POLICY NOTE

WHEAT SUBSIDIES IN PUNJAB

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This note provides an analysis of the design and delivery of the wheat distribution system in Punjab with a focus on wheat subsidies provided by the Government of Punjab.

The paper demonstrates that it is possible for the Government to protect poor consumers and farmers while at the same time improving the targeting of subsidy expenditure to improve overall welfare and efficiency.

The note provides reform options for the provision of greater benefits at a lower cost.

TABLE OF CONTENTS

List of Acronyms

API	Agricultural Prices Institute
BISP	Benazir Income Support Program
BOP	Bank of Punjab
NBP	National Bank of Pakistan
PASSCO	Pakistan Agricultural Supplies and Storage Corporation
PFD	Punjab Food Department
PR	Provincial Reserve

1. OVERVIEW

This note describes the design and delivery of wheat distribution system in Punjab province, a system that has been in operation for almost 50 years. Ostensibly introduced to support farmers and consumers alike, the system today has its inefficiencies and delivers few benefits to these groups while consuming almost Rs 30 billion per year. This note examines the present system, its political economy, and its weaknesses. Finally, the note presents recommendations for how the system can be reformed to provide greater benefits at lower cost. The data used in this analysis were collected from the Punjab Food Department (PFD), the Pakistan Bureau of Statistics, and published academic papers. Unstructured interviews were also conducted with several key informants.

2. DESIGN OF THE PRESENT SYSTEM

Price mechanism

The wheat procurement price is set by the federal government in October-November each year after consultation with the provincial governments. This being the start of the cultivation season, an early determination of procurement price is intended to influence the year's planting and consequently supply of wheat from growers. The Ministry of National Food Security and Research is responsible for setting the procurement price.

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Until 1981, there was no scientific basis for setting the procurement price. The government announced the price based on a subjective assessment of the market and the available fiscal space. In 1981, the federal government established the Agricultural Prices Commission as an autonomous organization to advise the government on procurement prices. The Commission calculated production costs and estimated demand in the coming year, and advised the government accordingly. Still it was for the government to accept the advice fully or partly. In 2006, the Commission was renamed as the Agricultural Prices Institute (API) and made a department of the Ministry. The wheat procurement price continues to be determined by an interplay of technical and political considerations. The procurement price for 2014-15 has been set at Rs 1,300 per 40 kg.

Three observations from long-term data on procurement prices inform our analysis of the wheat subsidy regime. First, the procurement price has never decreased from its previous level: it has either increased from year to year or stayed the same (see Appendix A for time series data on procurement price and its comparison with international price). Second, there were large price increases in 2008-09 and 2009-10. The price increased from Rs 425 in 2007-8 to Rs 625 in 2008-09, and to Rs 950 the following year. Third, the price set by the federal government is not binding on provincial governments. The latter may procure wheat at a lower or a higher price. No province has ever set a lower price for its procurement, but there are several examples of a higher price. For example, in 2013-14, Sindh and KPK procured at Rs 1,250 per 40 kg against a federal procurement price of Rs 1,200 per 40 kg.

BOX 1. A BRIEF HISTORY OF THE WHEAT SUBSIDY

The government entered into wheat procurement for the first time in 1968, mainly in response to the bumper crops for two consecutive preceding years that the market did not clear. The purpose was to purchase the stocks leftover with the farmer. Majority buying was done by the private sector. Gradually, however, the government became the principal buyer and the private sector's role shrank to that of a commission agent.

In 1972-73, the government also attempted monopoly buying in 1972-73 at below market prices with the objective of keeping flour prices low. But this was discontinued quickly due to farmer protests. The government not only allowed the private procurement of wheat, it also increased its own procurement price in March 1973. This was unusual, as normally procurement price is set much earlier.

This pattern has continued since. The government has been buying a large or a small proportion of the total marketable surplus depending upon annual fluctuations in supply and estimated demand. Currently, the Punjab Government procures around 1/3rd of the annual marketable surplus. In 2013-14, total PFD procurement was 3.74 million metric ton, which was 19% of total production in the province.

At the other end of the value chain, government has also resorted to *atta* (wheat flour) rationing in times of war, floods and other national emergencies. *Atta* rationing was first introduced by the British in 1942. It continued in various forms until 1960, when compulsory rationing was abandoned in favour of a fixed price for atta. It was reintroduced in 1965 in the wake of the 2nd Indo-Pakistan war. *Atta* rationing was greatly expanded in the 1970s and the government established an extensive network of around 45,000 ration shops around the country to supply subsidized *atta* (and a few other commodities, notably sugar) to citizens. The flour millers could still sell atta through normal market channels, but no subsidy was given for such sales.

At its peak in 1974-75, around 2 million tons of wheat flour was sold through ration shops. The total volume of subsidy in that year was Rs 2 billion. This was approximately 10% of government's current expenditure in that year. The benefit to the citizens, however, was much smaller. There was large-scale corruption and inefficiency in the system. One credible study from the 1990s estimated that the total cost to government of providing a subsidy of Rs 0.3 per kg was Rs 1 per kg. In other words, intermediaries and government officials consumed 70% of the subsidy. The ration shops were abolished in 1987. It is noteworthy that the only group to protest (in mass media and on streets) against disbanding of the rationing regime was the 45,000 ration shop owners.

Procurement process

i) Farmers

For the farmer, procurement is a four-step process. Each year at the beginning of the procurement season, PFD assigns villages and Union Councils to specific Wheat Procurement Centres. A farmer can sell wheat to only this designated Centre. The Centre has a list of all farmers in its catchment area and their wheat cultivation during the season. This list is prepared by local officials of the Punjab Board of Revenue (called *Patwaris*) and provided to the procurement Centre by

The purpose of these restrictions is to ensure that only genuine growers benefit from the subsidy.

the local Assistant Commissioner.[1] As this list is to be prepared every year, it is supposed to incorporate changes in farm ownership in the area, if any.

