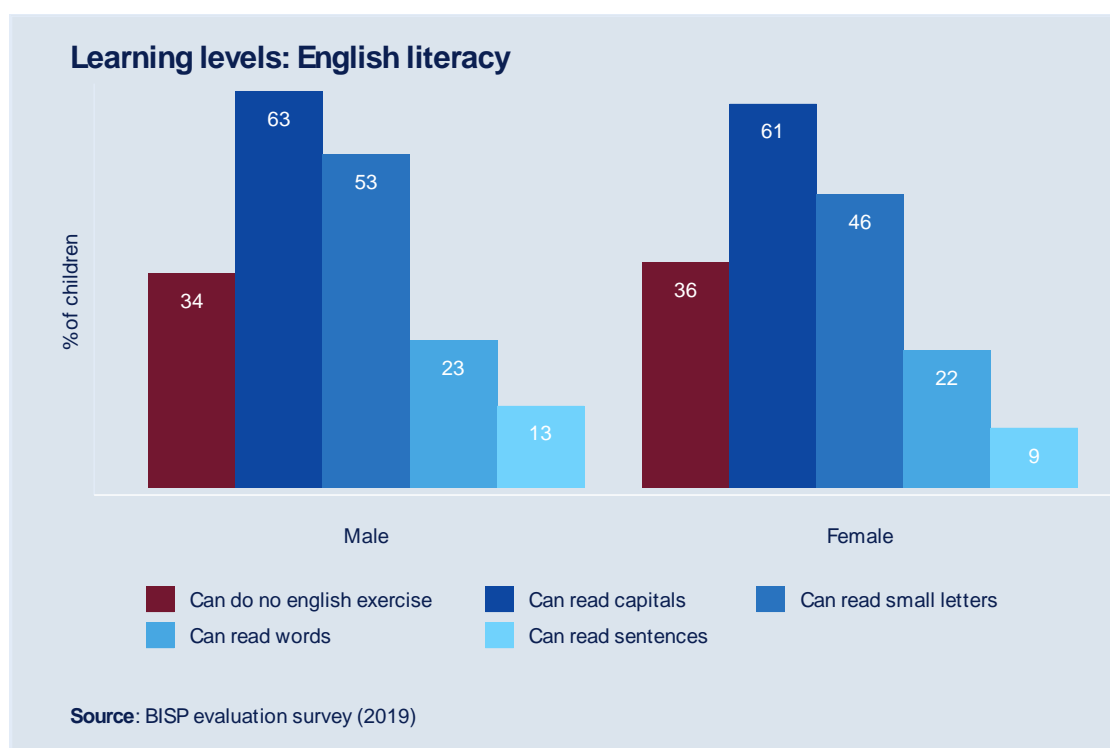
**Figure 42 Learning levels: numeracy**

Figure 43 presents the result of the English literacy assessments. As with the numeracy assessments we find no statistically significant differences in the performance on the assessments between boys and girls who are CCT beneficiaries. This suggests that CCT beneficiaries have similar learning outcomes with respect to English literacy.

We find that the performance on English literacy to be marginally worse than the performance on numeracy. In this case we find that 34% of boys and 36% of girls are not able to successfully answer any of the English literacy exercises. Illustrative of the worse performance on English literacy we find that 70% of those who are unable to answer any question at all were in Grade 2 or higher, suggesting very little learning as they progress through school for this group of children. As a reference, children are expected to be able to recognise and read small letters by the stage that they finish Grade 1.

**Figure 43 learning levels: English literacy**

## 6.7.2 Benchmarking learning

In order to benchmark learning against what would reasonably be expected of children, we follow the ASER approach and report the proportion of children who can perform certain tasks depending on their Grade. For numeracy we would expect: Grade 1 students to be able to recognise numbers 10-99; Grade 3 children to be able to perform 2 digit subtraction; and Grade 5 children to be able to perform 2 digit by 1 digit division. For literacy we would expect: Grade 1 children to be able to read small letters; Grade 3 children to be able to read words; and Grade 5 children to be able to read sentences.

Figure 44 presents the results of this analysis for numeracy outcomes. This suggests that there are still considerable proportions of children who are unable to perform the task that would be expected by relevant Grade. Figure 44 shows improvement in performance as children move through the grades, with 55% of Grade 5 children in the evaluation sample able to perform the numeracy exercise expected of them, as compared to just 22% of Grade 1 children. The particularly poor performance by Grade 1 children, might be as of a result of a considerable proportion of Grade 1 CCT beneficiaries being older than would normally be expected. Approximately 40% of Grade 1 CCT beneficiaries are 9 years or older. This poor performance may reflect that these older children have never been in a classroom before, and are still adjusting to their new environment.

Benchmarking these results against the national results delivered from the main ASER survey<sup>61</sup>, restricting the comparison to children who attend Government schools in rural areas, is relatively encouraging with regards to numeracy. In terms of Grade appropriate tasks, the ASER results suggests that 47% of Grade 1, 64% of Grade 3 and 51% of Grade 5 children are able to answer age appropriate numeracy exercises correctly.

This comparison suggests that CCT children have significant gaps in numeracy at Grades 1 and 3, but that this gap, to the national average, shrinks as children get to the end of Grade 5.

**Figure 44 Numeracy benchmarks**

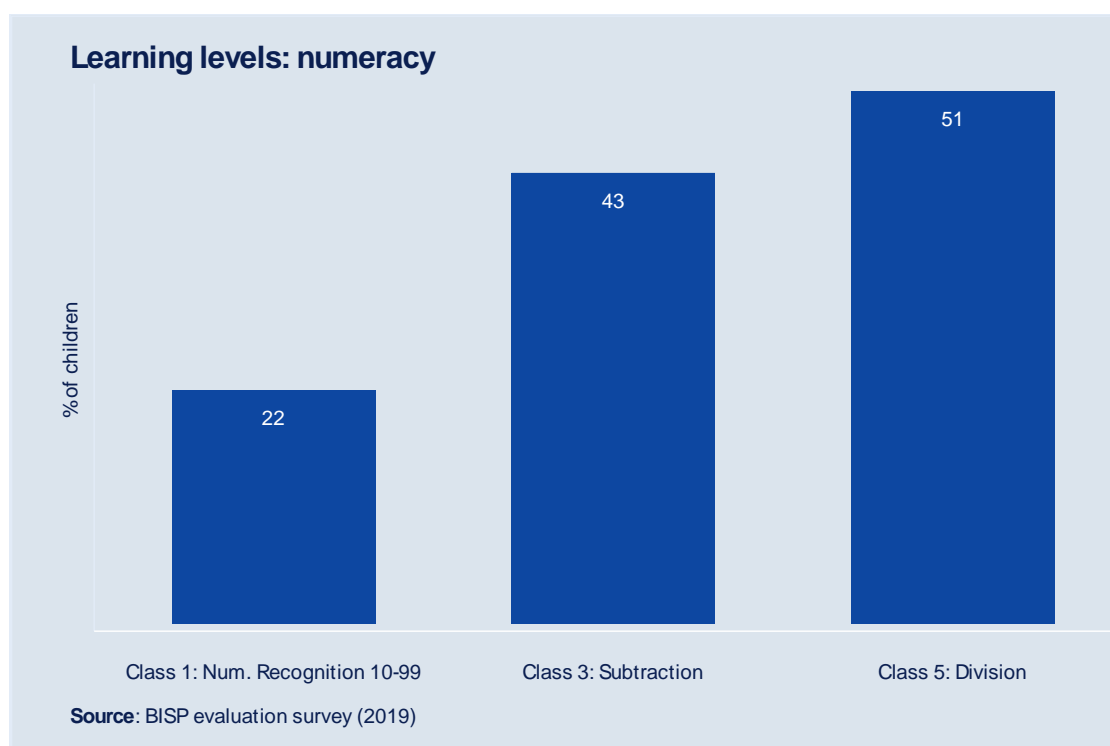


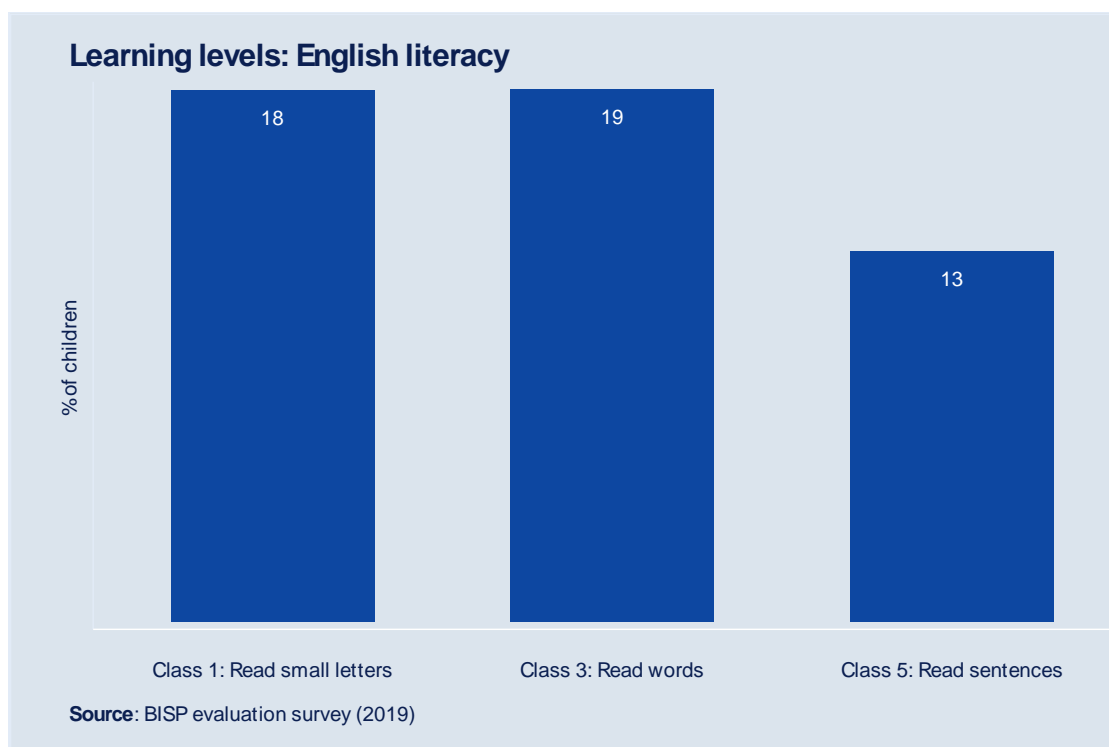
Figure 45 reports a less encouraging picture for English literacy results. This reports much lower proportions of children that are able to complete age appropriate tasks, with just under 20% of children able in Grade 1 and Grade 3 able to read small letters, or read words respectively. This performance is slightly worse for Grade 5 children, of whom just 13% are able to read sentences.

Whilst national results also demonstrate poorer performance against English literacy relative to numeracy the comparison of CCT beneficiaries in terms of literacy to the national average suggests a greater disparity. In terms of Grade appropriate tasks, the

<sup>61</sup> ASER (2019)

ASER results suggest that 33% of Grade 1, 43% of Grade 3, and 49% of Grade 5<sup>62</sup> children are able to answer age appropriate literacy exercises correctly.

**Figure 45 English literacy benchmarks**



<sup>62</sup> Ibid.



