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Effectiveness of Cash Transfer Programmes for Household Welfare in Pakistan: The Case of the Benazir Income Support Programme

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Cash transfer programmes are widely considered a 'magic bullet' for reducing poverty. Whether they actually have such an incredible impact on poverty reduction is debatable but they surely are gaining credibility as an effective safety net mechanism and consequently an integral part of inclusive growth strategies in many developing countries. As shown by Ali (2007), inclusive growth rests on three basic premises. First, productive employment opportunities should be created to absorb labour force. Second, capability enhancement and skill development should be focused in order to broaden people's access to economic opportunities. And lastly, a basic level of well-being has to be guaranteed by providing social protection. Safety nets are at the core of the last pillar, provided mainly through cash transfers, which can be both conditional and unconditional.

The basic rationale behind the social safety nets is to assist the poor to better manage risk and help them to adopt a strategy that protects their assets. The importance of these safety nets has been recognised not only for their social and economic value but also as a means to improve political stability and control crime and riots. These safety nets help people through short-term stress and insecurities, which if properly managed can lead to long-term poverty alleviation as well. Direct transfers by the government are a common means of providing safety net to the poor. Such transfers include direct provision of food or cash (conditional or unconditional) to the target population. Other means of providing safety nets include: education and health subsidies; energy, water and housing subsidies; and public works programmes. It is worth mentioning here that, although usually used interchangeably, there is a need to differentiate between the term social protection and social safety nets [Bari, *et al.* (2005); Sayeed (2004)]. Conceptually, analytically and by implications, social protection is a right that every citizen must have while safety nets are instruments employed to provide these rights.[1]

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[1]For a detailed discussion on defining social protection in the Pakistani context, and the difference between social protection and social safety nets see Sayeed (2004) and Bari, Hooper, Kardar, Khan, Mohammad and Sayeed (2005).

Pakistan is going through a rather prolonged phase of stagflation making the provision of social safety nets all the more important. Even during the periods of high economic growth the 'trickle-down effect' did not essentially take place, necessitating the need to introduce safety nets in the overall poverty alleviating strategies. A variety of safety net programmes exist in the country but to mitigate the situation resulting from the low economic growth and high inflation, especially food inflation, the government of Pakistan launched the Benazir Income Support Programme (BISP) in 2008. The enrolled households under BISP are paid an amount of rupees one thousand per month, without any conditions attached to them. The findings of this study, as would be seen latter, show that this cash transfer does provide relief to the recipient households but the program does have issues of targeting and exclusion.

The present paper aims to evaluate the effectiveness of the BISP in sustaining a recipient household's welfare in the face of prevailing tough economic conditions. In the sections to follow the paper would look into the: safety net programmes functioning in the country and the background to the BISP; data source and methodology employed; the evaluation of the BISP as an effective safety net initiative; and conclusions drawn from the discussion and policy recommendations.

BISP AND OTHER SAFETY NET PROGRAMMES IN PAKISTAN

Pakistan is one of the very few developing countries that guarantees social security of its citizens in the Constitution. Article 38, 'Promotion of social and economic well-being of the people', in its clause c and d states, *"The state shall: provide for all persons employed in the service of Pakistan or otherwise, social security by compulsory social insurance or other means; and provide basic necessities of life, such as food, clothing, housing, education and medical relief, for all such citizens, irrespective of sex, caste, creed or race, as are permanently or temporarily unable to earn their livelihood on account of infirmity, sickness or unemployment"* [Constitution of Pakistan (2010)].

Whether this commitment is actually fulfilled in spirit is a separate debate but a whole range of safety net programmes has been initiated in the country over the years. Discussion on all these initiatives is beyond the scope of this paper, as it focuses on the BISP. However, a summary of the safety net programmes functioning in the country is presented in Table 1. For a useful discussion on safety net programmes operating in Pakistan see, Jamal (2010), World Bank (2007), Arif (2006), Irfan (2005), Bari, *et al*., (2005).

The findings of the studies carried out to evaluate the functioning of the various safety net programmes have a general consensus that these programmes are having a positive impact but their effectiveness can be significantly improved. These programmes are hindered by issues related to coverage, targeting, and implementation [Bari, *et al.* (2005); World Bank (2007)]. These programmes aim at improving their accessibility to the poor devising means to encourage poor to move out of poverty permanently, and improving social security in the larger context as well. Other issues characterising these safety net programmes are: duplication, overlap, lack of inter-organisational coordination and fragmentation, which need to be tackled for a greater impact of these social initiatives.[2]

[2]For a detailed analysis on the current safety net initiatives by the Government of Pakistan see, Jamal (2010), World Bank (2007), Arif (2006), Irfan (2005), Bari, *et al.* (2005).

Table 1

Current Social Safety Net Initiatives with National Coverage in Pakistan

Programme	Financed by	Benefit	Target group	Coverage	Managed by
Benazir Income Support Programme	Public funds	Cash as income support	Married females belonging to very poor households	National	Fed. Govt
Microfinance	Donor funds	Cash as loan for setting up business	To poor for self-employment and move them out of poverty	National	RSPs and MFIs
Pakistan Bait-ul-Maal	Public funds	Cash support for daughters' wedding, food and education	Disabled persons, widows, orphans and households living below poverty line	National	Fed. Govt
People's Work Programme	Public funds	Cash for work	Provision of electricity, gas, farm to market roads, water supply and such facilities to rural poor	National	Fed. Govt
People's Rozgar Scheme	Commercial banks	Financing for selected businesses	Unemployed educated people	National	NBP
Subsidy on wheat, sugar and fertilizer	Public funds	In kind	Poor segments	National	Fed. Govt
Utility Stores	Public funds	Subsidy in prices	Poor segments	National	Fed. Govt
Zakat and Ushr	Levy on bank deposits and agri. yield	Cash	Deserving/needy among Muslims	National	Govt., zakat and ushr committees
Child Labour and children in bondage	Public funds	Protection and rehabilitation services	Working children facing abuse and exploitation	National	Fed. and prov. govts, FATA and GB
Employees Old-Age Benefit Scheme	Employers' contribution	Cash	Formal sector employees	National	Fed. Govt
Social Health Insurance	Individuals' contribution	Cash	General population	National	Fed. Govt
Workers Welfare Fund	Employers' contribution	Housing, schools and health facilities	Formal sector employees	National	Fed. Govt

Source: Ministry of Finance 2012:226.

Note: Abbreviations used: Fed-Federal; Govt- Government; Prov-Provincial; NBP: National Bank of Pakistan; Agri-Agriculture; RSPs-Rural Support Programmes; MFIs-Microfinance institutions.

The BISP, as stated earlier, was initiated in 2008 by the Government of Pakistan with the immediate objective of mitigating the impact of rampant inflation, especially food and fuel inflation, faced by the poor. Over the years the BISP has become the main safety net programme in the country having maximum numbers of beneficiaries among all public initiatives. By the end of the third quarter of the financial year 2011-12, the BISP covered over four million recipients nationwide with over Rs 122 billion disbursed among them [Ministry of Finance, MoF, (2012)]. The programme envisaged spreading its reach to seven million people nationwide by the end of the financial year 2011-12.

At the start of the BISP, in the absence of data for the identification of the under-privileged, the parliamentarians were entrusted with the task of identifying the deserving people in their constituencies to be provided relief. A simple application form, along with the eligibility criteria, was given to the parliamentarians at both provincial and national level to identify the underprivileged and needy in their constituencies [Khan and Qutub (2010)]. With time and in the face of criticism from opposition parliamentarians, however, a more scientific procedure was adopted. The eligible households are now identified through a survey and application of Proxy Means Test (PMT) formula. The PMT procedure estimates the welfare status of a household on a scale of 0 to 100 helping in identifying the poorest households [MoF (2012)]. For the application of the PMT formula, a nationwide Poverty Scorecard Survey was conducted in 2010 covering around 27 million households in the country. To increase the accuracy, objectivity and replicability of the survey, GPS readings were also taken, which also helped in devising coping strategies for natural disaster. After conducting this survey the eligibility criteria for households to receive the monthly cash transfer from the BISP was redefined and is as follows:

(1) The Proxy Means Test (PMT) score of the household is 16.17 or lower
(2) All the married women within a household are beneficiaries whom PMT score is below the cut off point
(3) Woman is holder of a computerised national identification card (CNIC) from NADRA.[3]

The BISP is being implemented in all four provinces of the country (namely, Punjab, Sindh, Balochistan and Khyber Pakhtunkhwa), the Federally Administered Tribal Areas (FATA), Azad Jammu and Kashmir (AJK) and the Islamabad Capital Territory (ICT). The eligible households, through their females, receive a monthly cash transfer of Rs 1000, which for a poor family with a monthly income of Rs 5000 is an increase of 20 percent, which equals to 12 percent of the minimum wage in Pakistan. It is worth mentioning here that the BISP cash assistance amount is equivalent to 60 percent of the 2010 official poverty line in Pakistan. Initially the payments to the BISP selected households were made through the Pakistan Post, which paid the money to the recipients at their doorstep. To increase the transparency of the programme, and reduce any possible pilferage, the BISP is adopting more technology based solutions such as: Benazir Debit Cards, which can be used as ATM cards by the recipients withdrawing the cash payment every month; Smart Cards, authorized by a commercial bank; and Phone to Phone Banking, by providing free mobile phones and SIMs to beneficiaries for the transfer of monthly cash assistance [MoF (2012)].