The list often has several errors. For example, tenants and sharecroppers – despite being legitimate growers – are often not included in the Patwari's records on the insistence of landowners.[2] An aggrieved grower can approach the Assistant Commissioner, who may order inclusion of his name in the list after making appropriate enquires. However, this process is seldom invoked due to substantial transaction costs.

The second step is to procure gunny bags (called *bardana*) from the designated Procurement Centre. Each bag is clearly numbered and the serial numbers are recorded against the name of each farmer in the record of the Centre. Farmers cannot obtain bardana from another Centre, nor can they sell wheat in privately procured bags. The farmer's allowance of bags is based on the national average yield of 20 maunds per acre.[3] Accordingly, 8 jute bags (100 kg each) or 16 polypropylene (PP) bags (50 kg each) are issued per acre of wheat cultivation. A maximum of 200 jute bags (or 400 PP bags) is issued to each farmer at a time.[4] The farmer must pay a deposit of Rs 134 per jute bag, or Rs 38 per PP bag, into a designated bank account. The bank prepares a call deposit receipt, which the farmer presents at the Centre in exchange for the bardana.[5] Farmers are able to recoup this deposit upon delivery of the final bagged wheat.[6] The purpose of these restrictions is to ensure that only genuine growers benefit from the subsidy, to maintain the quality of gunny bags, and to regulate the procurement process. However, it should be noted that these procedures place a significant administrative burden on the grower.

To deliver the wheat-filled bags to the designated Centre, the farmer must fill the bags, weigh them, stitch them, load them in a trolley and drive or escort the trolley to the Centre. Not every farmer will have the infrastructure to carry out these simple activities. For example, weighing and stitching facilities are commonplace at the village level, but not at the household level. Similarly, the

1 This process was introduced in 2013-14. Although it still has weaknesses, it is an improvement over the earlier system whereby each farmer had to approach the local Patwari and obtain a certificate of cultivation. Most growers – especially the ones least integrated into power networks – found this an arduous and expensive undertaking. For them, the shifting of responsibility for providing information on wheat cultivation to the Patwari is a welcome step.

2 The Patwari's records are the basis of classification of a tenant as tenant-at-will or occupancy tenant. The two have different rights and privileges. The landlords often do not want Patwaris to correctly record the tenancy status of their land.

3 The yield of more efficient farmers is well above this average, so using the national average as a benchmark disincentivizes production efficiency.

4 After a farmer has utilized these bags, he may obtain another set of bags.

5 For requirement of less than 50 bags, bardana can also be issued on personal guarantee of a Gazetted Officer.

6 Centres are centrally located, usually near an agricultural market or a town. Given the large number of bank branches in Punjab towns, the commuting between the cetnre and the bank does not constitute a significant cost for the farmer.

trolley has to be rented, and the rent has to be paid in cash. An ordinary trolley will have the capacity to carry 100 bags. So if the marketable surplus is less than that, the farmer has to either pool up with another small-surplus farmer or to pay the full cost of transportation.

Once the trolley arrives at the Centre, it is weighed if the weighbridge is available. In most Centres, these are not available. So the bags are off-loaded, a 10% sample is drawn and weighed. Total weight is calculated accordingly. Wheat bags are then transported to the storage site. If it is an open storage (e.g. bins or silos), bags are opened and wheat is dumped onto the heap; otherwise, bags are stacked on top of one another. All this loading, unloading, etc. is the farmer's responsibility. To help with these labour-intensive and backbreaking activities, casual labour is available at the Centre, which is paid by the farmer @ Rs. 7.50 per 100 kg bag.[7] PFD reimburses these delivery charges to the farmer. Thus the total payment for a 100 kg bag in 2014-15 will be Rs 3,257.50. It is noteworthy that the farmer is not compensated for his effort and expense on filling and stitching of bags, loading and transportation to the Centre (approximately Rs. 50 per 100 kg bag (PFD estimate)).

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While issuing gunny bags, the Centre also advises farmers a preferred date for delivery of wheat. The Centre populates its calendar to spread procurement operations over the entire procurement season (usually a 30-35 day window between mid-April to end-May; exact dates vary among Centres). An added advantage for the farmer is that the consignment is processed quickly. If everything goes by the schedule, the transaction is usually completed within 5-6 hours. If it is an unusually busy day – or if the farmer brought the consignment a few days ahead of or behind schedule – it may take 24 hours or longer for the transaction to complete. The farmer is not compensated for the wait.

The fourth step is payment. The farmer's payment is calculated and entered into Centre's record. A payment slip is prepared using Form 2. Two copies of Form 2 are retained at the Centre and two copies are given to the farmer to present at the bank. At day's end, the Centre prepares a consolidated statement using Form 3 and delivers this to the designated bank. The bank will pay the farmer only upon receipt of the consolidated payment advice in Form 3. Thus the farmer must return to the bank the next day or later to receive the payment. Payment for less than 50 bags is made in cash. Otherwise, the farmer needs a bank account to which payment can be credited.

Some back of the envelope calculations are instructive. A subsistence farmer of 12.5 acres will produce around 10,000 kg (at 800 kg per acre). A deposit of Rs 13,400 would be required for 100 jute gunny bags. If he sells the entire yield to the Centre, his total payment in 2014-15 (at Rs 1,300 per 40 kg) will be Rs 325,000 (plus Rs. 750 as delivery charges). During the transaction, he will undertake two visits to the bank (first to make a call deposit of Rs 13,400

7 The District Coordination Officers (DCOs) determine these labour charges for their district.

The first step is to set procurement targets at the provincial, district and Centre level. There is no formula to set these targets; mostly historical data are relied upon

and then to receive his payment) and two visits to the Centre (first to receive bardana and then to deliver wheat). He will hire labour for loading/unloading and a trolley for transportation. He will be paid an additional amount of Rs 750 as delivery charges. The whole process, which starts and ends at the bank, usually completes within 7-10 days.

ii) PFD

For PFD, procurement is a five-step operation. These are: setting procurement targets; establishing Centres; providing gunny bags; storage; and transportation. These are described briefly.