## 7 Impact on investments in productive activities

### Evidence summary

In this section we report the impact the BISP on investments in productive activities. We focus on the use of human, financial and physical capital. The key findings are as follows:

**Women continue to be significantly less likely to economically active** than men. When they are economically significant proportions of women are engaged in unpaid family labour, a form of economic activity that does not always translate into increased economic autonomy of women.

We find no evidence that the BISP impacts on labour participation rates providing evidence that there is **no substitution away from labour because of the receipt of the BISP transfer**.

Whilst the **qualitative research indicates that some households are using the BISP transfer to start up small scale household businesses, we do not find that this is a general trend**, and find no impact of the BISP on the propensity to start a household business.

In part this is because we **find no evidence that the BISP is enabling households to save more** at the household level.

The livelihood strategies available to a household depend on a range of assets available to the household and how households endeavour to convert these into positive livelihood outcomes. Households have different endowments of these assets, and no single category of assets is sufficient to yield all the many and varied livelihood outcomes that people seek<sup>63</sup>. This is particularly true of households whose access to any given category of assets can be limited.

In this report we focus on the following assets:

- **Human capital:** which represents the skills, knowledge, ability to labour and good health that enable people to pursue different livelihood strategies and achieve their livelihood objectives. We focus in this evaluation on labour supply.
- **Financial capital:** denotes the financial resources that people use to achieve their livelihood objectives. We focus here on the ability to save, and whether this has been converted into beneficiaries starting up household businesses.
- **Physical capital:** comprises basic infrastructure and resources to which households have access. We focus here on livestock.

<sup>63</sup> DFID (1999)

## 7.1 Labour participation

Table 20 reports the labour participation rates<sup>64</sup> of men and women in beneficiary households. The focus of the analysis is on adults of *prime working age*, defined as adults aged 18-49 years. We find large gender differences in participation in economic activities, with 77% of all male members of beneficiary households engaging in some form economic activity, compared to just over a quarter of female members.

**Table 20 BISP impact on labour participation**

	Mean (treatment)		Sample size (treatment)		Impact Estimate	
	All bens	RD bens	RD	PSM	RD	PSM
<b>Proportion of men of prime working age (18-49) economically active</b>						
<i>Pakistan</i>	77	75	5,364	8,254	1	-1
<i>Punjab</i>	83	83	1,208	n/a	3	n/a
<i>Sindh</i>	83	83	1,296	n/a	5	n/a
<i>Khyber Pakhtunkhwa</i>	76	77	1,041	n/a	-1	n/a
<i>Balochistan</i>	75	72	825	n/a	3	n/a
<i>Gilgit-Baltistan</i>	55	52	686	n/a	-2	n/a
<i>FATA</i>	78	71	308	n/a	1	n/a
<i>CCT arm</i>	85	86	1,172	1,841	5	-1
<b>Proportion of women of prime working age (18-49) economically active</b>						
<i>Pakistan</i>	26	26	6,154	8,855	5	1
<i>Punjab</i>	51	50	1,485	n/a	-9	n/a
<i>Sindh</i>	45	46	1,438	n/a	-4	n/a
<i>Khyber Pakhtunkhwa</i>	6	7	1,222	n/a	9	n/a
<i>Balochistan</i>	10	11	764	n/a	5	n/a
<i>Gilgit-Baltistan</i>	5	5	839	n/a	7	n/a
<i>FATA</i>	1	1	406	n/a	0	n/a
<i>CCT arm</i>	41	41	1,414	1,999	8	0
<b>Source:</b> BISP impact evaluation survey (2019). Notes: (1) Asterisks (*) indicate that an impact estimate is statistically significant: *** p < .01; ** p < .05; * p < .10.						

Furthermore Figure 46 reports that there are large gender differences in the type of economic activity that men and women engage in. For men the predominant labour category is casual labour, which is reflective of a general dependence of BISP beneficiary households in this type of activity, with 44% of men engaged in casual labour. This can be problematic as casual labour tends to be particularly vulnerable to seasonal and economic fluctuations.

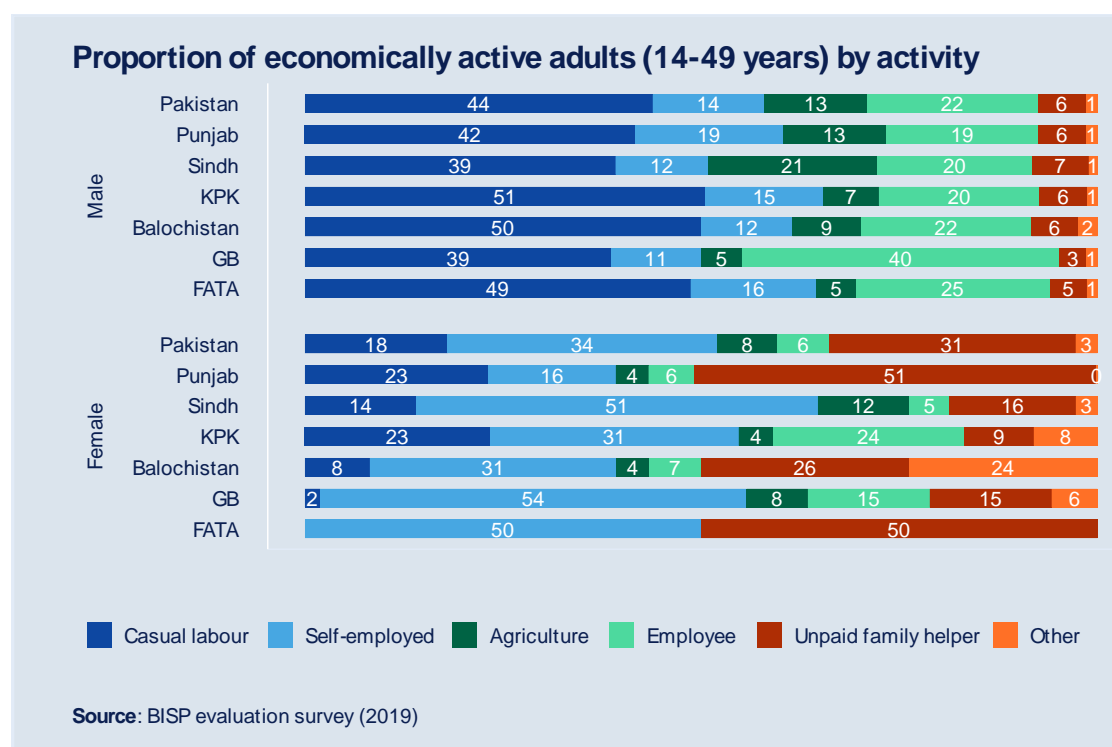
For the 26% of women in beneficiary households that are economically active, two forms of activity are predominant: unpaid family help; and self-employment. We discuss the prevalence of self-employment and how this is linked to the ability of BISP

<sup>64</sup> We define an adult to be economically active if she had worked at least one hour in the last week preceding the survey, or even if she didn't 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.

beneficiaries to setup household businesses in Section 7.2 below. The prevalence of unpaid family help was particularly strong for women in Punjab, Balochistan, and FATA (although very few women reported as being economically active in FATA).

This type of labour does not offer women much in terms of increased autonomy or agency, in the sense that it does not provide them with an independent source of income on which they can rely.

**Figure 46 Proportion of economically active adults by activity**



A concern that is sometimes raised by policy makers regarding the implementation of a cash transfer is that such programmes could have the potential to discourage work by creating a “dependency” of beneficiaries on the transfer. Table 20 demonstrates that there is no evidence for this in the case of the BISP.

We find that the BISP has no impact on the proportion of adults engaged in economic activities, whether male or female. This finding is consistent with the global literature which consistently finds that there is very little evidence that cash transfers programmes discourage adult work<sup>65</sup>. This should not be surprising given the findings presented in Section 3.3.4 which finds that the BISP cash transfer only amounts to 5% of a beneficiaries monthly per adult equivalent consumption expenditure, limiting the extent to which households could use the transfer to substitute away from economic activity.

<sup>65</sup> Banerjee (2015)

## 7.2 Micro-enterprises and saving

For the first time we investigate whether or not the BISP is having an effect on the ability of households to set-up household owned and managed businesses. The qualitative research provides some encouraging signs that some BISP beneficiary households were able to save the money that they got from BISP and invest this in some form of household business, to generate additional income. Often this took the form of investments in poultry or livestock which enabled them to sell animal products themselves within the community.

*'I bought some hens from BISP cash and now my hens have almost doubled and I sell eggs in the village which supports me in my everyday household expenses.'* (Female beneficiary IDI, Urban Rahim Yar Khan, Punjab)

*'I started buying goats from my BISP Cash transfer and now I have six goats. I sell their milk and make reasonable income from this which is very helpful in supporting my household and children's expenses.'* (Female beneficiary IDI, Rural Thatta, Sindh)

In other cases women reported that they invested money in household businesses run by their husbands or other male members of their households, such as small kiosks selling sundries or vegetables.

*'I saved my BISP cash transfer and now have invested in a small kiosk where my son sells soft drinks and snacks. So BISP has helped our family in improving our financial flow and also provided us with additional income.'* (Female beneficiary IDI, Urban Khairpur, Sindh)

*"I saved my BISP money and gave it to my husband for expanding his vegetable business. He is doing quite well and our household income has increased because of it."* (Female beneficiary IDI, Rural Muzaffarabad, AJK)

However, Table 21 suggests that this is not a general trend. In fact we find that only 12% of all BISP beneficiary households are operating a currently active household business. This is most common in Sindh and Punjab, for which we find that 18% and 16% of BISP beneficiary households are operating a household business. This practice is much less common in other parts of Pakistan, in particular Balochistan and FATA where 2% and less than a percent of households ran a household business respectively.

Furthermore we find no evidence that the BISP is having a positive and statistically significant impact on the likelihood of a beneficiary household to start up a household run business. This holds true for Pakistan as a whole as well as across each of the provinces.