What comes as a relief regarding the design of the programme is the building in of various graduation initiatives helping the recipient households to exit from the poverty trap. Starting as a solely cash transfer programme, the BISP has been redesigned in 2011-12 to launch various initiatives in order to add a sense of permanence to the benefits gained by the recipient households [BISP (2012)]. Each of these new programmes has been initially launched in a few selected districts of the country with the aim to spread

[3]The previous eligibility criteria used before the conduction of the Poverty Scorecard Survey in 2010, will be used in this study, and be discussed in the succeeding sections.

them nationwide. Some of these initiatives include the: *Waseela-e-Haq* micro-finance programme, providing soft loans up to Rs 300,000 for setting up small businesses, to households randomly selected by computers on monthly basis; *Waseela-e-Rozgar* programme under which one member of the selected household is provided technical and vocational training to sustain his livelihood; *Waseela-e-Sehat* programme providing life insurance cover of Rs 100,000 to the breadwinner of the selected households; and *Waseela-e-Taleem* in which primary education is imparted to the children of the recipient households [MoF (2012); BISP (2012)].

It may be mentioned here that this paper restricts itself to the cash transfer programme carried out under the BISP initiative on the whole. Literature voices a strong concern about creating a dependency among households receiving such cash transfers [Kunnemann and Leonhard (2008); IBRD (2009)]. Dependency, as expressed by Samson (2009: 46) implies that, "the choice by a social cash transfer recipient to forego a more sustaining livelihood due to the receipt of the cash transfer". Worldwide evidence, however, suggests otherwise. Studies conducted in a vast number of developing countries including Brazil, Mexico, Kenya and Zambia, analysing the impact of the BISP-like cash transfers have found that workers in households receiving such cash transfers look for employment more intently than comparable poor households not receiving any such cash assistance [Samson (2009); Posel (2006); Kunnemann and Leonhard (2008); Samson and Williams (2007); Barrientos (2006); and Kidd (2006)].

Another factor, which needs our attention regarding the BISP design is the unconditionality of the cash transfer under the Programme to the recipient households. Conditionalities are basically behavioural requirements expected from the recipients in order to remain eligible to receive the cash transfer. These conditions are considered an effective tool for poverty alleviation, helping to break the inter-generational transmission of poverty by increasing the human capital of individuals. Examples of such conditions can be found in a number of successful programmes being carried out in different countries like the Oportunidades/PROGRESSA in Mexico, Bolsa Escola and Bolsa Familia in Brazil, Food for Education in Bangladesh and Programme of Advancement through Health and Education in Jamaica [Son (2008)]. The conditions laid down under these programmes are usually linked to education, especially girls' education, and health, generally women and child health. The idea behind these conditions is that handing over cash to families is not enough to deal with poverty in the long run and such conditions will obligate the recipient households to empower themselves by investing in human capital and, hence, improve their chances of decent employability and moving out of poverty on a permanent basis.

Along with achieving the socially optimal targets of human capital, conditional cash transfers have some other advantages as well including those mentioned by Adato and Hoddinott (2007):

(i) Lessening the possible stigma associated with cash transfer by considering it a part of a social contract between the recipient household and the state.
(ii) Preferred for political economy reasons, and making it politically and economically more acceptable in the larger context. Improvement in education and health indicators helps increase the credibility of a programme which otherwise might be seen with suspicion, especially by those not receiving it.

Contrary to this view there are those who believe that conditionalities compromise the very objective of poverty reduction, especially in the short run, by reducing the benefits of a cash transfer to a poor household by constraining its welfare choices. These imposed conditions can be, "expensive, inflexible, and inefficient- in the worst cases screening out the poorest and the most vulnerable. Often the burden of complying with conditionalities falls disproportionately on women" [Samson (2006: 51)]. Some of the most common concerns raised for conditionalities for a cash transfer include [as observed by Handa and Davis (2006); Samson (2009); and Basett (2008); Son (2006); and Regalia (2006)]:

(i) The high administrative cost of handling conditional cash transfer might outweigh its positive impact.
(ii) Lack of access to educational and health facilities in the poorer areas can make the condition redundant for the poor and hence making them ineligible for the cash transfer.
(iii) The preferences of the poor people may differ from the conditions imposed on them, thus, reducing the welfare gains.
(iv) Cultural and social exclusion and discrimination may leave the neediest out of the welfare circle.

Those opposing conditionalities on cash transfers also consider it demeaning to the poor as such conditions imply that the poor do not themselves know what is good for them. As argued by Basett (2008), following the traditional economic theory, cash transfers should ideally be unconditional. Individuals, as rational beings, make decisions to maximise their well-being, opting for choices where the perceived benefits outweigh the perceived costs. Going by this logic a cash transfer would be most effective with no conditions attached to it as the poor, being rational economic beings, will maximise the benefits to them. If a cash transfer reduces the opportunity cost of sending a poor household's child to school instead of work, making the perceived benefits of educating outweigh its cost, decision would be taken by the household to send the child to school even without any compulsory conditions. In a scenario where beneficiaries are informed and rational economic beings, the state is caring and markets are efficient, IBRD (2008: 48-49) believes that, "The 'theoretical default'…… should be to favour unconditional cash transfer".

As Samson (2009) observes, in some countries poverty levels are high due to structural factors and not just because of the behaviour and preferences of the poor. This would be true for any society, that has yet to overcome its structural inequalities, which may discriminate against certain people, restricting them not to avail the opportunities that might be available to them otherwise, keeping them stuck in the poverty trap. The need for a BISP-like programme, thus, becomes important in the presence of vulnerable population in the country, which is becoming more susceptible to poverty due to inflationary trends and the structural inequalities characterising the societal makeup.

DATA AND METHODOLOGY

To evaluate the BISP, the present study uses the Pakistan Panel Household Survey (PPHS) carried out by the Pakistan Institute of Development Economics (PIDE) in the

year 2010. To link the cash assistance with poverty dynamics the panel information of the survey is used. It is worth mentioning here that the PPHS is a panel dataset, comprising three waves. The Round-I of the PPHS, named Pakistan Rural Household Survey (PRHS), was conducted in 2001 in all four provinces of the country, covering 2721 rural households. The Round-II of the PRHS was carried out in the year 2004 covering 1907 households in rural Sindh and Punjab. The survey was not carried out in two provinces, Balochistan and Khyber Pakhtunkhwa (KP), due to the security conditions prevailing there at that time. The third round of the panel survey was conducted in 2010, again in all four provinces, adding an urban sample to the survey as well. Inclusion of the urban sample led to the renaming of the survey as the Pakistan Panel Household Survey (PPHS). The urban sample of the PPHS 2010 was selected from the 16 districts that were included in the PRHS-2001. The PPHS-2010, thus, covers 4142 households in all four provinces of the country, in both rural and urban areas. These over four thousand households comprise 2198 panel households in the rural areas (coming from PRHS-2001), along with 602 split households from original households, making the total rural sample stand at 2800 households. The remaining 1342 households were included from the urban areas of the selected districts to make up the total sample[4]. It may be mentioned here that the three waves of the PPHS-PRHS panel data collection is a joint effort of PIDE and the World Bank.

The PPHS-2010 covers wide ranging modules to meet the objectives of this study. A detailed section of the survey questionnaire deals with the targeting process of the various safety net programmes initiated by the government and by individuals to protect the marginalised segments of the society. A transfer/assistance module included in the PPHS-2010 provides information about the status of received transfer/assistance in three categories, namely: receive assistance; attempt but not succeed; and never attempt. The respondents are also asked about how they had utilised the received cash. There is, however, one limitation about the questions asked about the cash transfers. There is no question about the duration for which a household has been receiving any cash transfer/assistance. The survey asks a household if it has received any cash assistance in the last 12 months, without specifying the exact duration for which the transfers have been taking place. For a better analysis of the impact of these transfers on household welfare the exact duration of transfer would have been valuable.

To analyse the socio-demographic and economic characteristics of the households along with the status of received assistance, the present study classifies households into three categories, that is the: receiving group; attempt group; and never attempt group. To analyse the effect of the BISP on a household's welfare, independent of other cash transfers, two categories of households are formed. One consists of households that receive the BISP, and the other category comprises those households that receive cash transfers from sources other than the BISP.

