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Financial Efficiency of Regulated Markets in Punjab

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Abstract

A financially efficient market creates a better infrastructure in the market yard which further attracts more market arrival and increases the income of the farmers. Thus, the present study was conducted to examine the financial efficiency of the regulated markets in Punjab based on the primary data. The stratified random sampling technique was used to select the sample of nine markets from the three agro-climatic zones of Punjab belonging to small, medium and large sizes. Results revealed that the income and expenditure of the regulated markets had increased during the study period and the major source of the income was market fee and expenditure was establishment works. It was found that both the income and expenditure were directly proportional to the size of the markets. Further, to check the efficiency of the markets, the income-expenditure ratio, income-establishment expenditure ratio and income-construction ratio were calculated and it was studied that large and medium markets were financially more efficient as compared to small ones. The financial ratios were more than one for the selected markets which mean income was greater than expenditure and during the last eight years, the market committee had gained profit and had worked efficiently. Zone-wise analysis stated that markets of Zone-I were not financially efficient as compared to Zone-II and Zone-III due to less market arrival in the markets which consequently had the lesser market income from the market fee. The study concluded that an efficient agricultural marketing system can be evolved by improving, strengthening and optimally utilizing the existing funds of regulated markets.

Keywords: Regulated markets, Income, Expenditure, Financial efficiency

JEL Classification: L10, M31, Q10

Introduction

The importance of agricultural marketing has always remained a hidden fact till the mid-fifties. The importance of orderly marketing of agricultural commodities in the overall welfare of the Indian economy was realized in late fifties. Though a model bill was prepared in 1938 by the Central Agricultural Marketing Department based on the findings of the Royal Commission on Agriculture submitted in 1928, the regulation of markets got momentum only after late fifties. It has been argued that an increase in the output of farm produces would have been a distant dream without the development of a regulated and efficient system of marketing (Dasan 1997, Rangi 1990, Rangi and Sidhu 1998 and Gupta and Bharadwaj 1996, Singh and Goyal 2019).

Realizing the importance of regulation in agriculture marketing, the Punjab state passed the Punjab Agricultural Produce Market Act, 1939 which was modified in 1961 and is in effect till date. The Punjab State Agricultural Marketing Board (Punjab Mandi Board) was established under this act to guide, supervise and control the market committees of the state (Kaur and Kaur 2003). The market committees numbering 153 levies and collect the market fee on the sale and purchase of the agricultural commodities at a rate determined by the mandi board and contribute to the market development fund (MDF) of the mandi board from their incomes, based on the volume of market fees collected by these market committees. Besides this, the concerned market committees spend the amount of funds for various establishment and construction works.

An efficient agricultural marketing system can be an effective agent of change and an important means of raising the income level of the farmers and the satisfaction level of the consumer. It supports in the optimization of resource use, output management, increase in farm incomes, widening of markets, development of agro-based industry and addition to national income through value addition and employment creation (Acharya, 2006). Thus, an effectual marketing system can be harnessed to progress the quality of the masses (Sidhu,1990).

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Thus the Punjab model of agricultural regulated markets in Punjab is a distinctive one, where certain amounts of the market fee is levied on the market arrivals to generate income and further infuse a part of this income for the purpose of constructing necessary market infrastructural facilities including link roads in the rural areas which will increase the efficiency of the marketing system. So the financial performance of the regulated agriculture markets is really important because of the overall development of the agrarian community but also as the better allocation of these funds for the better infrastructure and basic amenities in the regulated agriculture markets depends upon it, which further attracts more market arrival and increase the income of the farmers. Therefore, the present study was conducted to identify the source of income and expenditure, the magnitude of income and expenditure and financial efficiency of the regulated markets in Punjab.

Data sources and Methodology

The study has been conducted in all the three agro-climatic zones of Punjab state during the year 2019-20. The stratified random sampling technique was used to select the sample. There were 153 regulated markets in Punjab during 2019-20. All the regulated markets in Punjab were divided into three parts on the basis of three zones of Punjab. From each zone three markets i.e. small, medium and large markets were selected for in-depth study. A cube root frequency method was applied to categories all the markets into small, medium and large for each zone separately on the basis of total market arrivals of wheat, paddy (including basmati), cotton and maize. It was achieved by working out the total market arrivals of the four major crops i.e. wheat, paddy (including basmati), cotton and maize for the years2014-15 to 2018-19. The detailed account of which is summarized in Table 1.