**Table 21 BISP impact on household enterprises and savings**

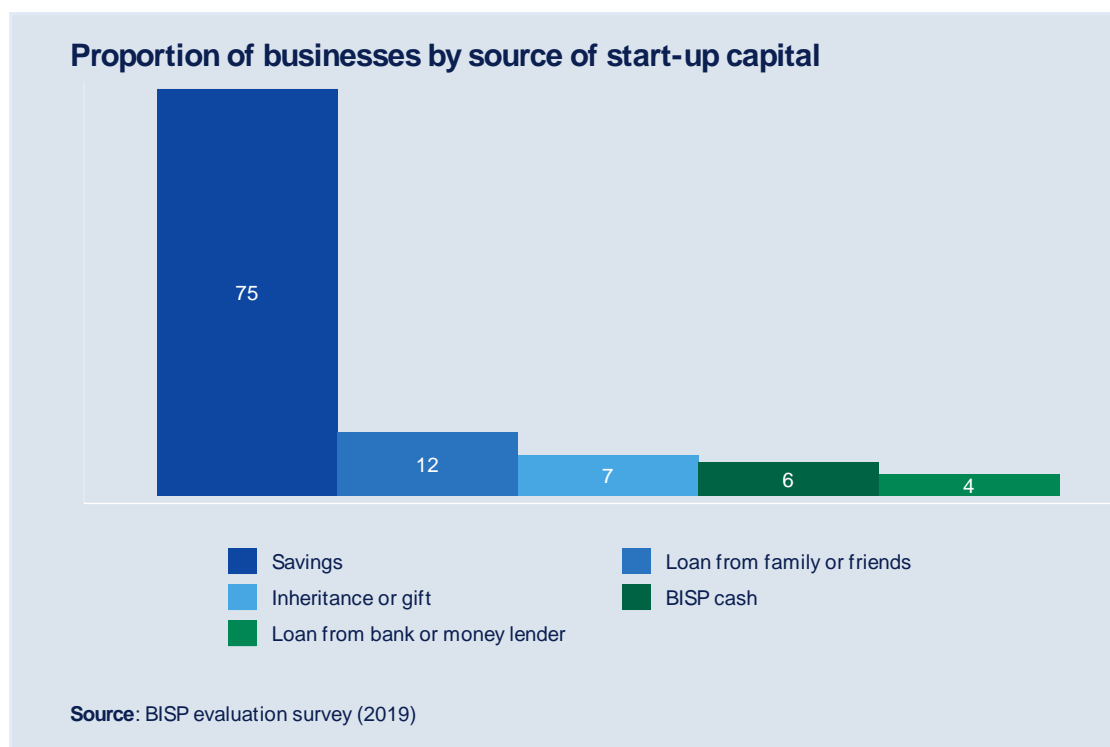
	Mean (treatment)		Sample size (treatment)		Impact Estimate	
	All bens	RD bens	RD	PSM	RD	PSM
<b>Proportion of households with a currently active business</b>						
<i>Pakistan</i>	12	11	4,118	4,891	-2	n/a
<i>Punjab</i>	16	15	1,032	1,168	-6	n/a

	Mean (treatment)		Sample size (treatment)		Impact Estimate	
<i>Sindh</i>	18	17	969	1,171	1	n/a
<i>Khyber Pakhtunkhwa</i>	7	7	770	910	3	n/a
<i>Balochistan</i>	2	2	483	587	-7	n/a
<i>Gilgit-Baltistan</i>	11	12	564	670	-1	n/a
<i>FATA</i>	0	1	300	n/a	1	n/a
<i>CCT arm</i>	16	16	1,043	1,259	-6	n/a
<b>Proportion of households with savings</b>						
<i>Pakistan</i>	16	17	4,118	4,891	0	n/a
<i>Punjab</i>	20	20	1,032	1,168	-7	n/a
<i>Sindh</i>	14	17	969	1,171	10***	n/a
<i>Khyber Pakhtunkhwa</i>	17	19	770	910	6	n/a
<i>Balochistan</i>	17	17	483	587	-5	n/a
<i>Gilgit-Baltistan</i>	16	15	564	670	-1	n/a
<i>FATA</i>	7	9	300	n/a	0	n/a
<i>CCT arm</i>	17	17	1,043	1,259	-1	n/a

**Source:** BISP impact evaluation survey (2019). Notes: (1) Asterisks (\*) indicate that an impact estimate is statistically significant: \*\*\*  $p < .01$ ; \*\*  $p < .05$ ; \*  $p < .10$ .

Figure 47 can help us to understand this outcome. By far the most common source of start-up capital used to start a business is savings, with 75% of household business using this source of start-up capital. This dwarfs other possible sources of start-up capital, including the use of the BISP cash transfer for which beneficiary households who had started a business reported in only 6% of cases that they had used the BISP cash as start-up capital.

**Figure 47 Proportion of businesses by source of start-up capital**



Therefore, if the BISP were to have an impact on the likelihood of starting a household business the mostly likely causal pathway would be through whether the BISP is inducing an increase in savings at the household level. Table 21 reports that relatively few beneficiary households save with just 16% of households across Pakistan reporting households reporting any form of savings. There is not much variation across Pakistan in this finding, though households in FATA are significantly less likely to save, with just 7% of households in FATA having some form of savings.

Furthermore, we do not find any evidence that the BISP is having a positive and statistically significant impact on the proportion of households who are able to save. The only province in which we do find a positive impact is in Sindh, where we find that the receipt of the transfer has increased the proportion of beneficiaries who save by 10 percentage points.

This lack of impact on savings needs to be considered in the light of the findings presented in Sections 3.2 and 4.1, which find that the real value of the transfer has decreased over time, particularly once this is considered as a proportion of household consumption expenditure. We find in this evaluation for the first time that the BISP is not having a strong impacts on consumption expenditure or reducing poverty. As such it is not a surprise to not find any impact on savings.

### 7.3 Livestock

We find that the ownership of livestock is an important livelihood strategy for many BISP beneficiary households, with Figure 48 reporting that 65% of all BISP beneficiary households own some form of livestock. This is particularly true of households in Gilgit-Baltistan and FATA of which more than 80% of households in each case owned some form of livestock.

**Figure 48 Proportion of households that own livestock**

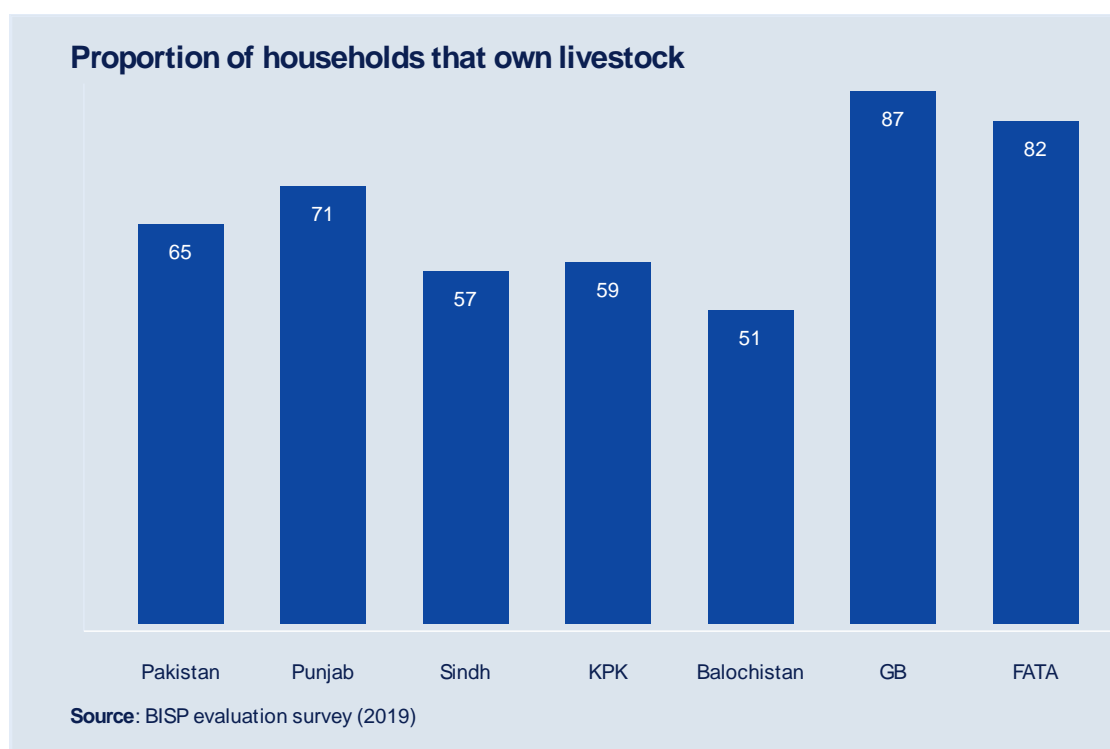


Table 22 reports the impact of the BISP on ownership of livestock of various types. In the 2019 round of evaluation we find no evidence that the BISP is having a positive and statistically significant impact on the probability that a beneficiary household owns any type of livestock. This result holds when we explore the probability of owning various types of livestock including bulls, cows, sheep or poultry.

**Table 22 BISP Impact on livestock**

	Mean (treatment)		Sample size (treatment)		Impact Estimate	
	All bens	RD bens	RD	PSM	RD	PSM
<b>Proportion of households that own any livestock</b>						
<i>UCT</i>	65	63	4,113	4,891	-1	0
<i>CCT</i>	66	67	1,042	1,259	1	0
<b>Bull/ox</b>						
<i>UCT</i>	5	5	4,113	4,891	-2	0
<i>CCT</i>	8	8	1,042	1,259	6	0
<b>Cow</b>						
<i>UCT</i>	34	34	4,113	4,891	1	0
<i>CCT</i>	34	35	1,042	1,259	-4	0
<b>Buffalo</b>						
<i>UCT</i>	13	13	4,113	4,891	-3	0
<i>CCT</i>	19	20	1,042	1,259	-3	0
<b>Sheep</b>						
<i>UCT</i>	6	6	4,113	4,891	-3	1
<i>CCT</i>	1	12	1,042	1,259	-2	0
<b>Poultry</b>						
<i>UCT</i>	30	30	4,113	n/a	3	n/a
<i>CCT</i>	23	23	1,042	n/a	1	n/a
<b>Source:</b> BISP impact evaluation survey (2019). Notes: (1) Asterisks (*) indicate that an impact estimate is statistically significant: *** $p < .01$ ; ** $p < .05$ ; * $p < .10$ .						

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## Part D: Costing study



## 8 Costing study

### Evidence summary

In this section we report the relative cost-efficiency of different payment modalities.

We find that the **Benazir Debit Card and Biometric Verification System offer relatively similar cost-efficiency offerings**. This finding is tempered when costs to the beneficiary are included with results suggesting that there is a higher cost to the beneficiary in her engagement with the Biometric Verification System.

We find that the **Post Office offers the poorest cost-efficiency**

We also find, encouragingly that the **BISP offers good cost-efficiency when considered against international benchmarks** when the BISP is assessed on the proportion of total expenditure that is related to administration

As part of this round of evaluation a costing study was requested. This was designed to identify which of the three main cash transfer delivery mechanisms – Benazir Debit Card (BDC), Biometric Verification System (BVS), and the Post Office – offers the most cost efficient payment delivery mechanisms. This question is currently of importance as BISP continues to transfer its beneficiaries over the BVS payment mechanism.

The methodology for this study is presented in full in Annex F, but is summarised in what follows. The study encompasses all administrative, operational and development costs involved in the transfer of cash to BISP beneficiaries and all results here have been computed using figures reported in BISP's final audited accounts, under the assumption that they accurately reflect the use of resources for the programme. It is useful to note a number of factors relating to the analysis:

- Given that the BVS system has only been in operation since the FY 2016-17 the analysis time period is limited to three financial years for sake of comparability this includes FY 2016-17, FY 2017-18, and FY 2018-19.
- Given that the BISP does not itself allocate all expenditures by payment mechanism – for example overheads related to BISP offices – we have in consultation with BISP apportioned such expenditures by the value transferred per payment mechanism within a given year.
- In consultation with the BISP we consider the following categories to be included in total expenditure:
  - Pay and allowances of BISP staff;
  - Consultancy/research and survey<sup>66</sup>;
  - Operational expenses;

<sup>66</sup>BISP requested to spread the cost over a 5-year period for FY 2016-17 and 2017-18

- Goods and physical assets<sup>67</sup>;
- Commission<sup>68</sup>; and
- The value of the transfer itself.

## 8.1 Total expenditure

Total expenditure on BISP, including both the value of the transfer itself as well administrative expenditure, has increased slightly over the period presented in Figure 49 from PKR 109billion in FY 2016-17 to PKR 114 billion in FY 2018-19.