To estimate the impact of the BISP cash assistance on a household's welfare, this study follows the *Propensity Score Matching* (PSM) method. The aim of the safety net programmes is to improve the welfare of the poor, especially the most vulnerable. However, all those in need do not necessarily receive it. Some of these households get

[4]See Annex 1 for the detailed household composition of the PRHS/PPHS sample in the three rounds of survey in 2001, 2004 and 2010.

assistance and some do not, referred to as 'receiver' and 'non-receiver' households, respectively.

Though other methods like logistic regression analysis, paired observations and double difference method can also be used to analyze the welfare impact, the PSM method was preferred due to its various strengths over the other methods[5]. For instance, the logistic regression analysis ignores the issue of 'selection bias' and considers the socio-demographic and economic characteristics of the 'receiver' and 'non-receiver' households as widely different. It is usually understood that the 'non-receiver' group is comparatively at a better welfare level and, therefore, is less likely to receive assistance from the safety net programmes, that is, it is less likely that an upper middle income or rich income household in Pakistan will receive the assistance from Zakat or Bait-ul-Maal. Taking the mean outcome of 'non-receiver' households as an approximation is also not advisable as the 'receiver' and 'non-receiver' households usually differ in socio-economic characteristics even in the absence of these safety net programmes or some time a programme purposely selects the 'receiver' households [Kopeinig (2008)]. The paired observation and double difference (DD) methods require the household information before and after the intervention, in order to analyse the welfare impact of a programme. Paired observation technique is usually applicable to one variable only by assuming no impact of other variables, making it too ideal to be applied here. The DD approach is a non-experimental approach in which the welfare changes over time are estimated relative to the outcome observed for a pre-intervention baseline. Though the baseline information is available in the PPHS, because it is a panel household survey and the 2001 and 2004 waves have the baseline information, but this information does not necessarily precede the intervention. In the present instance, the baseline information would not be homogenous as the assistance-receiving households must have gone through numerous socio-demographic and economic changes during 2004 to 2010 period, making it impossible to capture the heterogeneity over the whole duration.

The Propensity-Score Matching (PSM) method developed by Rosenbaum and Rubin (1983) is one of the possible solutions to deal with the issue of 'selection bias'. The rationale behind this technique is to find a comparison group that has similar characteristics to those of the 'receiver' group in all aspects except one, that is the comparison group does not get any cash assistance. This method balances the observed covariates between the 'receiver' group and the 'non-receiver' group based on the similarity of their predicted probabilities of receiving the assistance, called their 'propensity scores'. The difference between PSM and a pure experiment is that the latter also ensures that the treatment and comparison groups are identical in terms of the distribution of unobserved characteristics [Ravallion (2003)].

As noted earlier, two groups were identified in the PPHS on the basis of status of cash assistance: the receivers and the non-receivers. In the PSM analysis, the former are the 'treated units' while the later are 'non-treated units'. Treated units are matched to the non-treated units on the basis of the propensity score. See Appendix A for a detailed explanation on the PSM methodology.

$$P(X_i) = \text{Prob}(D_i = 1 | X_i) = E(D | X_i) \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad (1)$$

[5]Nssah (2006). Propensity Score Matching and Policy Impact Analysis a Demonstration in Eviews. WPS 3877. The World Bank. Washington, D.C.

Where $D_i = 1$ if the household has received assistance and 0 otherwise and X_i is a vector of pre-treatment characteristics. Before estimating the PSM, two conditions should be met to estimate the *Average Treatment on the Treated* (ATT) effect based on the propensity score (Rosenbaum and Rubin, 1983). The first condition is the balancing of pre-treatment variables given the propensity score. If the balancing hypothesis is satisfied, the pre-treatment characteristics must be the same for the target and the control groups. The second condition is that of the unconfoundedness given the propensity score. If assignment to treatment is unconfounded conditional on the variables pre-treatment, then assignment to treatment is unconfounded given the propensity score. Using equation 1, first the propensity scores are calculated through logistic regression, and then the *Average Treatment on the Treated* (ATT) effect is estimated by four different methods: Nearest Neighbour Matching; Kernel Matching; Stratification Matching; and Radius Matching;

$$\begin{aligned} \text{ATT} &= E\,(Y_{1i} - Y_{0i} \mid D_i = 1) \\ &= E\,(ATE \mid D_i = 1) \\ &= E\{E(Y_{1i} - Y_{0i} \mid D_i = 1, p(X_i))\} \\ &= E\{E(Y_{1i} \mid D_i = 1, p(X_i))\} - E[E\{Y_{0i} \mid D_i = 0, p(X_i))\} \mid D_i = 1\} \end{aligned} \quad \ldots \quad (2)$$

Where

Y_{1i} is the potential outcome if household is treated, and
Y_{0i} is the potential outcome if household is not treated

The above discussed methodology of Propensity Score Matching (PSM) method has been applied to the PPHS-2010 dataset to analyse the impact of the BISP on a receiving household welfare. Since household welfare is a multi-dimensional phenomenon, therefore the impact has been estimated on five indicators which are: poverty; food expenditure per capita; health expenditure per capita; school enrolment of children of age 5-14; and employment status of women of age 15-64.

Following the empirical exercise, firstly the propensity scores have been estimated on the basis of Equation 1 where the dependent variable is whether the household is a receiver or a non-receiver. On the right side of the equation 1, the three sets of explanatory variables have been used which can be the major reasons for getting assistance. These three sets of variables are: the individual characteristics, including the head of the household's sex, education and employment status; the household characteristics, including female to male ratio, household size, dependency ratio, number of persons per room, land and livestock assets, shocks and presence of a disabled person in the household; and the regional characteristics including region and province. Since the dependent variable is dichotomous in nature with two outcomes: received assistance or did not receive assistance, therefore, the Binary Logistic Regression has been applied to estimate the determinants of receiving assistance whereas the 'not-receiver' group serves as the reference category. Using the '*psmatch2, pscrore, attnd, attk, attr and atts'* commands in STATA, comparison has been made between the treated and non-treated units and the welfare impact has been calculated.

After calculating the propensity scores, the *Average Treatment Effect on the Treated (ATT)* has been estimated. In order to make the working sample even more comparable, the sample has been restricted to only those units with probabilities that lie within the region known as the *common support*, which is the area where there are enough of both, control and treatment observations, to proceed with the comparisons [Dehejia (2005)]. This also means that those units have been excluded where the treated and non-treated units do not have comparable values.

EVALUATION OF THE BISP

Any effective social safety net programme needs to fulfil certain criteria, including [Pasha, *et al*. (2005); World Bank (2007)]:

(i) *Targeting*: the extent to which a programme reaches its intended target population rather than those who do not actually need it.
(ii) *Coverage*: the proportion of the target population that benefits from a programme.
(iii) *Administrative cost*: the proportion of the administrative cost against that used on the benefits.
(iv) *Accessibility*: the ease with which an eligible household could access the programme socially, monetarily, logistically and administratively.
(v) *Adequacy*: the sufficiency of the safety net, like a cash transfer, to have any positive effect.
(vi) *Positive incentive effect*: safety nets that have a positive incentive not only help to sustain the programme but also serve to alleviate poverty in the larger context.
(vii) *Sound financing source*: safety nets with well-defined, self-reliant sources are fiscally more sustainable than those relying on ad hoc, external sources.
(viii) *Independence from other transfers*: a transfer taking place under a programme should not exclude other transfers which may have net negative effects on household's welfare.

Before we look into the performance of the BISP using some of the above mentioned criteria[6] let us first see how many households are receiving cash assistance, and their sources, in the study sample. As reported by the respondents in the PPHS-2010, and shown in Table 2, 10.7 per cent of the households are receiving cash assistance from a variety of programmes, with no major difference in the trends between the urban and the rural areas. Among these programmes, the BISP is the largest programme as it covers about two-thirds of the total households receiving any form of cash transfer, in both the rural and urban areas.

[6] Some of the stated criteria to evaluate social safety net programmes, such as the administrative cost to carry out the programmes, and sound financing sources, are macro level issues and, thus, beyond the scope of this study.

Table 2

Number of Households Receiving Cash Transfer by Type/Source of Assistance and Region

	National	Urban	Rural
Total Number of Households	4142	1342	2800
Households Receiving Cash Transfers from Government Programmes			
Benazir Income Support Programme	285	87	198
Food Support Programme	17	5	12
Zakat	19	2	17
Bait-ul-Maal	10	3	7
Food items on subsidized rates	5	3	2
People's Rozgar Programme	7	1	6
Others	29	8	21
Households Receiving Cash Transfers from Individuals			
Private Zakat	21	8	13
Private Ushr	3	1	2
Fitrana/Sadqaat	16	7	9
Assistance/Gift in kind	23	8	15
Total Number of Households Receiving Cash Transfers from Any Source	435	133	302
Percentage of Households Receiving Cash Transfers from Any Source	10.7	10.5	10.8

Source: Authors' estimation from the micro-data of PPHS 2010.
Note: Total number of households in the study sample is 4142.