The first step is to set procurement targets at the provincial, district and Centre level. There is no formula to set these targets; mostly historical data are relied upon.[8] PFD also consults the Punjab Agriculture Department for latter's assessment of expected production. During the last 25 years, PFD procurement has varied between a historic low of 1.5 mmt in 1991 to a high of 6.3 million metric ton (mmt) in 2001. In recent years, procurement has been around 3.5 million ton each year. As a proportion of total production, procurement has ranged 12% - 38% during this period. Furthermore, there is no relationship with carry forward stocks: in 2008, carry forward stocks were a mere 13,606 metric ton and procurement was 2.6 mmt; in 2010, stocks were 2.9 mmt and procurement was 3.7 mmt. These are substantial variations and it is difficult to imagine a consistent policy behind these decisions. Any meaningful effort to reduce the fiscal burden of wheat subsidy will involve, *inter alia*, a scientific and dynamic basis of determination of procurement quotas (and price) from year to year.

Within the overall provincial target, PFD assigns procurement targets to divisions, districts and Centres. These are largely a reflection of the historical production record of various areas. Pindi division has consistently procured the smallest volumes and Bahawalpur division the largest volumes. Bahawalpur, Multan, Khanewal and Jhang districts are the principal grain providing districts of Punjab.

It is noteworthy that federal government also procures wheat from Punjab for its own requirements. Pakistan Agricultural Storage and Supplies Corporation (PASSCO) is the procurement arm of the federal government. PFD and PASSCO have earmarked specific areas for their procurement and keep their activity limited to these areas; there is no overlap.

The second step is to establish Centres. These are of two types: provincial reserves (PR) and temporary (Flag) Centres. The former are permanent establishments of PFD and also have storage facilities. The latter are temporary facilities set

8 PFD procurement price can be higher or lower than the market price in a given year. If it is higher, procurement is easy. But if it is lower than the market price, PFD has to resort to non-market measures to meet its procurement targets. There have been several instances of imposition of ban on inter-provincial or inter-district movement of wheat during the procurement season. In one instance (1973), the government had to increase the procurement price (see Box 1).

up on government land or on land leased from private owners. Only a few Flag Centres have storage facilities. In practice, once a Flag Centre has been established, it tends to continue *sine die*. So the PR and Flag Centres differ only in their land ownership. PFD appoints its staff (minimum two people) at each Centre. The location of these Centres is well known to farmers. Given the extensive network of Centres (total 380), it is unusual for a farmer to not find one within a 10 km radius to his field.

In the absence of comprehensive audits, it is difficult to estimate actual loss at various Centres due to storage inefficiencies and pilferage.

The third step is to procure bags. PFD does not manufacture jute or PP bags; these are procured from the market. Jute bags are in high demand due to their strength, but they are expensive (Rs 134 per bag) in comparison to PP bags (Rs 38 per bag). PFD ensures that gunny bags are available at Centres before procurement drive is formally launched.

The fourth step is storage. There are three types of storage facilities: 1) covered godowns; 2) concrete silos; and 3) bins. Total storage capacity of PFD is 2.2 mmt. The rest is stored in the open under plastic sheets. These are called Gunjis. PFD has established detailed protocols for storing wheat in each type of facility and in Gunjis.

PFD operates under a zero-loss presumption, i.e. there will be no loss in storage or transportation. It takes several measures to minimize loss; for example, fumigation is carried out at regular intervals to avoid damage due to pests. Still some loss is inevitable. PFD makes up this loss by procuring a little extra from each farmer. These are small volumes and the farmer is not compensated for them. Further, wheat absorbs moisture and its weight increases during winter, when most stocks are issued to flour mills. Furthermore, before a Centre runs out of stock, new arrivals help maintain the supply even if there is a shortfall. In the absence of comprehensive audits, it is difficult to estimate actual loss at various Centres due to storage inefficiencies and pilferage. According to studies carried out in 2009, loss in covered and open storage is 2 - 2.5% and 5 – 6% respectively. This loss should be added to the cost of subsidy.

The final step is transportation of wheat from one Centre to another. The need for this occurs because production is concentrated in Southern and Western districts and consumption is concentrated in metropolitan areas. Since a large number of mills are located in Pindi division, which procures very little wheat, a large volume of wheat has to be moved from surplus districts. Transportation operations are sizeable and expensive. These are undertaken by private contractors. On average around 7-8 lac metric tons are moved from various Centres to Pindi and Lahore divisions at a cost of approximately Rs 60-70 per maund. This cost is borne by PFD.

It is not clear what proportion of the incidentals is service charge of the accumulated debt. Without this information, it is difficult to say if – and in what amount – PFD is subsiding atta consumers.

Subsidies

Table 1 provides data on procurement price, incidental costs and issue price during the past six years. It is not clear what proportion of the incidentals is service charge of the accumulated debt. Without this information, it is difficult to say if – and in what amount – PFD is subsiding atta consumers. However, back of the envelope calculations are possible. Roughly, current borrowing in 2013-14 is about 61% of the total borrowing. So if mark up is distributed accordingly, PFD's incidental charges – sans mark up on outstanding debt from previous years – are Rs 206 per 40 kg.[9] Thus, PFD's cost of wheat at the time of issuance[10] is Rs 1,406 per 40 kg. PFD sells wheat to flour mills at Rs 1,330 per 40 kg and provides only Rs 76 in subsidy to consumers. This is a mere Rs 1.90 per kg,[11] out of total spending of Rs 4.73 per kg.

Table 1: Subsidy per 40 kg (Rs)

YEAR	PROCUREMENT PRICE	INCIDENTALS	COST PRICE	RELEASE PRICE	SUBSIDY
2008-09	625	159.6	784.60	730	54.60
2009-10	950	169.97	1,119.97	1,000	119.97
2010-11	950	292.51	1,242.51	1,000	242.51
2011-12	950	322.59	1,272.59	1,000	272.59
2012-13	1,050	319.34	1,369.34	1,125	244.34
2013-14	1,200	319.34	1,519.34	1,330	189.34

Source: PFD

Other procurement costs

Wheat procurement is an expensive undertaking for the Punjab Government. Total cost in 2013-14 was Rs 29 billion. This comprises the cost of capital (i.e. the mark up) and the incidentals. The latter include the entire cost of PFD (including salaries), transportation, renting of storage facilities, local fees, etc. Table 2 provides the break up.