As would be expected the split of total expenditure has shifted dramatically amongst the three payment mechanisms under consideration over the period presented in Figure 49. Over the period total expenditure on the BDC mechanism has fallen from PKR 80 billion to PKR 23 billion, making up 20% of total expenditure in FY 2018-19.

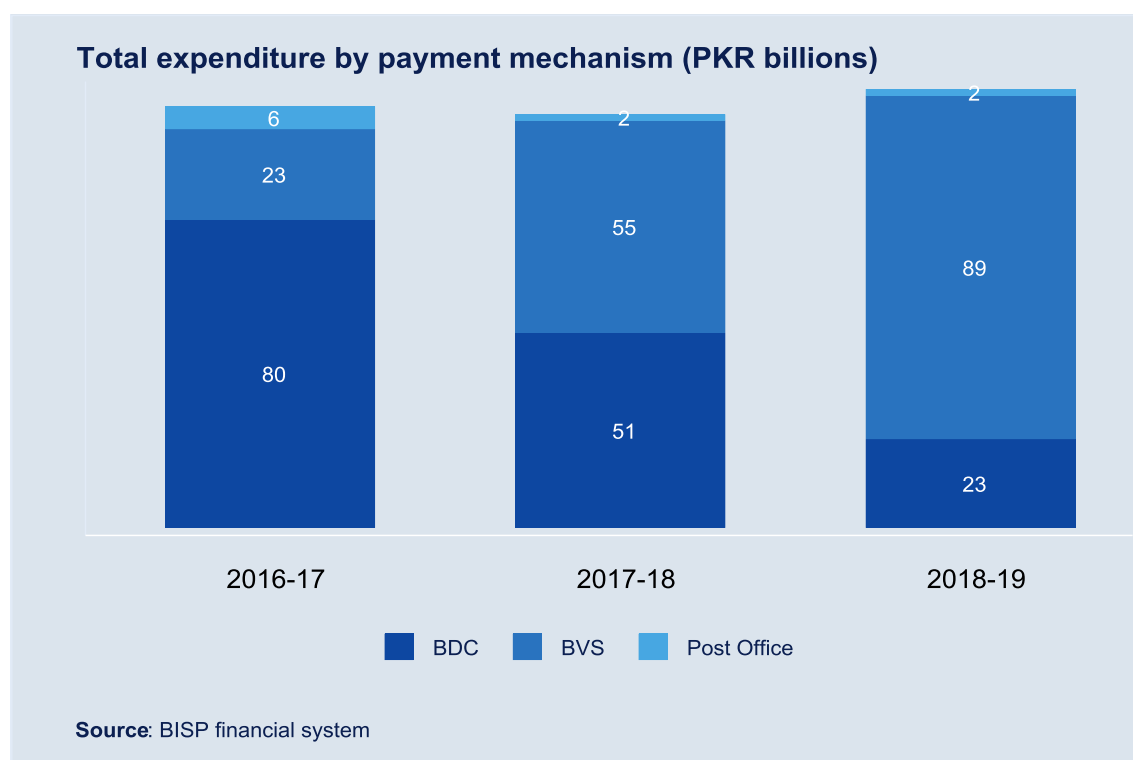
Conversely, and as BISP continues to transfer more of its beneficiaries to the mechanism, total expenditure through the BVS has increased from PKR 23 billion to PKR 89 billion over the period. The BVS currently accounts for 78% of total expenditure.

Relatively the Post Office accounts for only a very marginal proportion of total expenditure for the BISP, as to be expected given that it is only maintained to serve the most remote of communities who cannot yet be covered by the BVS mechanism. In FY 2018-19 it accounts for just 2% of total expenditure

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<sup>67</sup> BISP requested that *Goods and Physical Assets* be capitalised and depreciated at 20% over a 5-year useful life that leaves zero cost of *Goods and Physical Assets* in any fiscal year under consideration.

<sup>68</sup> This includes commissions paid to the Post Office, BDC partners and BVS partners, as well as NADRA commission. NADRA commission has been apportioned over 5 years in consultation with BISP.

**Figure 49 Total expenditure by payment mechanism (PKR Billions)**

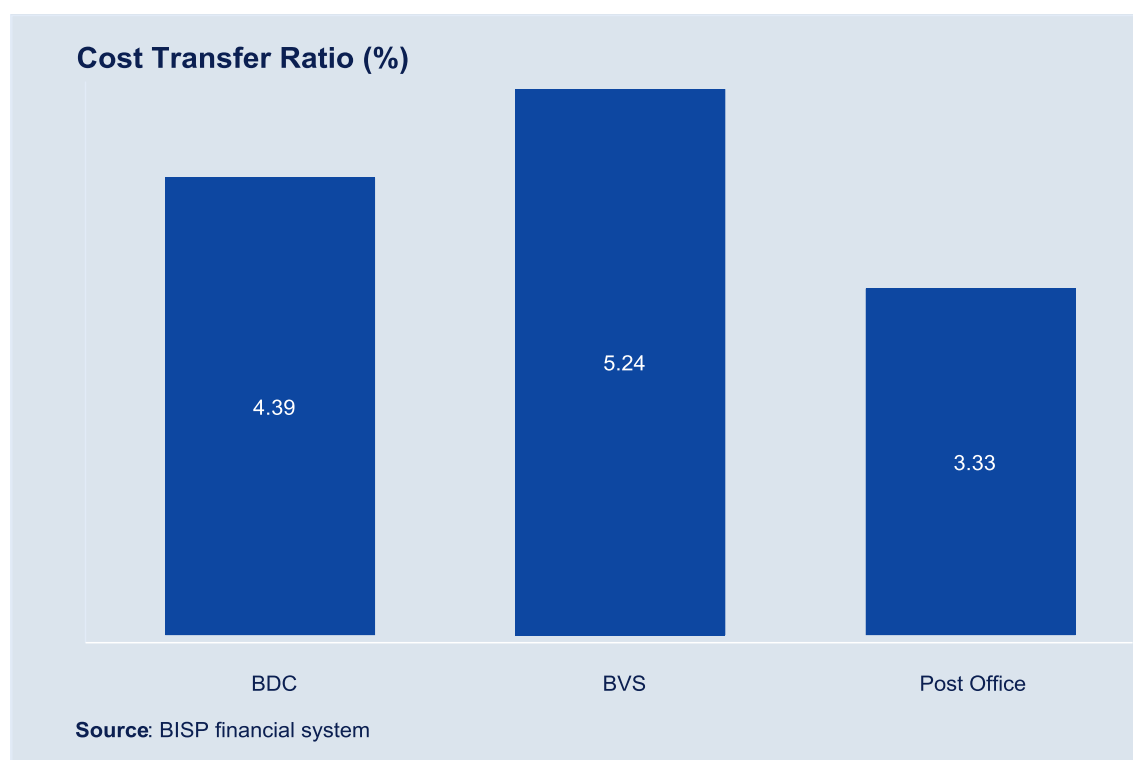
## 8.2 Cost-transfer ratio

As a measure of cost-efficiency we report the cost-transfer ratio (CTR). This measures cost-efficiency by taking the following calculation.

$$CTR = \left( \frac{\text{Administrative costs}}{\text{Transfer Value}} \right) * 100$$

The administrative cost is the total value of expenditure made by the BISP in order to deliver the cash transfer, but excluding the value of the transfer itself. The transfer value relates to the actual value of the transfer that is provided to BISP beneficiaries. As a result the CTR provides the PKR value of making a PKR 100 transfer to a beneficiary. A higher CTR implies a higher administrative cost to deliver a given value of transfer to a beneficiary and is therefore reflective of a less cost-efficient delivery mechanism

Figure 50 reports the cumulative CTR for each of the three payment mechanisms for the full period from FY 2016-17 to FY 2018-19. This demonstrates that the BISP is performing well in terms of cost efficiency with programme costs ranging from a minimum of PKR 3.33 to a maximum of PKR 5.24 for every PKR 100 transferred to a beneficiary. The analysis also suggests that the Post Office is the most cost efficient payment mechanism, whilst the BVS is the least cost efficient payment mechanism.

**Figure 50 Cost transfer ratio**

Whilst there is some variation in the relative cost efficiency of each payment mechanism for the BISP, it is worth noting that each compares very favourably compared to other social protection programmes globally. Figure 51 presents the CTR of other social protection programmes that deliver cash to beneficiaries, demonstrating that CTRs range from 5% to 53%. This places the BISP as one of the more cost efficient social protection programmes in the world.

A big driver of this cost-efficiency is the ability to operate at scale, reaching approximately 5.7 million households across Pakistan. Of the comparator programmes provided in Figure 51 only one operates at a similar scale to the BISP, namely PROGRESA in Mexico which reaches more than 6 million households and has a CTR of 5%. The other programmes reach much fewer direct beneficiaries with the coverage of households ranging from 15,000 (Kenya CT-OVC) to just under 165,000 (Ghana LEAP).

**Figure 51 Cost transfer ratio of other social protection programmes<sup>69</sup>**

<sup>69</sup> DFID (2013) accompanying checklist accessed here [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/204383/Social-transfers-VFM-checklist-edition2.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/204383/Social-transfers-VFM-checklist-edition2.pdf)

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## Part E: Conclusions

## 9 Conclusion

This report represents the findings of the independent impact evaluation of the BISP, and provides an updated set of findings as they relate to the implementation and potential impact on beneficiaries. Quantitative and qualitative data have been collected and analysed that relate to the impact 9 years after the BISP was initiated in its current form, 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 final set of conclusions as to where there is strong evidence of impact, where there is weak evidence of impact and where there is no evidence of impact.

### Improvements in BISP beneficiary welfare over time

The BISP is at a critical juncture. The current crop of beneficiaries, the vast majority who were selected through the original NSER in 2011, have witnessed substantial gains to their welfare as demonstrated through impressive reductions over the period 2011 to 2019 in poverty levels of BISP beneficiaries. Previous rounds of evaluation have shown that this is attributable to the BISP, and that the BISP has considerable potential to drive poverty reduction in Pakistan.

However, we find in this evaluation for the first time that the BISP is not having an effect on reducing the poverty levels of its beneficiaries, whether this is measured by a food based or cost of basic needs based poverty line.

In large part this finding results from the fact that the average BISP beneficiary is in a different welfare position now, relative to their status in 2011. Their consumption expenditure has increased, resulting in impressive reductions in average poverty levels amongst beneficiary households.

This has meant that the value of the transfer, designed to support the needs of the 20% poorest in Pakistan, no longer represents such a significant part of their total household income, demonstrated by the fact that the value of the transfer as a proportion of per adult equivalent consumption expenditure has fallen by 25% between 2011 and 2019. This has contributed to a reduction in the power of the transfer to induce further gains to welfare for beneficiary households over and above the already considerable gains induced by the BISP in periods prior to the 2019 round of evaluation.

### Value of the transfer

Despite considerable efforts made by BISP to periodically increase the nominal value of the transfer this evaluation finds that the real value of the transfer has decreased by 9% since 2011 due to high rates of inflation observed in Pakistan over the period 2011 to 2019.

However, as the National Socio-Economic Registry is in the process of being updated the BISP may have an opportune moment in which to conduct a considered review of the value of the cash transfer that it offers its beneficiaries, as well as its aspirations for the total number of beneficiaries that it supports.

Clearly any attempt to increase the value of the transfer would represent a difficult choice. It would require either a significant increase in funding or a re-consideration of the number of BISP beneficiaries that are targeted to receive funding.