As can be seen from Table 2, the received cash assistance has two major categories, that is, cash assistance received from government sources and cash assistance received from the individual sources, making a total of 10.7 per cent of the total households receiving at least some sort of cash assistance. Table 3 shows that out of these 10.7 per cent cash receiving households, a significant proportion of the households (8.8%) is getting assistance only from one source, and with the rural areas showing a slightly higher proportion of households receiving cash transfer as compared to urban areas. There are only a few households, which are getting assistance from two or more than two programmes, i.e., a household may be getting assistance from the private Zakat and also from Bait-ul-Maal.

Table 3

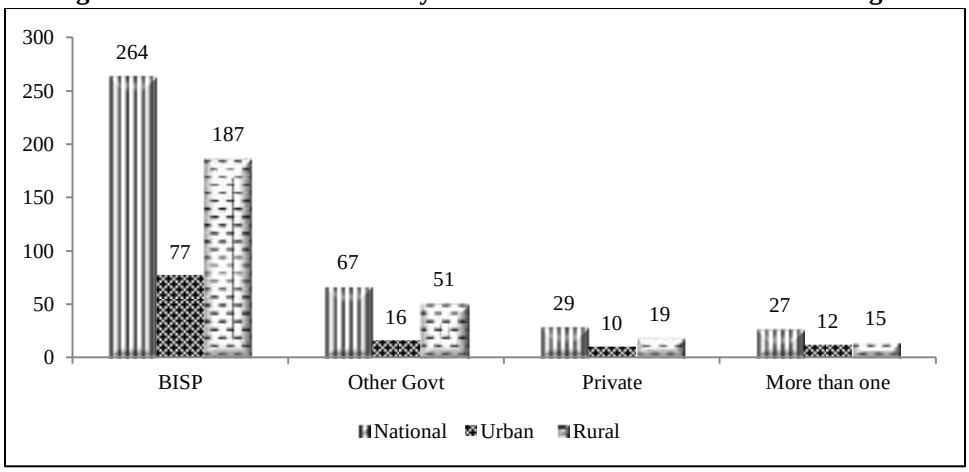
Percentage of Households with the Number of Received Assistances by Region

Number(s) of Cash Transfers	National	Urban	Rural
0	90.47	90.94	90.26
1	8.79	8.04	9.13
2	0.52	0.87	0.36
3 and more	0.22	0.16	0.25
All	100.00	100.00	100.00
N	(4,061)	(1,269)	(2,792)

Source: Authors' estimation from the micro-data of PPHS 2010.

As shown in Table 2 and 3, there are 435 households, which have received assistance from various programmes and some of them have also benefitted from more than one programme. Coming to the BISP and the number of its beneficiaries, we see from Figure 1 that the BISP receiving households outnumber all other public and private funded safety net initiatives put together. At the national level, 264 households were receiving cash transfer under the BISP, 67 households were getting assistance from other state-run safety net programmes, 29 households were assisted by private sources, and 27 households were those which received assistance from multiple sources, making a total of 387 net households (see Figure 1).

Fig. 1. Number of Households by Source of Assistance Received and Region



Source: Authors' estimation from the micro-data of PPHS 2010.

As can be seen from Figure 1, the BISP is the largest safety net programme covering more than two-thirds of the households receiving any form of assistance in the study sample. As stated earlier, one of the key objectives of the BISP was to help the poorest of the poor households against rising inflation by providing for their basic needs as these people have few physical and soft assets to cope with any shock.

As the aforementioned discussion shows, cash transfers from the various programmes have been split into three categories, namely assistance from: the BISP; other government programmes; and private sources. Likewise, the sample households have also been grouped into three categories: recipient households; never-attempt households and the attempt households. Table 4 summarises the patterns trends for cash transfers across the four provinces and the two regions as reported by the PPHS sampled households. The proportion of households receiving BISP assistance is the highest in the province of Sindh (13.6 percent), followed by Balochistan (8.5 percent), KP (4.9 percent) and Punjab (3.1 percent). Across the regions, not much difference is found between the proportions of households receiving the BISP assistance in the rural (7.1 percent) and the urban (6.9 percent) areas (Table 4). Although it is difficult to explain some uneven distribution of the BISP cash across the provinces found in this study and more in-depth data are required to construe whether it is a political phenomenon or is due to any other reason. This trend can be attributed to one probable reason that is over representation of

the poorer regions, particularly from Sindh and Balochistan, in the PPHS sample. While the poorer districts of Badin, Larkana and Loralai, in the province of Sindh and Balochistan, are included in the sample, the more urbanised and well-off districts of Karachi, Hyderabad and Quetta are not represented.

Another interesting factor to be noted in Table 4 is the proportion of households falling in the 'attempt group' category. About 16 percent of the sampled households at the national level tried to get assistance from the BISP but had not succeeded. Across the regions more than one-fifth of the households attempt unsuccessfully to get some cash assistance under the BISP in urban areas, while in the rural areas this percentage is less with 14 percent. We may infer that the urban inhabitants might have attempted more due to better information and accessibility available to them as compared to the rural community (Table 4). Contrary to the BISP distribution pattern, the percentage distribution in other government programmes and in private programmes is much lower and smoother, in both the 'attempt group' and the 'received group', showing little variation across the provinces and regions. (Table 4).

Table 4

Distribution of Household's Assistance Receiving Status by Region (%)

	Received	Attempted	Never Attempted	Total
BISP				
Overall	7.0	16.2	76.8	100.0
Rural	7.1	13.8	79.1	100.0
Urban	6.9	21.4	71.8	100.0
Other Government				
Overall	2.1	3.1	94.9	100.0
Rural	2.7	2.8	94.9	100.0
Urban	1.7	3.6	94.7	100.0
Private				
Overall	1.2	0.0	98.8	100.0
Rural	1.0	0.1	98.9	100.0
Urban	1.5	0.0	98.5	100.0

Source: Authors' estimation from the micro-data of PPHS-2010.
Note: Due to rounding off some of the figures appear as zeros.

BISP's Targeting

For any social safety net programme to be successful, the issue of targeting is of utmost importance. Before the Proxy Means Test (PMT) formula was adopted to identify the eligible households, the BISP had a set of seven criteria that a household had to fulfil to be eligible to receive cash assistance under the programme. Since the PPHS-2010 was conducted before the introduction of the new PMT formula, we will evaluate the efficiency of the BISP targeting on the basis of its initial criteria. The initial criteria regarding the eligibility of a household to receive BISP cash transfer included:

(i) A monthly income of less than Rs 6000.
(ii) No family member in government service.

(iii) Possession of no or less than 3 acres of agricultural land or up to 3 marlas residential property.
(iv) Possession of Computerized National Identity Card.
(v) Should not be beneficiary of other support programmes.
(vi) Should not have an account with a foreign bank.
(vii) Should not possess a passport or an overseas Pakistani identity card.

In this study a cross-check evaluation has been made on the basis of available information in PPHS dataset of two indicators, which are land holding and getting assistance from other government sources. The above-mentioned BISP criteria show that an eligible household should possess less than three acres of land. However, Table 5 shows that about 10.5 per cent of the BISP-receiving households have land ownership ranging from 3 to 10 acres, and another 5.6 per cent have landownership of 10 acres and above, thus making a total of 16.1 per cent of the receiving households being ineligible in case of strict application of the stated criteria. The criteria seem to be followed most strictly in the province of Punjab, and to be most lax in KP (Table 5). The cross-check analysis also shows that 12 BISP receiving households (that is approximately 4 percent) are also receiving assistance from some other government sources, which violates the conditions set forth by the BISP design, as can be seen from Table 5.

Table 5

BISP Targeting: Compliance with the Landholding and Multi-source Assistance Criteria

	National	Punjab	Sindh	KP	Balochistan
Eligibility Criteria 1: Land Ownership					
No land	73.0	79.2	72.2	61.3	73.7
Small landholding (< 3 acre)	10.9	18.9	10.8	22.6	10.5
Medium landholding (3 to < 10 acres)	10.5	1.9	11.3	12.9	2.6
Large landholding (> 10 acres)	5.6	0.0	5.7	3.2	13.2
Total	100	100	100	100	100
N	285	55	161	31	38
Eligibility Criteria 2: Not Getting Cash from other Government Sources					
Number of Households	12	4	5	2	1

Source: Authors' estimation from the micro-data of PPHS 2010.