9 319.34 * 0.91 * 0.61 = Rs 177. 26/=. Add Rs 28.74 as other incidentals. Total cost per 40 kg = Rs 206.

10 Assuming the same issuance price throughout the year.

11 Actual benefit to the consumer is much smaller than this, as Rs 1.90 per kg includes the entire cost of (inefficient) PFD operations.

Table 2: Cost of wheat procurement in Punjab (Rs Per metric ton)

COMPONENT	PROCUREMENT PRICE	INCIDENTALS	SUBSIDY
Gunny bags	-115.57	-681.39	-681.39
Delivery expenses	74.96	74.94	74.94
Bank commission	89.34	98.72	98.72
Market Committee fee	12.20	10.76	10.76
Transportation charges	338.27	556.00	556.00
Handling charges	0.80	3.17	3.17
Godown expenses	139.92	201.98	201.98
Shortage and unforeseen expense	0.00	123.21	123.21
Departmental charges	260.82	329.91	329.91
Bank Markup	7,264.05	7,266.24	7,266.24
Total (Per metric ton)	8,064.79	7,983.54	7,983.54
Total (Per 40 kg)	322.59	319.34	319.34

Source: PFD

As can be seen, the bank mark-up (representing the cost of borrowing) accounted for almost 91% of the total program cost in 2013-14. The next two items were transportation and the cost of PFD, which together accounted for a mere 12% of the mark up. As far as bank mark up (Rs 26.8 billion) is concerned, 2013-14 was not unusual: PFD has on average incurred annual mark-up charges exceeding Rs 20 billion during the last five years.

These unusually high mark-up charges warrant some explanation. Each year PFD negotiates a credit line with a consortium of banks. Mark-up varies between 10-11% on the remaining balance. PFD will require Rs 120 billion to procure approximately 3.7 mmt of wheat at a procurement price of Rs 1,300 per 40 kg in 2014-15. PFD draws from its credit line during the procurement season in April-May and pays the credit back over the year as it sells wheat to flour mills. Not wanting to pass on the full cost of operations to consumers, the Punjab Government picks up part of the cost as a subsidy to atta consumers. The subsidy was 84.5%, 76.5% and 59.3% of the total incidentals (Table 1 above) in 2011-12, 2012-13 and 2013-14 respectively. Thus, the government has endeavored to transfer a greater proportion of incidentals to the consumer over the past three years.

Unfortunately, however, the Government of Punjab has been unable to pay off the full cost of this subsidy in recent years due to fiscal constraints, and the unpaid liability has risen to approximately Rs 92 billion. PFD therefore pays the cost not only of the current year's borrowing, but also on debt accumulated over previous years. Proceeds from wheat sales will enable PFD to pay the yearly mark up and retire only part of the debt in 2014-15. It is worth noting that PFD will have to clear this liability even if it abandons its procurement operations altogether. PFD's total borrowing stands at Rs 196 billion as of January 2015. If the Punjab Government were to clear its outstanding liability and raise the atta

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price by Rs 1.90 per kg[12] (a mere 4.75% of the current price of Rs 43 per kg), PFD could cover the full cost of its operations and incur no further fiscal burden from the program.

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3. KEY ACTORS AND THEIR INTERESTS

Six key actors dominate the wheat operations described above. These are: farmers, intermediaries, PFD, flour mills, banks and consumers. A brief discussion of their roles and interests follows.

Farmers

Farmers are an important actor because they are the subjects of the very first subsidy objective. The government intervenes primarily to avoid a market crash in April-May when farmers are trying to dispose off their produce. But farmers are not homogenous – not every framer produces wheat and not every wheat-producing farmer has a marketable surplus. According to official data,[13] 26% of farming households in Pakistan produce wheat. Of these, only 18% are net sellers of wheat - 21.6% are net buyers and the rest neither buy nor sell. This means that only 4.68% of farming households in Pakistan have a marketable wheat surplus. It is this sub-group which benefits from an increase in the procurement price.

Information about households with a marketable surplus is not available. However, it is well known that not all of them bring their wheat to the Procurement Centres. Small farmers (< 12.5 acres) usually sell their wheat to intermediaries. They find the entire process – procuring gunny bags, weighing wheat stock, filling in bags, stitching, renting a trolley, loading/unloading, waiting at the Centre and bank visits to claim payments – too arduous and expensive.[14] It is usually the medium (12.5 – 25 acres) and large (> 25 acres) farmers who brings their own wheat to the Centre.[15] Only these farmers have the resources and an access to social networks to complete the transaction.

Estimating the benefit incidence of the program on farmers is very difficult. There are large supply-demand variations from year to year and among districts. In years of high (anticipated) consumption[16] (including around 5-6 lac metric ton export of wheat flour to Afghanistan), market price may even be

12 This will be an additional burden of Rs 155 per household per month (assuming an average per person per month consumption of 12 kg and average household size as 6.8 persons).

13 Pakistan Economic Survey 2013; Household Integrated Economic Survey 2010-11.

14 Small farmers are subsistence producers. Assuming that the entire landholding is cultivated for wheat and that their produce is neither less nor more than the national average, their gross sale (rabi only) in April-May 2015 will be Rs. 325,750 (20*12.5*1300 + 750). Their net income will depend upon their input and operational costs, which vary from one farmer to another.

15 Dorosh (2009) estimated that large farmers (> 25 acres) account for 67% of wheat sales in Punjab.

16 Called a deficit year.

higher than the official price,[17] in which case PFD seriously struggles to meet its procurement targets. In surplus years, market price may be significantly lower than the official price. Similarly, market price also varies according to farm's location. A metric ton in Bahawalpur is cheaper than a metric ton in Attock, simply because it has to be ultimately transported to high-consumption areas.