Whilst there is no gold standard for setting the value of a cash transfer, the BISP should take a considered approach directly linking the value of the transfer to its objectives. This could for example involve setting the value of the transfer to fully or partially close the food poverty gap.

BISP should consider the value of its transfer, whilst the lack of observed impact on poverty in the 2019 round of evaluation can be explained by earlier impressive improvements, this evaluation also finds lack of impact in other dimensions for the first time that may be explained by the reduction of the real value of the transfer. These include child nutrition, as well as in the likelihood of saving at the household level. Child nutrition remains a particular worry given that child malnutrition is at rates that would be considered emergency levels when measured by wasting or stunting.

## **Implementation challenges**

This evaluation finds evidence of implementation challenges that exacerbate the real reduction in the value of the transfer. These include a reduction in the number of payments received within in an annual cycle due to delays in disbursements and poor communication to its beneficiaries regarding when payments will be released leading beneficiaries to make multiple trips, which involve a real cost in terms of transport which can be significant.

Nonetheless, Section 8 suggests that the BISP is a well-managed programme from a cost control perspective which benchmarks well to global social protection programmes.

## **Women's empowerment**

Amongst the strongest impact that the BISP continues to generate relates to women's empowerment. This evaluation finds that the BISP is continuing to make significant inroads into both the structures that support or hinder the achievement of women's empowerment, as well as actual outcomes of female agency.

In terms of the structures this evaluation focussed on cultural norms around the mobility of women, their autonomy in decision making and their social standing within the community. Whilst significant proportions of beneficiaries still have rather limited mobility, we find that the BISP has started to change the attitudes of communities in this regard. This is likely to continue with the shift to the BVS payment mechanism which compels women to leave their households to collect the cash. As the sight of women leaving their households to collect cash has become more common, this appears to be increasing the acceptability of women's mobility in general.

Women also express that autonomy in decision making is one of the key drivers of their empowerment. We find that the fact that beneficiaries are now making some contribution to the household budget is increasing the level of respect they feel in their households, as well as their autonomy in decision making, as well as their ability to engage in decision making with other members of the household, including their



husbands. This respect appears to extend to the community with beneficiary women consistently reporting that their social standing has risen as a direct result of the BISP.

As the structures that support or hinder women's empowerment change, this results in changes in real outcomes for beneficiary women. This findings of this evaluation support this, with evidence suggesting an increase in political participation, an increase in the ability to personally save, and an improvement in relations between beneficiaries and their husbands in at least one dimension of gender based violence.

## **Continued gains to education through the CCT**

We find strong evidence that the BISP is continuing to generating improved learning outcomes for its CCT beneficiaries, in the main this is seen in increased proportions of children, and in particular girls who are enrolled in school, but also in reducing the proportion of children who repeat grades.

However, we find evidence of room for improvement in the way children are targeted by BISP, and enrolled into the CCT programme. In particular we find that relatively fewer eligible children in younger ages – i.e. those who are 5, 6, and 7 years old – are enrolled into the CCT.

Furthermore, we observe that there are still important barriers to education. Poverty remains a significant barrier to education, even for children whose siblings are being funded by the CCT component of the BISP. As discussed above the current value of the transfer may have limited ability to make further inroads for these children, particularly as this evaluation finds evidence that the opportunity cost of education increases for boys in particular as they reach middle school, with many being withdrawn to engage in income generating activities as they reach that stage of schooling.

Furthermore, whilst many parents are extremely encouraging of girls' education there still remain significant proportions of parents who disapprove of girls' education. In this regard the BISP already has a powerful vehicle that it could utilise to outreach to such parents. BBCs already play a significant role in the registration of children into the CCT programme. Further support to the BBCs could help them in reaching out to parents, by supporting an understanding of the potential returns to educating girls as well as boys.

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## Annex A Regression discontinuity

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 Annex B.

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

### A.1 Sensitivity testing

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

- We test sensitivity of results to the choice of bandwidth. Results reported in the main report are based on a bandwidth of +/- 5 points around the cut-off. In annex B 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

Annex B we report the estimate of the discontinuity at a point  $\pm 1$  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

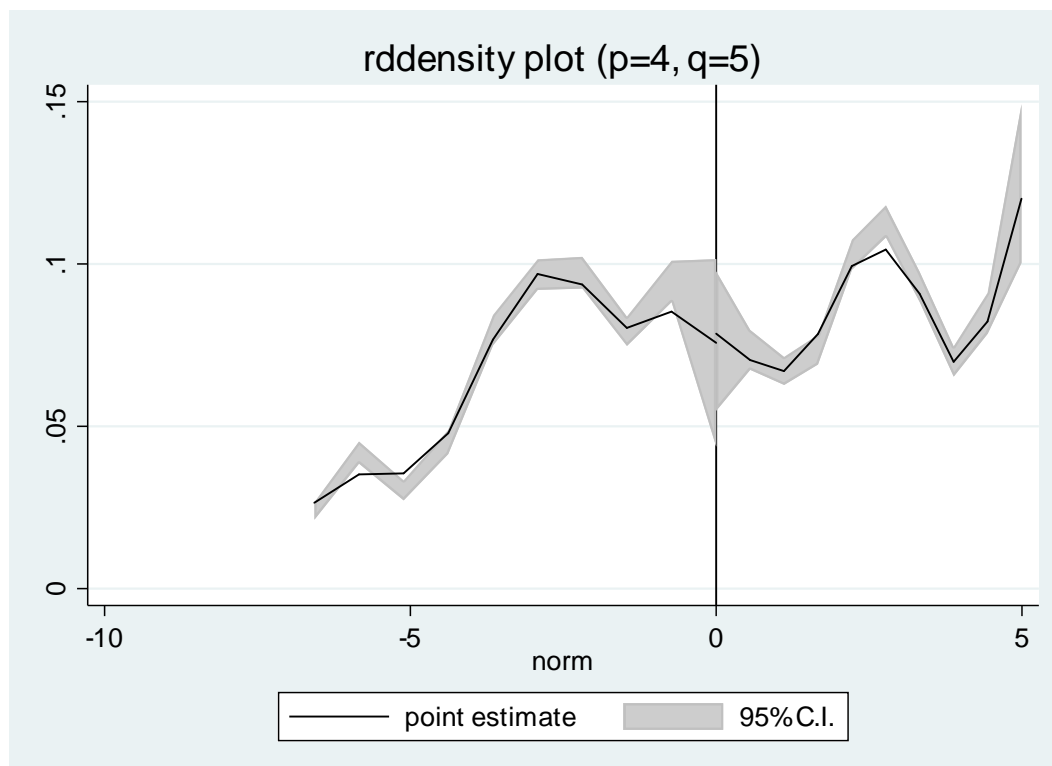
RD will identify the combined causal impact of being treated by the BISP UCT on the outcomes of interest if the only source of discontinuity in the outcomes at the eligibility threshold is the probability of receiving the BISP treatment. In order for this to hold we need to satisfy five assumptions, 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 52 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 52 Density of BISP poverty score at eligibility threshold (matched MIS scores)<sup>70</sup>**



The results of this test reports that there is no statistically significant jump in the marginal density at the eligibility threshold. Additional RD tables: Sensitivity Tests

**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 53 presents this analysis.

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

<sup>70</sup> BISP poverty score normalised so that eligibility threshold = 0

**Figure 53 Discontinuity in probability of treatment<sup>71</sup>**

**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.

However, in the case of this round of the evaluation, this assumption cannot be directly tested as the majority of the sample was freshly sampled for this round of the evaluation, meaning that for the majority of the evaluation sample we do not have baseline values of household characteristics. However, we can be confident that this assumption is satisfied given that this assumption was strongly satisfied for the sub-set of households for which there is baseline information. This analysis was provided in our previous follow-up reports, including for the 2<sup>nd</sup> follow-up impact evaluation report (OPM, 2015).

**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

<sup>71</sup> BISP poverty score normalised so that eligibility threshold = 0

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.



## Annex B Propensity Score Matching

The key problem that PSM attempts to solve is selection bias. In the present case, this problem appears because BISP beneficiary households could be systematically different from households that did not receive the BISP transfer and form part of the PSM comparison group – because the PSM evaluation sample is not constrained to the RD optimal bandwidth within which the RD treatment and comparison groups can be considered comparable. Such systematic differences could plausibly be related to outcome measures that this evaluation is interested in, including consumption, nutrition, productive investments and empowerment. This in turn implies that observed dissimilarities in outcome measures across households and individuals from treatment and comparison groups could be due to underlying systematic differences and not the BISP. This is the problem of selection bias. PSM tackles the problem of selection bias by using data from the comparison group to construct appropriate comparisons to households and individuals in the treatment group, thus building a valid counterfactual. This happens by matching and comparing outcomes for units in the treatment group with comparison units that are as similar as possible to each other according to a set of relevant observable characteristics, i.e. comparing like with like only. Relevant characteristics are the ones that are thought to be driving selection bias.

Specifically, PSM is a two-stage analytical approach that employs a propensity score as a ‘comparator metric’ that summarises the information of the set of relevant characteristics, i.e. the ones that drive selection bias, defined above. This propensity score can also be interpreted as an estimation of the hypothetical probability of any individual to be in the treatment group, given its characteristics. The first stage of any PSM analysis is to compute a valid propensity score for each unit of observation. The second stage is to then compare outcome indicators of interest across units (i.e. households and individuals in this case) with similar propensity scores. Note that because outcome indicators from treatment units are compared to outcome indicators from specific comparison units based on the propensity score, the estimated average treatment effect is valid for the group of treatment observations only. This means that PSM allows to estimate an Average Treatment Effect on the Treated (ATT).

It is important to note that, for PSM to work appropriately, the comparator metric constructed in the first stage needs to be valid. For that to be the case, it needs to be calculated using variables that are not influenced by the intervention and are ‘relevant’ for the construction of the counterfactual. As described above, ‘relevant’ here means that these are variables which are driving selection bias. Given that there is no pure baseline, in order to meet the first condition the model constructs propensity scores only using variables that can objectively be considered as not having been influenced by the BISP. In order to meet the second condition, researchers typically argue from a theoretical perspective about which variables could be relevant to control for selection bias. This study improves this selection of relevant variables by using a data-driven algorithmic approach that aims to reduce researcher discretion in the choice of variables.

The validity of any PSM approach also depends on how well it reduces any imbalance, and thereby selection bias, between treatment and comparison groups. Achieving balance means that if matched appropriately treatment and comparison groups’ characteristics will not be

significantly different from each other. In other words, this means that, across the list of relevant characteristics that are assumed to drive selection bias, the treatment and comparison groups will be statistically similar to each other. See the end of this annex for a description of how covariate balance across treatment and comparison groups was assessed.

## PSM first stage model selection

To estimate the propensity score in the first stage, this impact evaluation will follow the procedure suggested by Imbens and Rubin (2015, p. 281 ff.). The underlying model specification for this procedure is either a logit or probit regression for the first stage. We employ a probit regression for the BISP PSM first-stage selection. The propensity scores are estimated by first specifying treatment and comparison assignment as a binary variable that has the values 0 (for comparison) and 1 (for treatment). The estimated scores are then modelled as the fitted values that are derived from the probit estimation, with the binary treatment variables as dependent variable and the covariates across which balance is supposed to be achieved as the regressors. These fitted values lie between 0 and 1.