Along with comparison of the households receiving cash assistance against the BISP's prescribed criteria, another way of evaluating the programme targeting is to look into the socio-demographic and economic characteristics of the BISP receiving and non-receiving households. Table 6 shows that the recipient households on average have bigger household sizes, poor education of the heads of the households and less working heads as compared to the other two categories, that is the never attempt and attempt groups. Regarding assets, the households receiving cash assistance are comparatively more deprived than the never-attempt and attempt groups as the recipient households have fewer assets, including house, land and livestock ownership. Two broad conclusions can be drawn from Table 6. First, the recipient households are at a disadvantageous position as compared to the never attempt and attempt group. And second, the attempt

group, though better than the received group, is also under-privileged, and has much lower socio-economic characteristics than the never attempt group. Similar results have been found by other studies done on the topic in Pakistan, including that done by Arif (2006).

Table 6

BISP Targeting: Socio-Economic Characteristics of Households by Status of Assistance

Characteristics[1]	Never Attempt	Received	Attempt
Household size (number)	7.5	8.0	7.8
Education of head (average years)	3.9	2.7	3.1
Heads employed (%)	79.0	76.5	82.1
HH facing shock in last 5 years (%)	86.4	80.9	86.6
Disabled person in home (%)	3.8	4.0	5.7
Under debt households (%)	23.5	34.0	38.1
Not owned house (%)	8.5	10.1	12.0
Katcha house (%)	61.3	75.5	70.9
Persons per room (number)	3.7	4.3	4.4
Large animal (number)	1.6	1.2	1.0
Small animal (number)	1.5	1.8	1.4
Land owned (acres)	3.5	2.1	2.0

Source: Authors' estimation from the micro-data of PPHS 2010.

Note: 1- Numbers represent average numbers, percentages and the proportion of each characteristic in the three stated categories, respectively.

A deeper insight into BISP recipient, attempt and never attempt households will help us evaluate the BISP *vis-à-vis* its targeting. Table 7 presents the status of the households with different socio-demographic and economic characteristics by the status of received assistance. Based on the PPHS 2010 dataset, these characteristics have been grouped at individual and the household levels. The individual level characteristics are related to the heads of households; while the household level characteristics include family size, dependency ratio, presence of permanent disabled person in home, room availability, ownership of land and livestock, and experience of natural shocks.

Regarding individual characteristics, sex of the head of the household is related to the status of received assistance from the BISP, as can be seen from Table 7. The female-headed households have a higher rate of receiving BISP assistance as compared to the male-headed households. Also it is worth noting that there is a much higher percentage of those households which are attempting to get BISP cash transfers, reflecting an overall public interest in the programme (Table 7). The education of the head of the household has a negative association with receiving the BISP assistance as the households headed by more educated persons are less likely to get any assistance from the BISP. A similar trend prevails among the attempt group as well, with fewer educated household heads attempting to get BISP cash assistance (Table 7).

A household's demographic, health and risk characteristics are also closely related to the households' assistance receiving status (see Table 7). With rising dependency ratio more households are found to be receiving BISP assistance, with an even higher

proportion attempting to receive it. Households that have presence of a permanently disabled person, or those who have experienced a shock during the five years preceding the survey, do not show any definitive trend in receiving the BISP assistance. However, these results do show large number of those households, which are attempting to receive the cash assistance (Table 7). It would not be wrong to infer that the high 'Attempt' rates for the BISP reflect the general accessibility of the programme and the expectations people have from it.

Table 7

Rates of the Status of Receiving BISP Assistance by Socio-economic Characteristics of Households

Characteristics	Never Attempt	Received	Attempt	Total	p-value (chi-square)
Sex of the Head of the Household					
Male	76.7	6.8	16.5	100.0	0.005
Female	71.7	13.8	14.5	100.0	
Education of the Head of the Household					
Illiterate	74.4	7.9	17.6	100.0	0.000
1-5	70.5	9.7	19.8	100.0	
6-10	83.1	4.0	12.9	100.0	
11+	84.3	4.1	11.6	100.0	
Dependency Ratio by Category					
Low	78.7	6.9	14.4	100.0	0.003
Medium	76.7	7.0	16.3	100.0	
High	72.6	7.4	20.0	100.0	
Presence of Permanent Disabled Person in Home					
No	76.9	7.2	15.9	100.0	0.088
Yes	70.6	6.9	22.5	100.0	
Experienced Shock over Last 5 Years					
No	74.6	9.8	15.6	100.0	0.035
Yes	76.9	6.7	16.4	100.0	
Persons per Room					
Up to 2 person in a room	84.7	4.6	10.7	100.0	0.000
>2 to 3 person in a room	79.9	5.7	14.4	100.0	
>3 and above	70.7	8.8	20.5	100.0	
Debt Status					
No	80.4	6.2	13.4	100.0	0.000
Yes	68.4	8.8	22.7	100.0	
Land Ownership by Category					
No land	74.2	7.6	18.2	100.0	0.000
Up to 3 acres	78.9	6.8	14.3	100.0	
3< to 10 acres	81.7	5.7	12.6	100.0	
10< acres	84.8	4.9	10.4	100.0	
Livestock (Large Animals Only)					
No Animal	73.9	7.4	18.7	100.0	0.000
1/ 2 Animal	77.6	7.2	15.2	100.0	
3/ 5 Animal	84.4	6.1	9.5	100.0	
6 and above Animal	93.5	3.3	3.3	100.0	
Farm Households (Rural Area Only)					
Own land	81.2	6.0	12.8	100.0	0.000
Sharecropper	58.4	12.0	29.7	100.0	

Source: Authors' estimation from the micro-data of PPHS 2010.

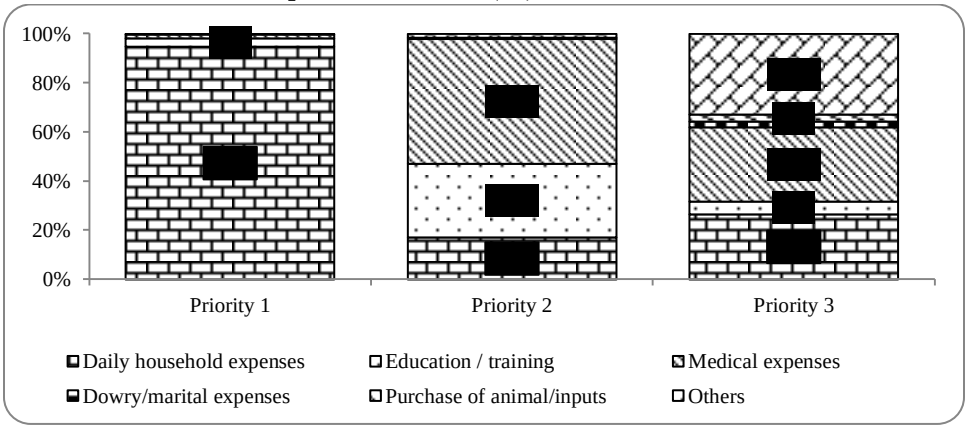
Land and livestock ownership also shows an expected trend in receiving and attempting to receive BISP (Table 7), with households having fewer animals and smaller landholdings more likely to benefit from the programme. Similarly, 'persons per room' also has a positive association with both the received and the attempt groups. In the rural areas, the sharecropping households have a much higher proportion of receiving and attempting to receive rates for the BISP cash assistance than those who own land, as can be seen from Table 7. Summing up the patterns found in Table 7, we see a clear relationship between the household's socio-economic characteristics and its status of received BISP assistance. Also worth noting is the similarity in the patterns between the received group and the attempt group. This supports the finding presented in Table 3 which also showed that the attempt group comprises vulnerable population as well, though in a slightly better position than the 'received group'. These findings hint towards a generally effective design formulation and targeting by the BISP initiative, which probably needs an even bigger coverage to include those eligible households that are in the "attempt" group found in this study.

BISP's Role in Household Budget

The BISP, as mentioned earlier, is the largest social safety net programme in Pakistan at present, covering more than two-thirds of the households, initiated to protect the poorest of the poor households from the rising inflation. The question of *adequacy* of the transferred amount to the recipient household is an important factor in evaluating the effectiveness of the BISP initiative. Needless to say, a cash assistance of Rs 1000 per household per month is not such a big amount that can change the life of the recipient but it is a reasonable enough amount to help a poor household to cover some of its vital needs. It would, therefore, be interesting to know where did the people spend the BISP cash transfers. The PPHS-2010 asks the households to report the top three priorities on which they spent the received cash transfers, the results of which are shown in Figure 2.