Nevertheless, a rough estimate can be attempted. PFD estimates that the cost of stitching, loading, unloading and transportation is Rs 20 per 40 kg. Farmers save this cost when they sell to beoparis, as the latter procure at the farm gate. In a deficit year, an average purchase price of Rs 1,150 per 40 kg, will cause a net loss of Rs 30 per kg to farmers if they sell to beoparis instead of PFD.[18] If PFD procures only from farmers and the opportunity cost of farmer's time is zero, the net benefit to farmers of PFD procurement of 3.7 mmt in a given year will be Rs 2.78 billion.[19] Another way of looking at this figure is to conclude that PFD will pay an additional Rs 2.78 billion for procuring 3.7 mmt wheat.

Intermediaries

The second key actor is the intermediary (or *beopari*). Small farmers, even if they have a marketable surplus, almost invariably sell to *beoparis*, who purchase at the farm gate and pay in cash. They also use their own bardana. If a farmer uses his own bags, these are returned after emptying at the godown. Loading and unloading and transportation are also beopari's responsibility. If the beopari intends to sell the stock to a Centre, he will complete necessary formalities (obtaining the bank call deposit, procuring bardana, arranging transport to the Centre, etc.). If a Centre incharge insists on the grower being present, the beopari will also arrange farmer's transportation to and from the Centre. The beopari provides all these services for his profit at the intersection of market and procurement prices.

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Do *beoparis* make excessive profit? It is difficult to answer this question categorically. Anecdotal evidence suggests that they do not. Beoparis provide a range of services (described above) and maintain a network of client farmers from whom they purchase wheat on annual basis. If the difference between these costs (including the cost of maintaining networks) and official price were large in most years, a larger number of investors will enter the market than is the case presently.

While farmers benefit from a high procurement price, *beoparis* benefit from the arduous procurement process. Were the process simplified, a larger proportion of farmers will prefer to present their surplus directly at the Centre in a surplus

17 In May 2014, beoparis procured at Rs 1,190 per 40 kg in Sheikhupura district compared to a procurement price of Rs 1,200 per 40 kg.

18 It is possible to argue that open market price would have been lower, had the PFD not set Rs 1,200 as its procurement price. A rising tide lifts all ships.

19 Rs 30 * 25 * 3.7 = Rs 2.78 billion. Since small farmers account for only 33% of total wheat sales to PFD (Dorosh 2009), their share of the benefit will be Rs. 0.91 billion.

year. On the other hand, an additional procedural requirement will persuade more farmers to sell their stocks in the open market. Thus, the beopari emerges as the biggest beneficiary of the time-consuming, bureaucratic and formal procurement process.

Punjab Food Department

The third key actor is the Punjab Food Department (PFD). Wheat procurement is the only activity that the PFD undertakes. Its total strength is about 4,500 employees, of which around 35 are in BPS 17 and above. There is little expertise in the Department for sophisticated supply-demand analysis, or inventory management. PFD's limited capacity reflects in the arbitrary character of several components of wheat policy, including procurement and issue price, targets, etc.

Along with the beopari, PFD is a major beneficiary of the current wheat subsidy regime. First, it is the *raison d' etre* of the Department. Were wheat procurement to stop tomorrow, PFD will be *functus officio*. Second, there are substantial opportunities for rent seeking. Anecdotal evidence abounds to suggest the existence of such opportunities and their full exploitation by unscrupulous staff. The loose accountability framework encourages system's manipulation for personal gain. Until recently, the only penalty for pilferage was making good the loss. Third, there also exist opportunities for patronage. In surplus years, PFD officials exploit their discretion in issuing bardana, quality control, weighing, etc., to strengthen their personal and professional networks. These networks are subsequently deployed to gain choice postings, escape audits and avoid accountability.

[...] there seems to be little, if any, soul-searching to reduce transaction costs, improve quality of service and to reimagine the subsidy regime to the maximum advantage of farmers and consumers.

Clearly, PFD's interest lies in continuation of large-scale wheat procurement, including the procedures and protocols. Consequently, there seems to be little, if any, soul-searching to reduce transaction costs, improve quality of service and to reimagine the subsidy regime to the maximum advantage of farmers and consumers. The Department is, however, visibly perturbed at the ever-rising cost of debt servicing. It appreciates that mark up charges in excess of Rs 25 billion per year are unsustainable.

Flour Mills

The fourth key player is the flour mill. There are a total of 889 mills in Punjab.[20] They are dispersed throughout the province, but a disproportionately large number is located in Pindi and Bahawalpur divisions. Their location on provincial borders enables these mills to supply flour to other provinces (also to Afghanistan). The mills' capacity is calculated on the basis of their roller bodies: daily grinding capacity of a roller body is 20 metric tons. Each year PFD prepares a wheat issuance policy and allocates quota as per mills' capacity. Most

20 This does not include atta chakkis, which are found in abundance in towns.

mills are small-to-medium size: only 20% mills are large units. Total installed grinding capacity is about three times the provincial requirement.

Not all mills operate throughout the year. PFD estimates that around a third of mills either sell their quota to other mills or grind only when profit margins are substantial. Another third regularly grind their quota and also occasionally buy wheat from the market. Only a third of mills regularly purchase stocks from the market. These are the ones who have established brand names and a permanent presence in the flour market. They supplement their PFD allocation with aggressive market buying. They purchase wheat directly at the time of harvest and store under their own arrangement. They will occasionally buy mid-season from *arhtis* or from large farmers with some storage capacity.

The retail price of flour does not vary according to its source, i.e. wheat issued by the government and purchased from the market is sold as flour at the same rate.

Mills collect their stock from the Centre at their own cost. PFD releases wheat upon specific demand from a mill within its allocated quota. The mill must deposit the full cost in the PFD account before it can collect its stock from a nearby Centre. It is PFD's responsibility to make sufficient stock available within the district to meet allocated quota of each mill. In case a mill demands additional wheat, and the same is available in a distant Centre, the mill will have to collect it at its own cost. PFD also recovers the full cost of gunny bags from mills, which may recycle these bags as per their requirement or sell these in the market.