Table 1. Category-wise distribution of markets related to Zone I, Zone II and Zone III in Punjab (2014-15 to 2018-19).

(Million q)

Market	Zone I	Zone II	Zone III
Small	up to 4.01 (4)	up to 13.8 (21)	up to 8.87 (11)
Medium	4.01 to 6.25 (11)	13.8 to 18.8 (49)	8.87 to 14.08 (15)
Large	6.25 & above (6)	18.8 & above (26)	14.08 & above (10)
Total no. of markets	21	96	36

Figures in the parentheses are the number of market committees in the respective category

One market from each category was chosen from each zone at random thus making a sample of nine markets from three agro-climatic zones. Thus, Batala, Pathankot and Ropar relating to Zone-I, Amritsar, Jagraon and Tapa relating to Zone-II and Malout, Bhikhi and Raman relating to Zone-III were finally selected randomly. Three markets so selected represented large, medium and small markets respectively for above-said zones. The data regarding the market arrivals, income and expenditure were collected from the offices of the selected market committees. The data were analyzed by computing the income-expenditure ratio, construction work-income ratio and establishment expenses-income ratio.

Income-expenditure ratio: Income consists of the earnings to the market committee from various sources like market fee, license fee, recovery of loan, miscellaneous income, interest on bank deposits and others etc. Expenditure is the spending by the selected market committees on the various heads like salaries, traveling allowance, contingencies (recurring and non-recurring), construction works etc. Total expenditure is the summation of establishment expenditure and development expenditure (Kamala and Chahal, 2013).

$$\text{Income - expenditure ratio} = \frac{\text{Total income}}{\text{Total expenditure}}$$

Total income-construction works ratio:

Construction work comprises of expenditure on new link roads, new development works, repair of link roads, repair of development works and other development works (Kamala and Chahal, 2013)

$$\text{Total income - construction work ratio} = \frac{\text{Total income}}{\text{Expenditure on construction works}}$$

Total income-establishment expenditure ratio:

Establishment expenditure deals with the salaries of the employees, traveling allowance, contribution, license fee under section 10, audit fee, contingencies (recurring and non-recurring), facilities and some other establishment expenditures (Kamala and Chahal, 2013).

$$\text{Total income - establishment expenditure ratio} = \frac{\text{Total income}}{\text{Expenditure on establishment works}}$$

Results and Discussion

The results obtained from the analysis of data are discussed under different sub-heads as under:

Source of income and expenditure in the regulated markets

The financial performance of the regulated markets deals with the pattern of income and expenditure on various heads. The total income of the market in any financial year consists of opening balance, income from market fee and income from other sources. The opening balance is the amount of funds in a market's account at the beginning of a new financial year. Regulated markets are service rendering agencies and their main source of income is the market fee. The existing rate of market fee on purchase of sale transactions of agricultural produce specified in the schedule are up to 3%. Timber and firewood had recently been added in the schedule of the Act and 1% fee is levied on the purchase or sale of the same (GOI, 2021). In addition to this, the state government had also levied the Rural Development Fund on the purchase or sale of agricultural produce under the Rural Development Fund Act, 1987 which was executed by the Punjab Rural Development Board. The market committees have been made as the collecting agencies for the same. All money received by a committee shall be paid into a fund to be called the Market Committee Fund and all expenditure incurred by the committee under or for the purposes of this Act shall be defrayed out of such fund, and any surplus remaining after such expenditure has been met shall be invested. Further, all the market committees had to contribute a fixed proportion of their income to the Punjab Mandi Board. The market committees with an annual income up to Rs.20 lakhs contribute 20 percent of their income to the Board. This figure was 40 percent for the market committees with income from Rs.20 to 40 lakhs. The financially sound market committees with income above Rs. 40 lakhs contribute 50 percent of their income to the Board. The financially weak committees contributed less whereas the committees with higher income contributed more (GOI, 2021). This difference had been kept to provide a rational allocation of funds for development to all the market committees of the state (Rangi and Sidhu, 1998). The income from other sources included a payment from license fees, recovery of loans, interest on bank deposits etc.