The figure below (Figure 2) shows that as their first priority, about 95 per cent of the households reported that they had spent the BISP amount to meet daily household expenses, followed by 3.5 percent of the households which spent this amount on education, 1.4 percent on medical and 0.35 percent on dowry. As their second priority, more than half of the households have spent the cash assistance on medical, followed by education with 30 percent and daily household expenditures with 17 percent. 33 percent of the households reported that their third priority was to spend the BISP money to meet the miscellaneous needs, followed by 30 percent on medical and 27 percent on daily household expenses. The first two priorities, as reported by the households, suggest that daily household expenditures and medical expenses are the main concerns of the poor households on which they have spent the BISP's assistance money. With the exception of some cash utilisation on education, it would not be wrong to infer that the BISP cash transfer is not primarily used to build assets for the households, be they soft assets like education and skill development, or the physical assets like purchase of livestock or agriculture inputs.

Fig. 2. Spending of BISP Cash by Priority and Purpose by Recipient Households (%)



Source: Authors' estimation from the micro-data of PPHS 2010.

BISP and Dynamics of Poverty

The PPHS-2010 dataset has detailed consumption modules covering all aspects of consumption including food and non-food items and also sufficient information to calculate the head count poverty. It is, therefore, possible to evaluate the relation between the BISP and other forms of assistances with households' consumption expenditures and poverty. For a detailed analysis, the per capita total expenditure is split into food and non-food expenditures. As can be seen in Table 8, the results are quite interesting. Both average per capita food and non-food expenditures are higher among the 'never attempt'

Table 8

Average per Capita Monthly Expenditures and Expenditures by Quintiles by Status of Received BISP Assistance

	Never Attempt	Received	Attempt
Per Capita Monthly Expenditure on (in Rs)			
Food	1752.3	1602.8	1534.1
Non-food	1312.2	991.8	931.4
Total	3105.2	2615.7	2478.5
Per Capita Monthly Expenditure by Quintiles (%)			
First	69.3	7.9	22.8
Second	74.7	7.6	17.8
Third	76.3	6.3	17.5
Fourth	77.4	8.4	14.2
Fifth	84.1	5.2	10.7
p-value (chi-square)= 0.000			
Poverty Level[1] (%)			
	18.2	25.2	27.2

Source: Authors' estimation from the micro-data of PPHS 2010.
Note: Measured through headcount method at Rs 1,671.89 per adult per month.

group as compared to the 'received' and 'attempt' group. The 'never attempt' group is, thus, comparatively better off and in no need to get assistance. However, the 'received' group has on average more per capita food and non-food expenditures as compared to the attempt group, which is trying to get the BISP assistance (Table 8). It may be inferred from these findings that the higher expenditures in the 'received' group as compared to the 'attempt' group is the result of the safety net intervention made to enhance the welfare level of the vulnerable population. Since the poor households spend a major proportion of their expenditures on essential items like food, as can be seen in Figure 2, the expenditure of the 'received' group on these commodities is higher than the 'attempt' group.

The quintiles' analysis in Table 8 suggests that as we move up the quintile ladder, fewer households are found receiving, or attempting to receive, any form of cash assistance or to have attempted to get one. It is, however, worth noting here a substantial proportion of the richer households receiving the BISP cash assistance is raising doubts about the efficiency in its targeting. Some of these initial issues in targeting are said to be dealt within the new criteria for selection of beneficiaries by the BISP (as given in the discussion above) and it would be interesting to see the effect it had on ground from a dataset post these amendments.

A somewhat similar picture emerges when we look at the figures for absolute poverty and receiving of the BISP cash in Table 8. As expected, poverty is at a lower level among the households, which have never attempted to receive the BISP cash assistance. However, if we look at the poverty levels of those who receive and those who attempt to get the BISP cash, we see a trend that begs explanation. Poverty levels among the BISP recipients are slightly lower than those non-BISP recipients who attempt to obtain it (see Table 8). Is the BISP cash assistance helping its recipients to move out of poverty in some cases? The answer can arguably be yes as if for nothing else it has helped improve the recipient households' food expenditure (see Figure 2), which eventually matters for the headcount measure of poverty.

As noted earlier, three waves of the PPHS dataset (2001, 2004 and 2010) are available, however, only for rural Punjab and Sindh. On the basis of these panel households, five categories of poverty dynamics are made to observe the association between the households' poverty movements and its status of received BISP cash transfers. The five categories are: poor in all three periods (chronic poor); moving out; falling in; and moving in and out of poverty. Table 9 presents the association between poverty dynamics and the status of received BISP assistance, as found in the PRHS/PPHS. As can be seen from Table 9, the never attempt group shows two features. First, two-thirds of the chronic poor and moving out households have never attempted to get BISP assistance and second, a substantial proportion of never poor are also receiving BISP cash transfers or attempting to receive it (Table 9). It is, however, significant to note that generally a bigger proportion of households is either receiving the BISP cash assistance or attempting to do so who have faced poverty at least once. Looking at the trends for poverty dynamics and the BISP in Table 9, the lower percentage of chronic poor households receiving BISP might be due to poor targeting or the structural exclusion of chronic poor households due to their socio-economic status. The behaviour of the 'attempt' group experiencing poverty especially chronic poverty, which tries hard to get assistance, hints towards both a need to expand the programme and an improved targeting strategy.

Table 9

Status of Current Received Cash Assistance and Poverty Dynamics: 2001, 2004 and 2010 (Rural Punjab and Sindh only)[1]

	Never Attempt	Received	Attempt	Total
Poor in Three Periods	66.7	6.7	26.7	100
Moving Out	67.4	11.5	21.2	100
Falling In	69.3	10.6	20.1	100
Moving Out and Falling In	72.3	8.7	19.0	100
Non Poor in Three Periods	83.0	7.6	9.5	100

Source: Authors' estimation from the micro-data of PRHS 2001, PRHS 2004 and PPHS 2010.

Note: 1- Only rural Punjab and Sindh are included in this part of the analysis as they are the only regions where all three rounds of the panel survey have been conducted.

Impact of the BISP: The Propensity Score Matching Analysis

As noted earlier in the methodology section, the PSM method is applied on the PPHS-2010 dataset to analyse the impact of the BISP on household welfare. The welfare impact of the BISP is estimated on five household indicators which are: household poverty level; per capita food expenditure; per capita health expenditure; school enrolment of children of age 5-14; and employment status of women of age 15-64[7]. As briefed in the methodology section, one has to estimate the propensity scores through logistic regression to calculate the Average *Treatment on the Treated* (ATT). There are two conditions that need to be met to estimate the ATT, which are of balancing property and of unconfoundedness property.

Table 10 presents the results for the determinants of the BISP programme by incorporating the correlates, which satisfy both of the above-mentioned conditions. The dependent variable is binary in nature, that is whether the household has received assistance or not. The small p-value from the LR test shows that at least one of the regression coefficients is not equal to zero. Although the Pseudo R^2 in logistic regression does not equate to R^2 of the OLS, the model shows a significant Pseudo R^2. As can be seen from Table 10, three sets of independent variables have been added to the model, related to household head; household; and the region. The results of the logistic regression show that the education of the head of the household has a significant negative association with receiving BISP cash transfer. Among the second set of characteristics, we see that higher the female-to-male ratio, and household size, the higher are the chances to get assistance from the BISP (Table 10).

[7] These five indicators were formed using the PPHS-2010 dataset. The headcount poverty was calculated by applying the official poverty line at Rs 1,671.89 per adult per month. Monthly per capita food and health expenditures were calculated from the consumption and health modules of the Survey, respectively. The education module in the PPHS has detailed information about the enrolment status of everyone in the household, from it the enrolment status of children aged 5-14 has been calculated. Regarding the last indicator of the socio-economic welfare, the working status of the sampled women has been taken from the PPHS question, "Did you work during the last week at least for one hour for any wage or profitable home activities?"

Table 10

Determinants of the BISP Cash Transfer: Logistic Regression

Covariates	Coefficients	Standard Error
Education of head (years)	–0.045*	0.017
Female to male ratio	0.213*	0.072
Household size (in numbers)	0.044**	0.020
Unexpected shock in last five years (yes=1)	0.513*	0.181
Presence of disabled person (yes=1)	–0.038	0.331
Number of room per person	–0.046	0.036
Land ownership (in acres)	–0.036**	0.015
Total large animals	–0.034	0.034
Total small animals	0.018	0.019
Region (urban=1)	–0.004	0.179
Sindh/Punjab	1.421*	0.182
KP/Punjab	0.535**	0.260
Balochistan/Punjab	0.940*	0.257
Constant	–3.160*	0.286
LR chi2	120.75 (14)	
Log likelihood	–792.70636	
Prob > chi2	0.0000	
Pseudo R^2	0.0708	
N	3,379	

Source: Authors' estimation from the micro-data of PRHS 2001, PRHS 2004 and PPHS 2010.