PFD negotiates the flour price periodically, which is a function of issue price, transportation charges, grinding costs and mills' margin. The issue price may remain the same or vary throughout the year (Table 3). The retail price of flour does not vary according to its source, i.e. wheat issued by the government and purchased from the market is sold as flour at the same rate. Most mills sell on credit and receive their payment from the retailers after flour has been sold. However, there are quite a few mills with established brand names, which receive cash payment before delivering stocks to the retailer.

Table 3: Variation in flour issue price (Rs per 40 kg)

YEAR	SUPPORT PRICE	RELEASE PRICE
2007-08	625	730-810-900
2008-09	950	975-1,000
2009-10	950	975-1,000
2010-11	950	1,000
2011-12	1,050	1,075-1,125
2012-13	1,200	1,330
2013-14	1,200	1,330

Source: PFD

Mills are organized in the Pakistan Flour Mills Association. Its provincial chapter effectively lobbies with PFD in particular and the Punjab Government in general to obtain favorable terms of engagement. Several observations above lead to the conclusion that it is not a very powerful lobby. First, mills procure

[...] individual flour mills have divergent interests and will be differently affected by reforms in the subsidy regime.

from the government on cash payment, whereas their sale is mostly on credit. Second, PFD recovers full cost of gunny bags from the mills, which can be resold only at a discount. Third, mills collect from the Centre and bear the cost of transportation. PFD transports only to the extent that it meets allocated quota requirements of mills in Pindi division from within the division. For any additional quota, mills may have to collect from far-off Centres. Finally, PFD, rather than the miller sets flour prices. Were the Association a powerful lobby, it would secure terms more favorable than these.

Like other groups, individual flour mills have divergent interests and will be differently affected by reforms in the subsidy regime. The sub-group that grinds only subsidized wheat will be hit severely by any effort to narrow the gap between issue price and market price at that time. However, it is unlikely that this group can mount a powerful challenge to a comprehensive reform.

Banks

The fifth group comprises commercial banks. PFD has a credit line with three consortia. Its current liability with each is as follows:

- » Total payable Rs 198.12 billion
- » NBP Consortium Rs 81.59 billion (Markup rate -10.98)
- » BOP Consortium Rs 66.27 billion (Markup rate -10.98)
- » Islamic Consortium Rs 18.25 billion (Markup rate - 10.68/10.52)

The borrowing and mark up data in Table 4 (below) readily lends itself to the conclusion that principal beneficiary of Punjab Government's wheat subsidy regime since 2008 have been the banks in these consortia. Their mark up during the past six years averages Rs 20 billion. Lending to the government is the least risky and has little transaction costs, if any.

Table 4: Borrowing and mark up (million Rs)

YEAR	BORROWING			REPAYMENT	BALANCE	MARK UP
	OLD	NEW	TOTAL			
2008-09	--	523,94	52,394	45,795	6,599	3,942
2009-10	6,599	143,176	149,776	47,376	102,400	19,028
2010-11	102,400	88,667	191,067	101,067	90,000	25,971
2011-12	90,000	76,025	166,025	56,127	109,898	23,180
2012-13	109,898	73,305	183,203	104,258	78.945	20,233
2013-14	78,945	110,540	189,485	97,267	92,218	16,272
2014-15	92,218	112,580	204,798	6,675	198,123	9,268

Source: PFD

Consumers

The last key actor is the consumer, the most diverse group. Average monthly household income for each quintile is given in Table 5. The lowest three quintiles are living either below the poverty line or very near to it. These quintiles are vulnerable to adverse effects of price increases. According to HIES 2011-12, food accounts for about 45% of total household expenditure, of which wheat and wheat flour account for 13.8% (11.1% in urban areas and 15.5% in rural areas). Quintile-wise share of wheat and wheat flour as proportion of total household expenditure is given in Table 6. Wheat being a significant expenditure in urban and rural areas, any variation in flour prices will have a corresponding effect on household poverty. It is noteworthy that urban *as well as* rural households are wheat consumers and that a significant proportion of rural households procures its wheat (or flour) from the market. It may also be noted that the price of wheat flour in Pakistan has increased more rapidly since 2001 than wages of skilled and unskilled workers (Figure 1). Time series data on wheat flour prices is given in Appendix B.

The lowest three quintiles [...] are vulnerable to adverse effects of price increases.

Table 5: Average monthly household income (Rs) 2011-12

	RURAL	URBAN	TOTAL
5th Quintile	33,977	51,484	43,858
4th Quintile	23,203	26,755	24,531
3rd Quintile	19,342	21,306	19,927
2nd Quintile	16,578	17,673	16,814
1st Quintile	13,221	13,844	13,306
Total	20,876	34,779	25,678

Source: Household Integrated Economic Survey 2011-12

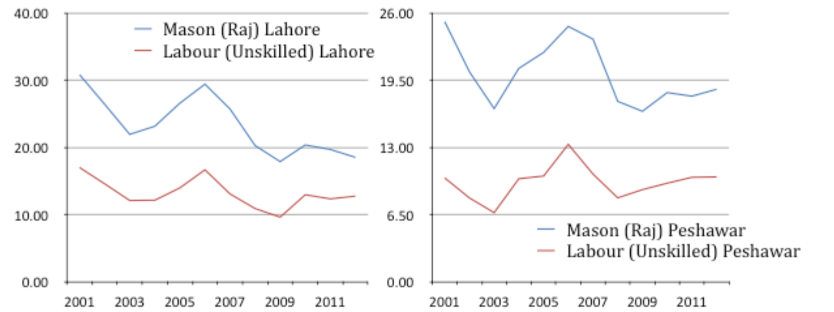
[...] the price of wheat flour in Pakistan has increased more rapidly since 2001 than wages of skilled and unskilled workers