The markets used to make expenditures on the various heads like salaries, traveling allowance, contingencies (recurring and non-recurring), construction works, etc. Total expenditure was the summation of establishment expenditure and development expenditure. Establishment expenditure deals with the salaries of the employees, traveling allowance, contribution, license fee under section 10, audit fee, contingencies (recurring and non-recurring), facilities and some other establishment expenditures. Whereas construction expenditure includes expenditure on new link roads, new development works, repair of link roads, repair of development works and other development works.

Income and expenditure of the regulated markets

The income and expenditure of the nine selected regulated markets for the year 2011-12 to 2018-19 along with their source of income and expenditure has been presented in Table 2. The outcomes revealed that the average income of the Batala (Large), Pathankot (Medium) and Ropar (Small) markets of Zone-I was ₹ 1132.23 lakhs, ₹ 622 lakhs and ₹ 364.31 lakhs, respectively. In the case of Zone-II, average income for the Amritsar (Large), Jagraon (Medium) and Tapa (Small) markets was ₹ 2105.23 lakhs, ₹ 1304.57 lakhs and ₹ 975.77 lakhs, respectively. Similarly average income of ₹ 2381.17 lakhs, ₹ 960.29 lakhs and ₹ 536.57 lakhs were collected by Malout (Large), Bhikhi (Medium) and Raman (Small) markets of Zone-III. It was concluded from the results that income was directly proportional to the size of the markets as large markets have more income and vice-versa, in case of all the Zones. It can be also seen from the results that the income of all the markets had been found to increase over the period of time and the major source of the income was the market fee. Thus the financial performance of the regulated markets in Punjab had been quite satisfactory indicating healthy growth of agricultural markets of the state during the period under study.

The average expenditure for the Batala (Large), Pathankot (Medium), Ropar (Small), Amritsar (Large), Jagraon (Medium), Tapa (Small), Malout (Large), Bhikhi (Medium) and Raman (Small) was ₹ 974.9 lakhs, ₹ 559.39 lakhs, ₹ 326.20 lakhs, ₹ 1892.53 lakhs, ₹ 1081.26 lakhs, ₹ 900.39 lakhs, ₹ 1760.09 lakhs, ₹ 809.6 lakhs and ₹ 498.85 lakhs. Likewise, income, expenditure was also directly proportional to the size of the markets. It was also observed that expenditure had also been increasing over a period of time in all the markets and the major source of expenditure was establishment works.

The highest average income was associated with the large market (Malout) of Zone-III followed by the large market (Amritsar) of Zone II and the lowest income belonged to small market (Ropar) of Zone-I. So it was concluded that markets of Zone-I were not financially efficient as compared to the other two zones of Punjab due to less quantity of market arrival.

Financial efficiency of the regulated markets

To estimate the efficiency of the selected markets of Punjab, financial ratios were calculated for the year 2011-12 to 2018-19 and presented in Table 3. The results revealed that the average income-expenditure ratio for the Batala (Large), Pathankot (Medium) and Ropar (Small) markets of Zone-I was 1.16, 1.11 and 1.12, respectively. In the case of Zone-II, the average income-expenditure ratio for the Amritsar (Large), Jagraon (Medium) and Tapa (Small) markets were 1.11, 1.21 and 1.08, respectively. Similarly, the ratio of 1.35, 1.19 and 1.08 was computed for Malout (Large), Bhikhi (Medium) and Raman (Small) market of Zone-III. Thus, it was computed that the income-expenditure ratio was more than one for all the markets which mean income was greater than expenditure and during the last eight years market committee had gained profit and worked efficiently. It was also observed that a higher income-expenditure ratio was associated with large markets in the case of Zone-I and Zone-

Table 2. Income and expenditure of the selected markets in Punjab, 2011-12 to 2018-19 **(Rs. in lakhs)**