As can be seen from Table 10, the households that faced an unexpected shock over the five years preceding the survey are more likely to get BISP assistance as compared to those who did not face any such shock. Presence of a permanently disabled person in home and the characteristics related to loan obtained, rooms per person and assets ownership, including that of livestock, however, show no impact on getting cash assistance from the BISP while the land ownership has a significant negative impact on getting cash assistance (Table 10). Regarding the third set of the independent variables, the coefficient of region is not significant. On the contrary, however, a significant variation in the BISP cash transfer prevails across the provinces, with households in Sindh, KP and Balochistan more likely to receive BISP assistance as compared to the province of Punjab.

This brings us to the final stage of the PSM analysis, results for which are presented in Table 11. The Table shows the estimated welfare impact of the BISP by displaying the *Average Treatment Effect on the Treated* (ATT) against the five key indicators related to the household welfare. The bootstrapped standard error, as well as the number of matching cases treated and the size of the control group, are also given in Table 11. The results show that the impact of the BISP on headcount poverty, though statistically not significant, is negative for all the three measures of PSM. Despite having a reasonable targeting efficiency (as seen in the above discussion as well), the lack of statistically significant impact on poverty is not surprising as the rationale of the BISP initiative suggests that it has not been designed to reduce poverty per se, and

has its main objective to protect the poorest of the poor against the inflationary shocks. Second, the criterion of the BISP suggests that the recipient households should be among the marginalised segments of the society and far below the poverty line. Although these households are getting a monthly stipend of Rs. 1000, the amount is, however, too low to pull the households out of poverty. The fact that these poor households on average have: bigger household sizes; higher dependency ratios; tilted female-to-male ratios; and poor possession of liquid, soft and physical assets which make it difficult for these households to move out of poverty through a small cash transfer, as provided by BISP.

The impact of the BISP cash transfer on per capita food and health expenditure is statistically significant, as can be seen from Table 11. Under the various measures of PSM, the BISP-covered households are likely to spend more on food and health as

Table 11

Average Treatment Effects of BISP Under Various Measures of PSM and Socio-economic Indicators of Household

Method	Poverty (Yes=1)	Food Expenditure per Capita (Monthly)	Health Expenditure per Capita (Monthly)	School Enrolment of Children of Age 5-14 (Yes=1)	Employment Status of Women of Age 15-64 (Yes=1)
			Nearest Neighbour Method		
ATT	–0.015	48.36	88.16	0.03	0.013
N. Treated	235	235	235	517	568
N. Control	236	236	236	417	489
St. Error Bootstrap	0.042	24.25	41.11	0.05	0.038
t-stat	–0.359	**1.99**	**2.14**	0.52	0.34
			Kernel Method		
ATT	0.014	20.57	55.70	0.006	0.075
N. Treated	235	235	235	517	568
N. Control	2992	2992	2992	6430	6339
St. Error Bootstrap	0.028	12.38	20.54	0.019	0.080
t-stat	0.505	**1.66**	**2.71**	0.32	0.94
			Radius Method		
ATT	0.014	29.11	19.31	0.05	0.03
N. Treated	191	191	191	273	387
N. Control	730	730	730	684	753
St. Error Bootstrap	0.046	14.98	12.16	0.07	0.05
t-stat	0.296	**1.94**	1.59	0.714	0.60
			Stratification Method		
ATT	–0.012	22.92	62.36	0.048	0.075
N. Treated	235	235	235	517	568
N. Control	2992	2992	2992	6324	6376
St. Error Bootstrap	0.028	10.87	32.79	0.033	0.19
t-stat	–0.422	**2.11**	**1.90**	1.45	0.39

Source: Authors' estimation from the micro-data of PPHS 2010.

compared to those households which have not received the assistance but have similar socio-economic and demographic characteristics. The calculated welfare impact of the BISP transfer on food is Rs 20.6 by the Kernel method, Rs 22.9 by the Stratification method, 29.1 by Radius method and Rs 48.4 by the Nearest Neighbour method (Table 11). The welfare impact on health expenditure shows that the households, which have received assistance from the BISP are likely to spend Rs 62.4 more on health under the Stratification measure; Rs 88.2 under the Nearest Neighbour method and Rs 55.7 under the Kernal method as compared to those households which have not received assistance from the BISP (Table 11). These results support the finding presented in Figure 2, which shows that majority of the BISP-receiving households spend the cash transfer to meet daily household and medical expenses. These findings conform to the studies done in other parts of the world where such cash transfers have been found to improve the nutritional and health status of the recipients [Duflo (2003); Aguero, *et al*. (2007); Paxson and Shady (2007); Cunha (2010)].

The welfare impact of the BISP cash transfer on school enrolment of children and women's participation in the labour market is positive, though not statistically significant (Table 11). The households receiving BISP cash assistance are at the threshold level of their survival and are, thus, spending the received amount to fulfil their basic necessities, mainly food, and not investing it to better their physical or human capital. Other supplementary programmes of the BISP related to skill development, employment and education may have a positive impact on indicators other than food, whose analysis as mentioned earlier, is beyond the scope of this study.

CONCLUSIONS AND POLICY RECOMMENDATIONS

The BISP might not be the 'magic bullet' to alleviate poverty but findings of this study show that it has been able to provide some relief to the recipient households as far as food and health expenditures are concerned. In the Programme's defence it could, however, be said that the rationale behind the initiative was to provide assistance to the poorest of the poor households in the face of rising food and fuel prices and not alleviating poverty per se. In the four years since its inception, the Programme has shown the ability to evolve with time, adjusting to the changing needs and criticism. Changes in the recipient households' selection procedure and criteria by shifting from the parliamentarians' recommendation to PMT scores, adoption of technology in the delivery of cash through Smart Cards and phone to phone banking instead of manual transfer through post offices are two examples in this regard.

For any social protection programme to be effective it should have the ability to reach the poor and promote a permanent exit from poverty. The present study shows that although not all poor households were being covered by the Programme, like those which unsuccessfully attempted to get the BISP assistance, but the ones getting it were mostly poor (with a few exceptions where adherence to the set criteria was found wanting and consequently leakages to richer households were indicated). The ability of the programme to reach the poor, however, is not matched by its capacity to encourage a household's exit from poverty. The original BISP design, with its unconditional cash transfer, does not demand from the household to make an effort to invest in human or physical capital, which may help in its transition out of poverty. With the incorporation of

other schemes under the BISP banner later, including the *Waseela-e-Haq, Waseela-e-Taleem, Waseela-e-Sehat* and *Waseela-e-Rozgar,* this shortcoming in the Programme design may well have been addressed, analysis of these schemes is beyond the scope of this paper.

Political support at high levels is a prerequisite for the success of any such programme. As discussed earlier, reasons linked to the political economy may or may not encourage a government to invest in such social protection schemes. Allocation of Rs 122 billion for the BISP cash transfer is a huge promise which the future governments from the other side of the political divide may not be willing to make. The political nature of the name of the Programme, linking it to a particular political party,[8] might not be considered desirable to those belonging to other political parties. The slightly lower rates for the BISP beneficiaries in the opposition-ruled province of Punjab hint towards such issues that the Programme may face in case of a political change at the Federal level.

Despite getting a nod from the World Bank on its performance and being even labelled as, "An island of transparency" [Tahir (2012)], the BISP needs to take certain factors into account for the future. Foremost among these is the one related to fostering inter-agency/programme coordination. As we saw in Table 1, a number of safety net programmes exist in the country catering to different segments of the population. As noted by Heltberg and del Ninno (2006: 8), these programmes are, however, 'fragmented, duplicative and sometimes ceremonial' and are not able to fulfil the needs of the recipients. There is thus a need to streamline all the existing programmes and develop synergies between them for a more effective impact. The BISP with its extensive data gathered for the PMT scores can share the information with other programmes for a more efficient delivery. This would also help counter multiple payments to the same beneficiary under different programmes. A centralised system can also be considered to avoid duplication and ensure more stringent application of the eligibility criteria.

Proper monitoring and supervision need to be guaranteed to maintain credibility of the Programme. A well-defined assessment procedure should also be in place to judge the adequacy of the BISP cash transfer. Is the assistance amount sufficient enough to make a reasonable impact on the recipient household's budget? A cash transfer of Rs. 1000 per month per household may be enough in the year 2008 but would it suffice in years to come needs to be assessed periodically. Another factor ignored by the BISP design at present is the transitory nature of poverty. A household above the poverty line may move below it and *vice versa* in the face of changing circumstances. The BISP cash transfer should, therefore, take into account not just the poverty status of a household but its dynamics *vis-à-vis* poverty as well. A recipient household might become ineligible due to poverty dynamics while an ineligible household may become eligible. Such changes need to be taken into account by the BISP design for a more rational and equitable distribution of cash assistance. Last but not the least, the BISP needs to formally incorporate a mechanism for graduation out of poverty. Making a household exit from the poverty trap should be the aim of the Programme instead of continuously handing over cash assistance. Making households economically stable and sustainable should be any social protection programme's aim and the BISP should be no exception.