The binary response variable can be modelled as follows:

$$\Pr(T = 1 | X_i) = \frac{e^{f(X_i)}}{1 + e^{f(X_i)}}, (1)$$

where  $\Pr(T = 1 | X_i)$  is the probability of the treatment indicator ( $T$ ) being equal to one, conditional on the covariates ( $X_i$ ) for unit  $i$ . The function  $f(X)$  is normally modelled linearly, i.e. is of the form  $f(X) = X\beta$ . The coefficients of this function ( $\beta$ ) are estimated using maximum likelihood techniques. The fitted values, i.e. the predicted probabilities that follow from this procedure, are the propensity scores for each unit of observation.

The key question for the first stage is which covariates (i.e. relevant characteristics) to include in  $f(X)$  so that this procedure produces a valid estimate of the propensity score. Building on the procedure described in Imbens and Rubin (2015) for selecting covariates, our modelling approach follows three steps to make this decision:

### Select a set of basic covariates based on substantive grounds

The starting point for the PSM analysis is to select variables that are likely to be relevant and valid to be used for this analysis from a theoretical perspective. 'Relevant' in this case means that variables had to be selected that were theoretically expected to be correlated with treatment status and treatment effects, thereby introducing selection bias in a simple comparison of treatment outcomes between comparison and treatment groups. This requires a theoretically substantiated understanding of the relationships that were being analysed. These variables were identified using the results of previous impact evaluation of the BISP as well as indications from the literature.

'Valid' in this case meant that variables have to be selected that are expected to not be influenced by the programme. This is because the PSM analysis will have to be implemented both using data collected when BISP already produced its effects. If we had pure baseline data, this would not be an issue, given that the programme had not started yet and no variable would have been influenced by the programme. In our case, however, this is not the case. The PSM is based on the 2018 survey. Hence, only variables can be used for PSM for which a plausible argument can be made that they have not been influenced by the BISP.

**Increase the set of valid covariates based on algorithmic approaches**

In addition, our PSM approach employs variable selection algorithms to identify valid variables, i.e. variables that were not affected by the BISP, and that are significantly correlated both with the treatment status and the outcome variable. There are a variety of methods available to do this. Our approach implements stepwise regressions. Such regressions are commonly used and easily implemented algorithms to select independent variables based on significant correlations with certain dependent variables.

There are two stepwise regression approaches that we employed for this: backward and forward stepwise regression. The underlying idea behind both approaches is to check each covariate, step-by-step, for significant correlation with the outcome and treatment assignment variable separately. Such a correlation is relevant because variables that possibly bias impact estimates will have some relation to both the treatment status and the outcome looked at.

Backward selection starts with the full set of covariates, i.e. a regression including all variables, and then discards the term that is least significantly correlated with the dependent variable. It continues to do so until all variables that are uncorrelated with the dependent variable are discarded. Forward selection, instead, starts with an empty set of covariates, i.e. a regression on a constant, and then checks the significance of each covariate if it is included in the regression. It then adds the most significantly correlated variable to the model. This step is repeated until all significant covariates are included in the model.

Both for backward and forward estimation a threshold p-value for what is considered to be significant needs to be specified. For backward selection, this means setting the level for identifying whether all variables that are uncorrelated with the outcome variable have been discarded: if the p-value of the least significant variable remaining is under the threshold, i.e. all the variables still included in the model are even more significant, the procedure stops. For forward selection, this means setting the level for identifying whether all significant covariates have been included in the model: if the p-value of the most significant variable to be added is equal to the threshold, i.e. the significance level of all variables that have not yet been included in the model is equal or below the threshold, the procedure stops. Setting this threshold therefore influences the variables that are selected in stepwise regressions.

Our approach implements both backward and forward selection, using thresholds of  $p = 0.05$ . The analysis employs this covariate selection procedure on both relevant outcome variables and treatment status, given the importance of determining the significance of covariate correlation on both. A common set of variables is finally selected based on whether they were selected in either of the forward or backward stepwise regressions.

**Increasing the set of covariates with polynomial and interaction terms using algorithmic selection**

In a third step, the same method of stepwise regressions (backwards and forwards) is employed to augment the set of covariates by quadratic terms or interactions of variables that had already been selected in steps one and two. The rationale behind this is the fact that balance might only be achieved if the propensity score is estimated using non-linear transformations of the variables selected in the first two steps

(Imbens and Rubin 2015, p. 287). Again, the stepwise regression approach helps decide which of these non-linear terms are significant predictors of differences across comparison and treatment groups, and should therefore be controlled for.

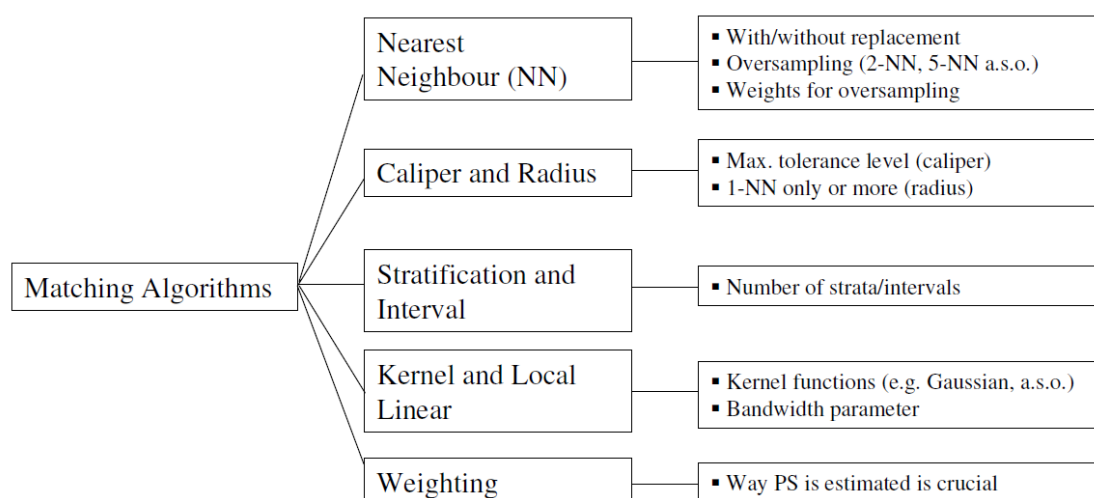
## **Second stage algorithm selection**

Good balancing properties using PSM also depend on the matching algorithm used in the second stage of the PSM analysis. There are a variety of algorithms available to implement the second stage of PSM, i.e. to match comparison and treatment units to each other based on the propensity score estimated in the first stage. Figure 54 shows algorithm options and sub-options for each of these possibilities. It is beyond the scope of this report to explain in detail the technicalities of each of these approaches.<sup>72</sup> For all approaches the goal is to find appropriate, i.e. sufficiently similar, comparison group members for treatment group members. Differences between these approaches can be defined along three main dimensions: first, which estimated propensity scores are considered to be valid for inclusion in the analysis? Second, what is the appropriate range of propensity scores that define comparison comparators for treatment units? Finally, how are these comparators used when estimating the treatment effects?

The first dimension relates to the fact that within both comparison and treatment groups there could be estimated propensity scores that lie either at the upper or lower bound of the distribution, i.e. close to 0 or 1. For such values, there might not be an appropriately similar propensity score in the respective comparison group. However, for matching to work appropriately, there must be comparable propensity scores in both comparison and treatment groups – the so-called common support condition. Hence, matching algorithms employ cut-offs or trimming procedures by which some proportion of observations with propensity scores that are not comparable are dropped from the analysis.

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<sup>72</sup> See Caliendo and Kopeinig (2005) for a summary overview.

**Figure 54: Matching algorithms selection**

NN: Nearest Neighbour, PS: Propensity Score

Note: Figure taken from Caliendo and Kopeinig (2005, p. 9).

The second dimension relates to how units in the comparison group with propensity scores close to a treatment group observation are treated. For instance, kernel matching, as used in the impact estimation for our BISP PSM model, is a non-parametric matching estimator that uses the weighted averages of all individuals in the comparison groups to create the counterfactual outcome. The weights are determined by the distance between each individual from the comparison group and the participant observation for which the counterfactual is estimated. Therefore, higher weights are given to persons closer in terms of the propensity score of a treated individual (Caliendo and Kopeinig (2005), p.10–11).

Finally, the third dimension refers to how, once comparator units are found, the outcome measures are compared across treatment and comparison. With kernel functions a form of weighted averages are calculated to estimate treatment effects.

Selecting the appropriate matching algorithm for a PSM exercise is not straightforward and requires careful analysis of how well-balanced samples are after employing algorithms with certain sub-specifications. In general, however, the selection of models in this study was based on the fact that discriminating between models poses a bias/variance trade-off in the estimated treatment effect. For instance, in the extreme case of NN matching with just one neighbour, it could be that the NN is actually quite far away in terms of propensity scores and hence a bad match. If this happens often, this could introduce bias into the estimation procedure. A solution to this could be to implement matching using several comparators in a caliper matching setting. However, this could decrease the number of available matches, which could increase the variance of the treatment estimate.

Kernel matching with appropriate trimming and enforcement of common support is a good compromise between these different approaches and was therefore selected as the main matching algorithm for the impact estimates of the PSM approach in this evaluation of BISP. Specifically, to find the optimal estimation model this study uses different kernel matching algorithms with different bandwidths and trimming levels. These different results are then compared with respect to the best balancing properties, with the best performing approach being selected as the optimal. This process is conducted for building the estimation strategy of each impact area separately (e.g. poverty and household consumption), using at least one outcome indicators in each impact area (e.g. per adult equivalent consumption expenditure) to run the balance diagnostics and compare the suitability and robustness of alternative PSM models. Once the optimal PSM model is identified, that same model is then used to estimate the treatment effects of BISP on all the outcome indicators pertaining to that impact area.

## **Key PSM assumptions: common support and conditional independence**

There are two key assumptions that need to hold for PSM to be a valid approach to estimating treatment effects: the common support assumption and the conditional independence assumption.

The two assumptions underpinning PSM are the following:

1. The **conditional independence assumption**, which states that, once observable characteristics have been accounted for, the outcome measure is not related to the treatment status anymore, other than via the effect of the programme. This assumption entails that once the relevant observable characteristics as per above are accounted for in the model, selection bias is dealt with and treatment status can be treated as if it was assigned randomly.
2. The second key assumption is the **common support assumption**, which states that the estimated propensity score for all observations in the treatment and comparison groups must lie within 0 and 1. Expressed differently, observations in both groups must have a positive non-zero probability of belonging to either the treatment or comparison group and the distribution of those probabilities across the two groups must be such that comparable observations (e.g. households) across the groups can be found. This assumption can be enforced by only comparing treatment and comparison observations ‘on common support’.

The validity of any PSM approach crucially depends on how well the approach reduces any imbalance between treatment and comparison groups. Under conditional independence – i.e. independence of the treatment assignment from outcome measures when controlling for covariates – the propensity score is a valid balancing score. Conditioning on this score appropriately means that bias will be removed between comparison and treatment groups. Hence, treatment and comparison groups will be balanced, i.e. they will have similar covariate distributions. This means that, across a variety of different characteristics, the treatment and comparison groups will be similar to each other.

Assessing balance of covariates after matching is therefore a key step for any PSM analysis. The more balanced samples are after matching, the more plausible is it that the conditional independence assumption holds. As described above, however, balance also depends on the



models and algorithms used to implement matching. The following paragraphs explain in detail how balance assessments were implemented and used in this evaluation of BISP.