Markets	Opening Balance			Income From Market Fees			Other Income			Income			Establishment Expenditure			Construction Expenditure			Expenditure		
	2011-12	2018-19	Average	2011-12	2018-19	Average	2011-12	2018-19	Average	2011-12	2018-19	Average	2011-12	2018-19	Average	2011-12	2018-19	Average	2011-12	2018-19	Average
Zone-I																					
Batala (Large)	53.32	257.17	85.19	770.78	1698.16	953.11	41.07	93.92	78.46	865.17	2049.25	1132.23	769.85	1419.72	923.04	52.38	95.13	51.86	822.23	1514.85	974.9
Pathankot (Medium)	17.3	193.43	81.62	348	881.86	481.95	65.07	82.94	68.77	430.37	1020.38	622	252.88	668.26	513.12	81.52	113.29	46.27	334.4	781.55	559.39
Ropar (Small)	41.07	93.92	13.86	166.94	792.61	349.07	11.03	28.69	20.96	182.04	677.46	364.31	165.79	481.34	312.14	3.3	26.46	14.12	169.09	507.8	326.26
Zone-II																					
Amritsar (Large)	148.9	518.63	214.81	1387.51	2302.32	1660.95	177.09	354.67	252.17	1713.5	2994.09	2105.23	1403.94	1866.29	1615.69	165.57	744.91	276.83	1569.51	2611.2	1892.53
Jagraon (Medium)	44.29	281.19	105.05	711.77	2390.69	1178.12	249.19	60.35	93.16	1005.25	2158.42	1304.57	637.69	1101.5	935.69	292.03	189.18	145.57	929.72	1290.68	1081.26
Tapa (Small)	32.99	170.92	54.06	528.37	1940.57	937.59	64.72	14.35	42.69	626.08	1642.01	975.77	447.2	1293.9	786.13	146.22	86.17	114.26	593.42	1380.07	900.39
Zone-III																					
Malout (Large)	18.68	1324.23	278.59	1233.73	3906.67	1971.62	119.92	54.76	121.14	1372.33	5285.66	2381.17	955.81	2421.16	1470.15	327.06	694.62	289.95	1282.87	3115.78	1760.09
Bhikhi (Medium)	15.9	268.91	84.61	507.56	2015.84	893.81	68.68	26.18	44.71	592.14	1808.23	960.29	380.33	1230.37	676.77	151.05	110.93	132.83	531.38	1341.3	809.6
Raman (Small)	25.76	48.41	26.91	295.46	954.6	499.9	5.25	9.29	7.47	326.47	1012.3	536.57	297.64	868.77	480.99	10.22	43.77	17.86	307.86	912.54	498.85

Table 3. Financial ratios to estimate the efficiency of the selected markets in Punjab, 2011-12 to 2018-19

Markets	Income Expenditure Ratio			Income Establishment Expenditure Ratio			Income Construction Expenditure Ratio		
	2011-12	2018-19	Average	2011-12	2018-19	Average	2011-12	2018-19	Average
Zone-I									
Batala (Large)	1.05	1.35	1.16	1.12	1.44	1.23	16.52	21.54	21.83
Pathankot (Medium)	1.29	1.31	1.11	1.7	1.53	1.21	5.28	9.01	13.44
Ropar (Small)	1.08	1.33	1.12	1.1	1.41	1.17	55.16	25.6	25.81
Zone-II									
Amritsar (Large)	1.09	1.15	1.11	1.22	1.6	1.3	10.35	4.02	7.6
Jagraon (Medium)	1.08	1.67	1.21	1.58	1.96	1.39	3.44	11.41	8.96
Tapa (Small)	1.06	1.19	1.08	1.4	1.27	1.24	4.28	19.06	8.54
Zone-III									
Malout (Large)	1.07	1.7	1.35	1.44	2.18	1.62	4.2	7.61	8.21
Bhikhi (Medium)	1.11	1.35	1.19	1.56	1.47	1.42	3.92	16.3	7.23
Raman (Small)	1.06	1.11	1.08	1.1	1.17	1.12	31.94	23.13	30.04

III, whereas in the case of Zone-II, it was associated with medium markets. This clearly shows that large and medium markets were financially more efficient as compared to small markets. It was also observed that the income-expenditure ratio was increasing from the year 2011-12 to 2018-19 for all the markets. This means that the pace of spending money was less than the income.

Likewise, the income- expenditure ratio, the income-establishment expenditure ratio was also higher in the large markets of Zone-I and Zone-III. This may be due to the fact that the income of the large markets was higher but the number of persons employed was almost the same. In the case of Zone-II, a higher ratio was associated with the medium market due to the fact that the Jagraon (Medium) market has a very less number of staff i.e. 18 as compared to Amritsar (Large) market i.e. 42.

The income-construction ratio was lower in the case of large markets in case of Zone-I and Zone-III and medium markets for Zone-II. This was because less amount was spent on construction work in the case of small markets as compared to large and medium ones. From the income-construction ratio, it was found that the large and medium markets were financially more efficient as compared to small markets. Results were supported by the study conducted by Sukhsanjam *et al* (2000) in the regulated markets of Punjab where the income-establishment expenditure ratio was higher for large markets and the income-construction ratio was lower for large markets.