Table 6: Quintile-wise share of household expenditure (%) 2011-12

	Expenditure on food	Expense on wheat and wheat flour as proportion of total expense on food
5th Quintile	36.3	8.7
4th Quintile	47.8	13.3
3rd Quintile	50.7	15.8
2nd Quintile	53.2	18.2
1st Quintile	56.2	21.0
Total	45.0	13.8

Source: Household Integrated Economic Survey 2011-12

Figure 1: Kg. of Wheat Flour equivalent per daily wage of Labor



Source: HIES surveys 2001-2011

It should be noted that the subsidy is not entirely consumed by the poor. Appendix C estimates the benefit of subsidy to various quintiles. It shows that 34.8% of subsidy is consumed by households in the top two quintiles. As is well known, food comprises a greater proportion of household consumption in poorer quintiles, and they derive a larger proportion of their calories from wheat flour. Thus, households in 1st, 2nd and 3rd quintile spend a larger amount per month on procuring wheat and wheat flour. Their consumption of subsidy is correspondingly larger. Whereas the 5th quintile consumes Rs. 116.1 per month per household of subsidy, the 1st quintile consumes Rs. 162.9 per month per household.[21]

4. WEAKNESSES OF THE PRESENT SYSTEM

In summary, the above analysis identifies four key weaknesses from the system at present:

Actual subsidy amounts to only a small share of the total cost of the program, and is shared among all consumers, not just the poor.

1. **Procurement problems, intermediaries, and exclusion of small farmers.** Due to the lack of sophisticated forecasting models, there are problems calculating annual procurement needs. The large administrative burden and cost to farmers is overwhelming to those with small marketable quantities, thus they must employ intermediaries and consequently lose most of the benefit the program seeks to provide.

2. **Losses and poor quality of subsidized flour.** The procurement and storage system leads to losses that are not accounted for, prompting adulteration of wheat and consequently reduced quality and quantity of the final product.

3. **Low benefit from subsidy.** Actual subsidy amounts to only a small share of the total cost of the program, and is shared among all consumers, not just the poor.

21 Including the cost of new bank borrowing for procurement operations in 2011-12, but excluding the cost of outstanding debt.

4. Waste of money financing past debts. Annually the government spends over 90% of the program costs on bank mark-ups, a substantial proportion of which is due to past accumulation of debt in the system.

5. REFORM OPTIONS

The PFD is yet to share plans for reforming the system. Based on the above analysis, the following reforms could be considered:

[...] spending the fiscal savings on more efficient social assistance programs (such as cash transfers to the poor) would have a greater antipoverty impact.

1. **Retiring existing debts.** As shown above, the bulk of the program's cost is dedicated to servicing past debts, which are financed using costly short-term commercial credit and rolled over annually without the principal being reduced. This debt burden should be either eliminated through a one-off lump sum transfer, or refinanced as a long-term loan ideally on concessional terms with a plan to ultimately pay off the principal.

2. **Setting informed procurement targets.** The existing system for estimating demand and supply at the district and provincial level is inaccurate and leads to distortions in the system. PFD is receptive to suggestions to reduce annual procurement, or at least to develop a more scientific basis for setting procurement targets annually. For this, PFD will have to develop capacity for sophisticated modeling.

3. **Staggering procurement over the year.** Staggered procurement is also a familiar idea, but has not yet been considered seriously. Staggering procurement would reduce cost of storage and mark up charges. It would also help develop storage capacity in the private sector, including with large farmers. PFD would need to price its later procurements slightly higher to cover the carrying costs for farmers who sell later.

4. **Liberalizing the procurement regime.** Another reform under consideration has been liberalization of the procurement regime to the extent that PFD can procure from whosoever presents his stock at the Centre in whatever quantity. This will save PFD the cost of record keeping and verification. More importantly, it will make the process more attractive for the farmer who will have one step less to complete. PFD will still be able to build its stocks and raise overall market price through its significant presence in the market.

5. **Developing a mechanism for targeting subsidies on atta sales.** There are no recent studies on the likely impact of withdrawal of subsidies on wheat price and on consumers, and the analysis above shows that the current benefit is at most marginal. Undertaking the above reforms and spending the fiscal savings on more efficient social assistance programs (such as cash transfers to the poor) would have a greater antipoverty impact. However, for political purposes it may be preferable to maintain some subsidy for the poor. One option would be to use the BISP poverty survey to objectively identify poor

and lower middle class households. For this purpose, given Punjab's relative prosperity, it would probably be necessary to identify a higher cutoff than the one used by BISP (16.17) in order to cover a greater proportion of the poor and vulnerable population. Separate urban and rural cutoffs could also be considered, to alleviate concerns that the scorecard is rural-biased. Another option is to use the utility stores network[22] to provide subsidized atta to deserving household after biometric verification. However, the utility stores do not currently have a credible system for beneficiary verification. Furthermore, their track record shows considerably inefficiency: in their subsidized sugar program, it cost Rs 15 billion to provide a benefit of Rs 2.5 billion to sugar consumers in 2012-13.[23]

6. CONCLUSION

This note has reviewed the current wheat procurement system in Punjab. It is evident that the existing system delivers only limited benefits to the two groups for which it was originally designed: poor consumers and small farmers. Inefficiencies and debts command the bulk of the system's costs, leaving a relatively small share of the program's annual expense for direct or indirect subsidies.