## Assessing balance

To select between different matching algorithms and to assess covariate balance after matching, we compare matching models along a variety of dimensions. First, individual covariate balance is assessed across samples by looking at the standardised difference in means across treatment and comparison groups both before and after matching. This standardised difference is the difference in group averages over the square root of the average of the sample variances. If samples are balanced, this difference should be small and matching should reduce this standardised difference as compared to the unmatched samples.

In addition, we perform t-tests to assess whether differences across treatment and comparison groups were statistically significant. If balance is achieved with PSM, differences between treatment and comparison groups should be negligible and therefore should not be significantly different from zero.

In this context, the variance ratios of covariates of treated over comparison measures was also assessed. If there is perfect balance across samples, then covariates should be distributed equally and hence this ratio should be equal to one.

All of these measures give an indication of whether specific individual covariates are balanced across treatment and comparison groups. To assess overall variance, we use two statistics that summarise covariate balance in the sample at hand: Rubin's B and Rubin's R. Rubin's B reflects the absolute standardised difference of the means of the propensity score in the treated and comparison groups (unmatched and matched). Rubin's R is the ratio of the treated to comparison variances of the propensity scores. Rubin (2001) suggests that the value of B should lie below 25 and that R should lie between 0.8 and 1.25 for overall balance to be adequate. Together, Rubin's B and Rubin's R provide an informative indication of the trade-off between bias and variance across the treatment and comparison groups, as it changes before and after the matching procedure. However, individual-level balance should always be assessed as the overall balance is only an approximation of goodness of fit.

Matching procedures are implemented in our PSM impact estimation strategy using the `psmatch2` package in Stata and balancing tests are carried out using the `pstest` package, which provides the results for all of the statistics mentioned above.<sup>73</sup>

Finally, the distribution of propensity scores is also analysed graphically. Ideally, propensity scores should be distributed equally across treatment and comparison groups. Very skewed/diverging distributions could be an indication that balance has not been achieved successfully. The visual distribution of propensity scores is therefore taken into account in selecting the preferred estimation model for the impact analysis.

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<sup>73</sup> See <http://fmwww.bc.edu/repec/bocode/p/pstest.html> for details.

An example of the results emerging from our balancing assessments are presented in below, including an explanation of how balance results are interpreted.

## **What treatment effect does PSM estimate?**

Finally, it is important to emphasise that the PSM approach used in our impact evaluation of BISP works by looking for comparison units that can be compared to treatment units, and not the other way round. This means that it is assumed that treatment units are a given and comparison units need to be identified. Through finding matches for the treatment units (households and individuals beneficiary of BISP) in the pool of comparison units (non-beneficiary households and individuals), the resulting estimate of the treatment effect is the Average Treatment Effect on the Treated (ATT). Extrapolating this estimate beyond the population for which the treatment sample is representative is therefore not possible.

## **Example: Assessing balance against the consumption indicator**

In this section, the balance diagnostics for the consumption impact area are presented using the outcome variable 'per adult equivalent consumption expenditure'. As discussed in the sections above, we ran the matching algorithm using different combinations of bandwidth and trimming to find the optimal PSM model in each impact area. The model parameters selected are shown in Table 23 and the balancing results are shown in Figure 54.

The first graph, on the left-hand side of Figure 54 indicates how individual variables balance before and after matching. The x-axis displays the standardised bias, which is the percentage difference of the sample means in the treated and non-treated (unmatched or matched) subsamples as a percentage of the square root of the average of the sample variances in the treated and non-treated group (Rosenbaum and Rubin, 1985). In Figure 54 the unmatched samples display large imbalances with standardised bias being present across many of the covariates of interest. However, once matching takes place, the standardised imbalances are diminished and the points are tightly distributed around the vertical line at 0% standardised bias.

The second graph, on the right-hand side of Figure 54, shows the distribution of propensity scores across treatment and comparison groups. This graph visually confirms that, after dropping observations that are off common support (in green), both treatment and comparison groups contain observations with propensity scores across the full range of the distribution, which is an indication for overall balance. Ideally, the distributions of propensity scores across treatment and comparison groups would be symmetric, which is more or less the case in Figure 54. In any case, the presence of some level of skewness does not put at risk the estimation procedure, as indicated by the balance achieved for each covariate and the overall values of Rubin's R and B after matching.

The indicators shown in below display information related to the PSM model. The table reports Rubin's R and Rubin's B values both before and after matching. Generally, a Rubin's B score under 25 after matching is desirable although a lower score is preferable. For Rubin's R, a score between 0.8 and 1.25 is the preferred range after

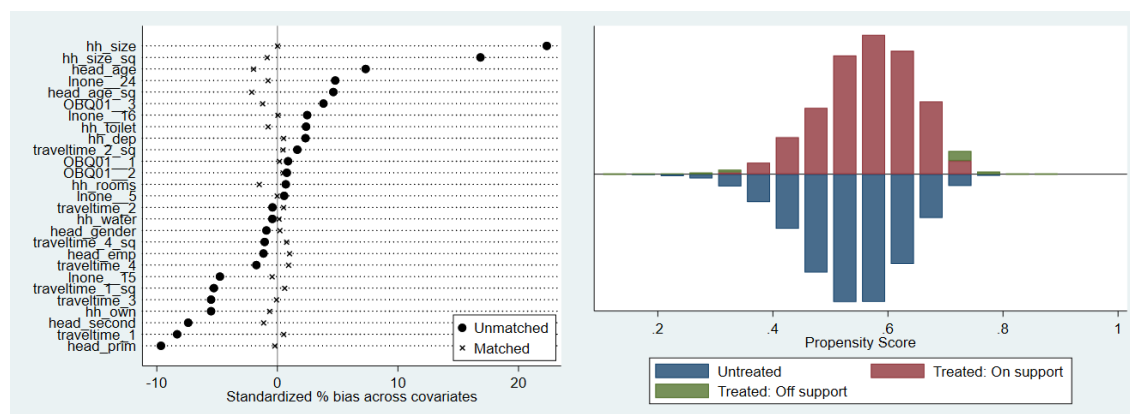


matching (Rubin, 2001). The unmatched samples were unbalanced: whilst the Rubin's R is within the acceptable range both before and after matching, the Rubin's B for the unmatched sample is 36.69. However, the Rubin's B score after matching is well below 25 which shows how matching removes the previous imbalances. The table also indicates the number of observations on common support in the PSM model. For this indicator, less than two percent (162 households) of the initial unmatched sample is off-support and therefore discarded.

**Table 23 PSM model parameters**

Model Parameters	Value
Bandwidth	2
Trimming	3
Indicator	Per adult equivalent consumption expenditure

**Figure 1 Visual balance diagnostics**



**Table 24 Balance indicators**

	Before Matching	After matching
Rubin's B	36.69	4.64
Rubin's R	0.88	1.09

<b>N on common support</b>	N/A	9,626
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## Annex C Consumption Expenditure

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:

$$\begin{aligned} \text{Adult equivalent household size} \\ = 0.8 \times (\text{Number of members} < 18 \text{ years}) + 1 \times (\text{Number of members} \\ \geq 18 \text{ years}) \end{aligned}$$

## C.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,

$$\begin{aligned} w_{ik} &= \text{budget share of item } k \text{ in PSU } i \\ p_{ik} &= \text{median unit value of item } k \text{ in PSU } i; \text{ and} \\ p_{0k} &= \text{national median unit value of item } k \end{aligned}$$

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.

## C.2 Poverty line

To calculate the headcount rate or proportion of households that live in poverty one must calculate the proportion of households that live below the poverty line. The poverty line in Pakistan is set such that it allows households to consume a basic basket of goods. To calculate the poverty line we have used the poverty line set by the

Government of Pakistan and adjusted this for inflation using price statistics housed in the Pakistan Bureau of Statistics.

## Annex D Power calculations

Table 25 presents the outcomes of our power calculations in terms of the **Minimum Detectable Effects (MDE)**. An MDE defines the minimum impact that the BISP must achieve on key outcome indicators of interest that a given sample size will be able to detect. The implication of a given MDE is that if the BISP has a 'real impact' that is less than the MDE there is a real danger that given the sample size the evaluation will not be able to detect this impact and conclude that BISP did not have a statistically significant impact on a particular indicator, in what is known as a false negative.

Our approach to calculating the MDE is given in below. Crucially our power calculations must be inflated by what are known as design effects that account for both: (1) that we must use a quasi-experimental methodology rather than a Randomised Control Trial; and (2) that we use a clustered random sample rather than a simple random sample.

**A power calculation that does not account for both of these design effects is likely to lead to an under-powered total sample size** – and greatly increase the risk that the calculated sample size will lead an evaluation to state that the BISP has had no impact, when in fact it has, i.e. lead to 'false negatives', as well as increasing the difficulty of detecting impact at provincial level.

As detailed in the inception report for this evaluation, the goal with the sampling approach was to achieve a MDE that was within range of the expected effects based on the previous evaluation, that is we hope to achieve a sample that will allow for a small enough MDE to at least be able to estimate impact of the order of magnitude that was witnessed in the 2016 evaluation. We test the power of the evaluation sample using the indicator "*per adult equivalent consumption expenditure*", where in the 2016 evaluation we found that the BISP had had a positive and statistically significant impact of PKR 187.

Table 25 Demonstrates that at both national and provincial level the power of the sample is sufficient. All MDEs reported are either under the target PKR 187, or within 5% of this target.

The exception to this is FATA – where the MDE is PKR 453. The considerably higher MDE observed is a factor of both the lower sample size achieved<sup>74</sup>, as well as the having the highest intra-cluster correlation for per adult equivalent consumption expenditure which dramatically increased the design effect observed in that region (see formula below).

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<sup>74</sup> Despite having secured a NOC to conduct fieldwork in FATA the OPM field team was requested to stop working during the fieldwork by authorities, meaning sample achievement was lower than expected in this province.

**Table 25 Sample power calculations – per adult equivalent consumption expenditure**

	Total sample size (treatment)	RD sample size (treatment)	Minimum detectable effect	Intra-cluster correlation	Total design effect
<b>UCT</b>					
Punjab	1,286	1,032	110	0.06	1.75
Sindh	1,432	969	144	0.13	2.36
KPK	1,075	770	142	0.08	1.94
Balochistan	627	482	195	0.14	2.41
GB	706	560	197	0.10	2.19
FATA	386	300	453	0.19	4.60
<b>Total UCT</b>	<b>5,512</b>	<b>4,113</b>	<b>78</b>	<b>0.14</b>	<b>2.50</b>
<b>CCT</b>					
<b>Total CCT</b>	<b>1,305</b>	<b>1,042</b>	<b>147</b>	<b>0.14</b>	<b>2.42</b>

## D.1 Power calculation formula

Since the major objective of the evaluation is to estimate the impact of the BISP on key indicators, by measuring the difference between treatment and control groups, it is useful to measure the **minimum detectable effect (MDE)** for impact estimates. THE MDE is defined as the smallest treatment effect that a research design can detect with confidence is dependent on numerous factors including: overall sample size; evaluation design; sampling design; and variance in the particular indicator being measured within each of the treatment and control groups.

Essentially a **given MDE size describes the smallest treatment effect that a given evaluation design is able to detect**. The implications of a given MDE is that if the programme under evaluation has a “true impact” on key indicators that is less than the MDE, the evaluation may not be able to detect this and instead would report what is known as a false negative.