Thus, it was concluded from all the three ratios calculated below that large and medium markets were financially more efficient among the selected markets, results were consistent with the study conducted by Kamala and Chahal (2013). It was also summarized from the analysis that Malout market (Zone III) was financially the most efficient market because it had the highest average income-expenditure ratio followed by Jagraon market (Zone II) among all the selected markets, which clearly states that markets of the central and south-western zone were financially more efficient. Market arrivals in these markets were also highest during the study period, consequently having a higher market income from the market fee.

Conclusion and Policy Implications

The regulated markets being a social organization had been spending lots of funds on the development and creation of new market infrastructure to cope with the increasing volume of business. Consequently, the markets of Punjab had become financially efficient as defined by the increasing income and positive financial ratios during the study period. But still, there was a need to tighten the existing loopholes in the present marketing system by better allocation of funds and providing more staff for the management and supervision of financial departments of market committees. Although a lot of investment has been made as shown through development expenditure and the marketing process facilitated, there was a lot of scope for additional infrastructure to meet the emerging needs of the agricultural marketing sector. It was also concluded from the results that small markets and the markets of Zone-I were financially less efficient. Therefore, more emphasis should be laid on enhancing the existing facilities in the small markets and markets of Zone-I so that these markets could attract more market arrivals and consequently generate more income.

References

Acharya S S 2006. Agricultural Marketing and Rural Credit for Strengthening Indian Agriculture. *INRM Policy Brief No. 3*. New Delhi, Asian Development Bank, 20-25. http://hdl.handle.net/11540/1458

Dasan B 1997. Regulation of agricultural produce markets in Tamil Nadu. *Indian Journal of Agricultural Marketing* **11**: 188-93. https://scholar.google.com/scholar?hl=en&as_sdt=0%2C5&q=Dasan+B+1997.+Regulation+of+agricultural+produce+markets+in+Tamil+Nadu.+Indian+Journal+of+Agricultural+Marketing+11%3A+188-93.&btnG=

GoI 2021. Punjab Mandi Board , Mohali culled from http://www.mandiboard.nic.in/

Gupta J K and Bhardwaj G D 1996. Role of Punjab Mandi Board and market committees in marketing of agricultural produce and inputs in Punjab**.** *Journal of Agricultural Development and Policy* **7**: 72-77.

Kamala and Chahal S S 2013. Financial and managerial efficiency of Punjab Mandi Board in marketing of fruits and vegetables. *Indian Journal of Economics and Development* **9**: 212-19. http://dx.doi.org/10.5958/j.2322-0430.9.3.003

Kaur P and Kaur A 2003. Progress and Performance of Regulated Markets in Punjab. *Indian Journal of Agricultural Marketing* **17**: 34-40. DOI:10.5958/j.2322-0430.10.1a.021

Rangi P S 1990. Punjab Mandi Board in the sevices of farmers. *Mandi Darpan*: 14-22.

Rangi P S and Sidhu M S 1998. Role of Punjab mandi board in marketing development. *Indian Journal of Agricultural Marketing***12:** 100-109. https://scholar.google.com/scholar?hl=en&as_sdt=0%2C5&q=Rangi+P+S+and+Sidhu+M+S+1998.+Role+of+Punjab+mandi+board+in+marketing+ development.+Indian+Journal+of+Agricultural+Marketing12%3A+100-109.&btnG=

Sidhu D S 1990. Some Aspects of Agricultural Marketing and Pricing Policies in India,Presidential Address. *Indian Journal of Agricultural Economics*. **45**: 433-47. DOI: 10.22004/ag.econ.272451

Singh G and Goyal M 2019. Pattern of employment and level of income of mandi labour in agricultural regulated markets in south-western Punjab. *Journal of Agricultural Development and Policy* **29**: 80-87. http://isadp.in/publication/P8.pdf

Sukhsanjam, Chahal S S and Toor M S 2000. An impact of market regulations on adequacy of market infrastructure of Punjab11. *Indian Journal of Agricultural Marketing.***14**: 21-23. https://scholar.google.co.in/citations?view_op=view_citation&hl=en&user=nAq6AMEAAAAJ&citation_for_view=nAq6AMEAAAAJ:Mojj43d5GZwC

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