[8]The Benazir Income Support Programme is named after Benazir Bhutto, the twice prime minister of Pakistan and the chairperson of the Pakistan People's Party up until the day she was assassinated in December, 2007.

ANNEXURE

Table A-1 shows sample size of all the three rounds of panel survey and it also includes the split households covered in both 2004 and 2010 rounds, building on the basic sample selected in the 2001 round. The PPHS 2010 covered 2198 panel households from all the four provinces. With an addition of 602 split households, the rural sample comprises 2800 households and the urban sample comprises 1342 households, making a total sample size of 4142 households.

Table-A1

Households Covered during the Three Waves of the Panel Survey

		PRHS 2004			PPHS 2010				
	PRHS 2001	Panel House-holds	Split House-holds	Total	Panel House-holds	Split House-holds	Total Rural house-holds	Urban House-holds	Total Sample
Pakistan	2721	1614	293	1907	2198	602	2800	1342	4142
Punjab	1071	933	146	1079	893	328	1221	657	1878
Sindh	808	681	147	828	663	189	852	359	1211
KP	447	–	–	–	377	58	435	166	601
Balochistan	395	–	–	–	265	27	292	160	452

APPENDIX A

METHODOLOGY OF PROPENSITY SCORE MATCHING (PSM)

As noted earlier, two groups were identified in the PPHS on the basis of status of cash assistance: the receivers and the non-receivers. In the PSM analysis, the former are the 'treated units' while the later are 'non-treated units'. Treated units are matched to the non-treated units on the basis of the propensity score:

$$P(X_i) = \text{Prob}\,(D_i = 1 | X_i) = E(D | X_i) \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad (1)$$

Where

$P(X_i) = F(h(X_i))$
$F(h(X_i))$ can be the normal or the logistic cumulative distribution
$D_i = 1$ if the household has received assistance and 0 otherwise
X_i is a vector of pre-treatment characteristics

Before estimating the PSM, two conditions should be met to estimate the *Average Treatment on the Treated* (ATT) effect based on the propensity score [Rosenbaum and Rubin (1983)]. The first condition is the balancing of pre-treatment variables given the propensity score. If p(X) is the propensity score, then:

$$D_i = X_i \mid p(X_i) \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad (2)$$

If the balancing hypothesis is satisfied, the pre-treatment characteristics must be the same for the target and the control groups. In other words, for a given propensity score, exposure to treatment is a randomised experiment and, therefore, treated and non-treated units should be on average observationally identical. The second condition is that

of the unconfoundedness given the propensity score. Suppose that assignment to treatment is unconfounded, i.e.:

$$Y_1, Y_0 = D_i \mid X_i$$
$$= D_i \mid p(X_i) \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad (3)$$

If assignment to treatment is unconfounded conditional on the variables pretreatment, then assignment to treatment is unconfounded given the propensity score. Using Equation 1, first the propensity scores are calculated through logistic regression, and then the *Average Treatment on the Treated* (ATT) effect is estimated as:

$$\begin{aligned} \text{ATT} &= E\,(Y_{1i} - Y_{0i} \mid D_i = 1) \\ &= E\,(ATE \mid D_i = 1) \\ &= E\{E(Y_{1i} - Y_{0i} \mid D_i = 1, p(X_i))\} \\ &= E\{E(Y_{1i} \mid D_i = 1, p(X_i))\} - E[E\{Y_{0i} \mid D_i = 0, p(X_i))\} \mid D_i = 1\} \quad \ldots \quad (4) \end{aligned}$$

Where

Y_{1i} is the potential outcome if household is treated and
Y_{0i} is the potential outcome if household is not treated

In the sense that *ATT* parameters focus directly on actual treatment participants, they determine the realised gross gain from the welfare programme and can be compared with its costs, helping to decide whether the programme is successful or not [Heckman, *et al*. (1999)]. However, calculating the effect through *ATT* is not immediately obvious since the propensity score is a continuous variable. To overcome this problem, four different methods have been proposed in the literature: Nearest Neighbour Matching; Kernel Matching; Stratification Matching; and Radius Matching, [Becker and Ichino (2002)]. This study uses the first three methods.

Following Becker and Ichino (2002), the most straightforward matching method is the nearest neighbour (NN) method where initially each treated unit is matched with the controlled unit that has the closest propensity score. The method is usually applied with replacements in the control units. In the second step, the difference in each pair of the matched unit is computed, and finally the *ATT* is obtained as the average of all these differences. Let *T* be the set of treated units and C the set of control units, and Y^T_i and Y^c_j the observed outcome of the treated and control units, respectively. If $C(i)$ is a set of treated units matched to the control treated unit *i* with an estimated PSM value p_i then:

$$C(i) = min_j \parallel pi - pj \parallel \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad (5)$$

The NN method may face the risk of bad matches if the closest neighbour is far away. Such risk can be avoided by imposing a tolerance level on the maximum propensity score distance (radius). Hence, radius matching (RM) method is one form of imposing a common support condition where bad matches can be avoided and the matching quality rises. However, if fewer matches can be performed, the variance of the estimates increases [Caliendo and Kopeining (2008); Smith and Todd (2005)]. Radius matching can be shown as:

$$C(i) = \{p_j \mid \parallel pi - pj \mid < r \} \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad (6)$$

where the entire control units with estimated scores fall within a radius r from treated matched p_i. In both *NN* and *RM* measure, the weights w_{ij} are defined as:

$$w_{ij} = \frac{1}{N_i^C} if..j \in C(i) and..w_{ij} = 0. otherwise$$

The ATT for both *NN* and *RM* methods is, thus, as follows:

$$ATT^N = \frac{1}{N^T}\sum_{i\in T}\left[Y_i^Y \sum_{j\in C(i)} w_{ij}Y_j^C\right]$$

$$ATT^N = \frac{1}{N^T}\left[\sum_{i\in T} Y_i^T - \sum_{i\in T}\sum_{j\in C(i)} w_{ij}Y_j^C\right]$$

$$= \frac{1}{N^T}\sum_{i\in T} Y_i^T - \frac{1}{N^T}\sum_{j\in C} w_j Y_j^C \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad (7)$$

The weights w_j here are defined by $w_j = \Sigma_i w_{ij}$. Similarly, variances can be estimated by assuming that weights are fixed and the outcome is assumed to be independent across units.

$$= \frac{1}{(N^T)^2}\left[\sum_{i\in T} Var(Y_i^T) + \sum_{j\in C} (wj)^2 Var(Y_J^C)\right]$$

$$\text{Variance } (ATT^N) = \frac{1}{(N^T)^2}\left[N^T Var(Y_i^T) + \sum_{j\in C} (wj)^2 Var(Y_J^C)\right]$$

$$= \frac{1}{N^T} Var(Y_i^T) + \frac{1}{(N^T)^2}\sum_{j\in C} (wj)^2 Var(Y_J^C) \quad \ldots \quad \ldots \quad \ldots \quad (8)$$

In the third method, that is the Kernel method, all the treated units are matched with a weighted average of all non-treated units using the weights which are inversely proportional to the distance between the propensity scores of treated and non-treated units. The *ATT* here can be calculated as:

$$ATT^K = \frac{1}{N^T}\sum_{i\in T}\left\{Y_i^T \frac{\sum_{j\in C} Y_j^C G\left(\frac{p_j - p_i}{}\right)}{\sum_{k\in C} G\left(\frac{p_k - p_i}{h_n}\right)}\right\}$$

$$= \frac{\sum_{j\in C} Y_j^C G\left(\frac{p_j - p_i}{h_n}\right)}{\sum_{k\in C} G\left(\frac{p_k - p_i}{h_n}\right)} \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad (9)$$

Where $G(\cdot)$ is a kernel function and h_n is a bandwidth parameter. The fourth method, the Stratification Matching method, consists of dividing the range of variation of the propensity score in a set of intervals (strata) such that, within each interval, the treated and non-treated units have the same propensity score on average. The method is also known as interval matching, blocking and sub-classification method [Rosenbaum and Rubin (1983)]. Hence, the q index defines the blocks over intervals of the propensity score, within each block the programme computed as:

$$ATT_q^S = \frac{\sum_{i \in I(q)} Y_i^T}{N_q^T} - \frac{\sum_{j \in I(q)} Y_j^C}{N_q^C} \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad (10)$$

Where $I(q)$ is the set of units in block q while $N^T q$ and $N^C q$ are the numbers of treated and control units in block q. The *ATT* in the Stratification Matching method is, thus, as follows:

$$ATT^S = \sum_{q=1}^{Q} \tau_q^S = \frac{\sum_{i \in I(q)} D^i}{\sum_{\forall i} D_i}$$

Where the weight for each block is given by the corresponding fraction of treated units and Q is the number of blocks.

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