For the case of this evaluation MDEs are calculated as follows:

$$MDE = (t_{1-\alpha/2} - t_{1-\beta}) * \sqrt{2\sigma^2/n} * (1-f) * DEFF_{total}$$

Where:

$$t_{1-\alpha/2} \text{ and } t_{1-\beta} = t \text{ values}$$

$$\alpha/2 = \text{Rate of type I errors (false positives), as is standard we use } \alpha = 5\%$$

$\beta$  = Rate of type II errors (false negatives), as is standard we use  $\beta$   
= 20% which translates to a power of 80%

$\sigma^2$  = variance of the outcome

$n$  = sample size of each treatment group

$(1 - f)$  = finite population correction

$DEFF_{total}$

= the total design effect (accrues from clustered sampling and use of RD)

Thus the MDE is a combination of a variety of factors. It is **increasing with the desired power of the sample**, as is standard we expect a power of at least 80%, in other words we expect to avoid false negatives with 80% probability. The MDE is **increasing with the variance of the outcome**, with a highly variable outcome indicator making it more difficult to estimate impact. The MDE is **decreasing in sample size**, i.e. with a larger sample size making it easier to detect impact. The MDE is **increasing with the total population size of interest**, i.e. you need a larger sample size (within bounds) the larger the population of interest.

The MDE is also **increasing with the design effect**. In our case the total design effect is a function of two factors: (1) a design effect related to the clustered nature of our sampling strategy as opposed to using a simple random design; and (2) a design effect related to the use of the RD or PSM methodology<sup>75</sup>, as opposed to a Randomised Control Trial. The design effect is calculated as follows:

$$DEFF_{total} = DEFF_{clustering} * DEFF_{RD}$$

$$DEFF_{clustering} = 1 + \rho_x * (m - 1)$$

$$DEFF_{RD} = \frac{1}{(1 - \rho_{RD})^2}$$

Where:

$\rho_x$  = intraclass correlation (ICC) of the indicator being measured

$m$  = weighted average cluster size

$\rho_{RD}$  = correlation between the treatment status and BISP poverty score

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<sup>75</sup> See for example, Lee, H. and Munk, T. (2008) *Using Regression Discontinuity Design for Program Evaluation*. Survey Research Methods



# Annex E      Supplementary impact tables

## E.1 Impact disaggregated by payment mechanism

In this annex we report the impact of BISP on consumption expenditure, poverty and women's empowerment indicators, disaggregated by payment mechanism. This is done only for the UCT sample, as there is insufficient sample size to conduct the same exercise on the CCT sample.

Table 26 reports the outcome of this analysis. We find the findings across all beneficiaries, BVS beneficiaries, and BDC beneficiaries to be highly consistent. We do not find any statistically significant differences in the estimate of impact for any indicator presented in Table 26 for either of the payment mechanisms.

**Table 26 Impact of BISP disaggregated by payment mechanism**

	Mean (treatment)		Sample size (treatment)	Impact Estimate
	All bens	RD bens	RD	RD
<b>Per adult equivalent consumption expenditure</b>				
<i>All beneficiaries</i>	3,369	3,427	4,113	-20
<i>BVS beneficiaries</i>	3,639	3,713	2,682	68
<i>BDC beneficiaries</i>	3,591	3,668	1,045	50
<b>CBN poverty line</b>				
<i>All beneficiaries</i>	65	63	4,113	-1
<i>BVS beneficiaries</i>	64	62	2,682	1
<i>BDC beneficiaries</i>	66	64	1,045	2
<b>FEI poverty line</b>				
<i>All beneficiaries</i>	34	32	4,113	5
<i>BVS beneficiaries</i>	34	30	2,682	7
<i>BDC beneficiaries</i>	36	34	1,045	-3
<b>% of women involved in decisions about major household purchases</b>				
<i>All beneficiaries</i>	48	54	4,108	4
<i>BVS beneficiaries</i>	54	54	2,683	3
<i>BDC beneficiaries</i>	54	54	1,046	8
<b>% of women involved in decisions about visits to family</b>				
<i>All beneficiaries</i>	56	62	4,108	10**
<i>BVS beneficiaries</i>	62	62	2,683	10***
<i>BDC beneficiaries</i>	65	65	1,046	12***
<b>% of women who can travel alone to the market</b>				
<i>All beneficiaries</i>	31	31	4,108	9**
<i>BVS beneficiaries</i>	28	29	2,683	7*
<i>BDC beneficiaries</i>	38	39	1,046	16***
<b>% of women who can travel alone to a health facility</b>				

	Mean (treatment)		Sample size (treatment)	Impact Estimate
<i>All beneficiaries</i>	28	28	4,108	8***
<i>BVS beneficiaries</i>	27	28	2,683	13***
<i>BDC beneficiaries</i>	31	32	1,046	12***
<b>% of women who can travel alone to a friend's home</b>				
<i>All beneficiaries</i>	47	48	4,108	6*
<i>BVS beneficiaries</i>	45	45	2,683	4
<i>BDC beneficiaries</i>	53	54	1,046	10
<b>% of women who can personally save</b>				
<i>All beneficiaries</i>	10	10	4,107	4*
<i>BVS beneficiaries</i>	10	11	2,683	4*
<i>BDC beneficiaries</i>	10	10	1,046	3
<b>% of women who vote</b>				
<i>All beneficiaries</i>	90	90	4,095	14**
<i>BVS beneficiaries</i>	89	89	2,683	12**
<i>BDC beneficiaries</i>	94	94	1,046	10**
<b>Source: BISP impact evaluation survey (2019). Notes: (1) Asterisks (*) indicate that an impact estimate is statistically significant: *** p &lt; .01; ** p &lt; .05; * p &lt; .10.</b>				

## E.2 Impact of CCT on 5-12 year olds

In this Annex we provide supplementary evidence to support the main body of the text. In particular we provide evidence of the impact of the CCT on school enrolment, school attendance, and grade repetition for children aged 5-12 years of age living in CCT households. This is reported in Table 27 below.

**Table 27 BISP impact on learning outcomes – CCT direct beneficiaries aged 5 – 12 years old**

	Mean (treatment)		Sample size (treatment)	Impact Estimate
	All bens	RD bens	RD	RD
<b>Proportion of children enrolled</b>				
<i>CCT</i>	74	75	2,397	8***
<i>Male</i>	78	79	1,283	0
<i>Female</i>	69	69	1,114	23***
<b>School attendance rate in last two weeks</b>				
<i>CCT</i>	83	83	1,750	-12
<i>Male</i>	84	84	991	-12
<i>Female</i>	82	81	759	-12
<b>Grade repetition rates</b>				
<i>UCT</i>	12	10	1,364	-10*
<i>Male</i>	12	11	785	-7
<i>Female</i>	11	10	579	-15
<b>Source: BISP impact evaluation survey (2019). Notes: (1) Asterisks (*) indicate that an impact estimate is statistically significant: *** p &lt; .01; ** p &lt; .05; * p &lt; .10.</b>				

## Annex F Costing methodology

The purpose of the costing study was to identify which of the three payment mechanisms – Biometric Verification System (BVS), Benazir Debit Card (BDC), and Post Office (PO) – is the most cost efficient payment delivery mechanism. This question is of importance as the BISP continues its efforts to transfer BISP beneficiaries over to the BVS payment mechanism.

### F.1 Costing study approach

This study encompasses all administrative, operational and development costs involved in the transfer of cash to BISP beneficiaries. The figures reported in BISP final audited accounts have been utilised for computations, under the assumption that they reflect accurately the use of resources for the programme.

#### Disaggregation of costs

The total expenditure of the BISP programme has been disaggregated by budget head and further disaggregated by line item over time in order to facilitate cost-efficiency calculations and reporting. We have aggregated these items into cost categories described in Table 28.

**Table 28 Cost categories**

Cost category	Description
Pay and allowances	Salaries for BISP staff, overtime allowance, medical charges, etc
Consultancy, research, and surveys	Research and surveys whether conducted internally or externally
Operational expenses	Various overhead costs including rent, stationary, utilities, travel allowances, etc
Goods and physical assets <sup>76</sup>	Various assets purchased by the BISP including IT equipment, software, furniture, office equipment, etc
Commission	Commission paid by BISP to implementation partners including NADRA and banks.
Cash transfers	The value of the transfers themselves

#### Allocation of expenditure

The BISP does not allocate its internal expenditures by payment mechanism. This is problematic for the purpose of the costing study as, for example, BISP staff members may provide inputs across various payment mechanisms. In order to address this concern we have, in consultation with the BISP apportioned some classes of

<sup>76</sup> BISP requested that *Goods and Physical Assets* be capitalised and depreciated at 20% over a 5-year useful life that leaves zero cost of *Goods and Physical Assets* in any fiscal year under consideration.

expenditure according to the total value of cash transferred through each payment mechanism.

## Time period for analysis

In order to provide comparability of results this analysis does not cover the full lifetime of the BISP. Whilst the BISP was first conceptualised in 2008 and begun in operation under its current targeting methodology (via the NSER database) in 2011, the BVS has only been in operation since the FY 2016-17. Thus the cost-efficiency analysis covers a three year time period for the following financial years: FY 2016-17; FY 2017-18; FY 2018-19.

## Data sources

The costing study has drawn from various data sources which are listed below:

- BISP's own financial reporting/accounting data provided by the F&A Wing
- BISP's administrative data provided by the M&E Department
- Results produced in this evaluation report.

## F.2 Cost-transfer ratio

As a measure of cost-efficiency we report in this report the cost-transfer ratio (CTR). This measures cost-efficiency by taking the following calculation:

$$CTR = \frac{\text{Administrative costs}}{\text{Transfer Value}}$$

The administrative cost is the total value of expenditure made by the BISP in order to deliver the cash transfer, and in the case of this study is the summation of all cost categories identified in Table 28 above, and excluding the actual value of the transfer itself. The transfer value relates to the actual value of the transfer that is provided to BISP beneficiaries.

As a result the CTR provides the PKR value of making a PKR 1 transfer to a beneficiary. For example, if a beneficiary is transferred PKR 5,000 in a quarter and it costs the BISP PKR 500 to transfer this beneficiary her the CTR would be 0.1.

The higher the CTR the higher the cost to transfer a single PKR, and as a result the lower the cost-efficiency of the programme.

## F.3 Limitations of the costing study

There are a number of limitations of the study. We describe these in turn as well as our mitigation strategy.

Limitation	Description	Mitigation
<b>BISP financial data not inflation adjusted</b>	This would limit the comparability of results over time	We have used CPI available from the Pakistan Bureau of Statistics to adjust BISP data for inflation

Limitation	Description	Mitigation
<b>Paucity of metadata available within existing BISP accounting system</b>	The BISP accounting system does not allocate costs separately to the various payment mechanism in many cases – for example office overheads	In consultation with BISP we have apportioned some classes of costs according to the value of the transfer passed through each payment mechanism, in consultation with BISP.
<b>Difficulties in benchmarking</b>	A simple comparison of cost-efficiency with global social protection programmes is challenging due to widely varying contexts, targeting methods, delivery mechanisms and monitoring systems.	As a result we benchmark the efficiency of the programme based on the ratio of administrative costs to total costs and make reference to the <i>World Bank (2013)</i> benchmark that these should not exceed 12%.