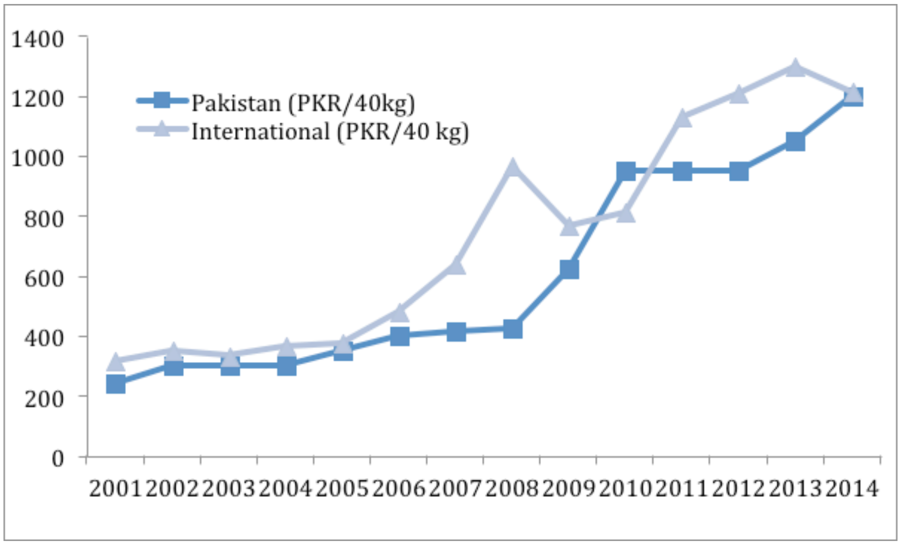
Inefficiencies and debts command the bulk of the system's costs, leaving a relatively small share of the program's annual expense for direct or indirect subsidies.

The government's reform options depend on its objectives. If the objective is to achieve fiscal savings, it is imperative to restructure or repay the substantial debt to commercial banks, which is financed through high-cost, short-term debt. If the objective is to improve the efficiency of the food procurement system for strategic and market-related reasons, the procurement system needs substantial reform and improved planning mechanisms. We have touched on a few basic changes that would improve the system's benefit to small farmers, but fully outlining the reform of the system goes beyond the scope of this note. Finally, if the objective is to target assistance to the poor, it should first be noted that wheat subsidies are a highly inefficient means of providing this assistance. Less than a third of the total expense of the program benefits consumers, and of that even less benefits the poorest. Cost savings from retiring debt and reforming the procurement system would provide scope for greater subsidies, and targeting these subsidies using the BISP poverty scorecard would further enhance the benefit for the poor. However, a more efficient means of providing assistance would be to eliminate the subsidies entirely, let the market price wheat efficiently, and provide direct cash transfers to beneficiaries of a well-run social protection program.

22 The Utility Stores Corporation has a network of 2,938 stores in Punjab.

23 Calculations based on data from the Utility Stores Corporation.

Appendix A: Comparison of wheat procurement price in Pakistan with international price of wheat



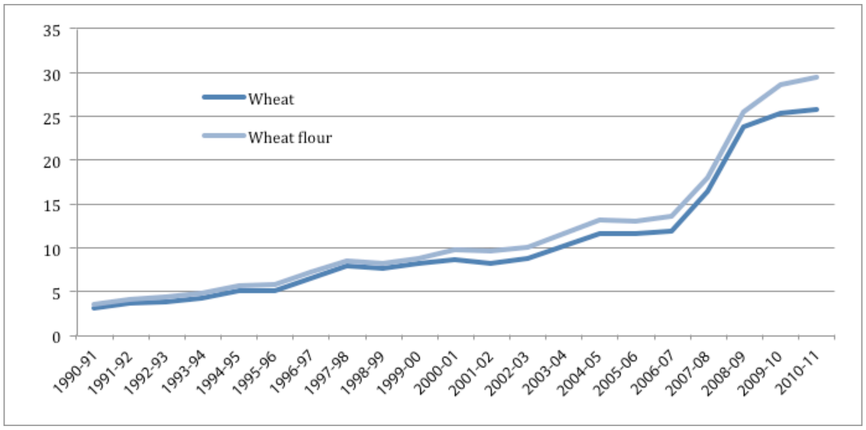
Source: International price data from International Grains Council website
Currency exchange rates are for 1st April of each year (canda.com)

Wheat Support Price (Rs. Per 40 kg)

	Pakistan	International		US$ = PKR
		PKR/40 kg	US$/Ton	
2001	240	317	129.65	61.13
2002	300	352	150.83	58.27
2003	300	334	149.64	55.73
2004	300	366	161.31	56.65
2005	350	375	157.81	59.48
2006	400	480	199.65	60.13
2007	415	639	263.8	60.54
2008	425	968	344.58	70.24
2009	625	767	235.69	81.35
2010	950	813	240.81	84.43
2011	950	1131	330.08	85.66
2012	950	1212	327.15	92.60
2013	1050	1299	322.4	100.71
2014	1200	1215	303.25	100.19

Source: international prices from International Grains Council website
Currency exchange rates are for 1st April of each year (canda.com)

Appendix B: Flour prices (Rs. Per kg)



Appendix C: Estimating per household subsidy consumption by various quintiles 2011-12

	Monthly consumption (Rs.)	Expense on food (Rs.)	Expense on wheat and flour (Rs.)	Wheat flour consumed (kg.)*	Subsidy (@ Rs. 3.12 per kg)**
5th Quintile	34,774.4	12,631.0	1,099	37.2	116.1
4th Quintile	21,741.2	10,403.2	1,384.7	46.8	146.0
3rd Quintile	18,900.6		1,515.3	51.3	160.1
2nd Quintile	16,412.5	8,734.5	1,589.7	53.7	167.5
1st Quintile	13,122.9	7,368.0	1,544.3	52.2	162.9
Total	22,378.6	10,073.5	1,395.1	47.2	147.3

Source: Authors' construction from consumption data of HIES 2011-12, and Tables in this Note.

* @ Rs. 29.56 per kg;

** total subsidy (including cost of bank charges) in 2010-11 was Rs. 6.1 per kg (Table 1). Table 2 tells that 90.1% of this cost was due to bank borrowing, of which only 45.8% was new borrowing (Table 4). Thus, subsidy per kg in 2011-12 (excluding cost of outstanding debt, but including cost of borrowing for procurement operations in that year) comes out to be Rs. 3.12 per kg per month per household ((6.1*90.1%*45.8%) + (6.1*9.9%) = Rs. 3.12 per kg).

WORLD BANK GROUP
Social Protection & Labor