

Measuring Financial Efficiency of Public Enterprises in Nepal

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Introduction

A number of criteria have been developed by economists to judge the efficiency of public enterprises. These criteria are: (a) creation of economic benefits, (b) creation of social and distributive benefits, and (c) creation of financial benefits include the attainment of allocative efficiency, generation of employment opportunities, maximization of national benefits in terms of national output and economic growth. Social and distributive benefits measure the accomplishment of attaining the goal of redistributing incomes, development of backward regions and distribution of goods and services at a subsidised price. And, financial benefits criterion considers the fiscal efficiency in mobilising the funds for either self-financing of the public enterprises or for transferring to the government's account. Of the three criteria, the creation of financial benefits criterion has been commonly accepted both by economists and the governments. Two valid reasons have been stipulated for the common acceptance of this criterion. The first one is that a part of the surplus earned by public enterprises is transferred to the government and secondly, the surplus generated by public enterprises could be used for self-financing of the public enterprises. The second argument also internalizes the benefits in terms of fund disposal which, in turn, enables the enterprises financially and administratively more independent.

On the consideration that public enterprises have been deliberately made the instrument of mobilising the financial resources, there has been a general feeling that governments do make investment with this end in view. This leads to a general thesis that the amount of transfers of public money in the form of share capital, loan and subsidies, should help to generate adequate rate of return assuming that the overriding consideration of the public enterprises is to earn surplus. It is the practice of most of the governments to grant transfers to public enterprises to make them going when they rack up at a chronically decrepit financial position. Sometimes transfers are also made as an additional investment for financing the expansion, modernization and development needs of the public enterprises.

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When transfers are made by the government to meet losses or to meet additional financial requirement of the public enterprises the decision regarding the amount of transfers and the beneficiary enterprises becomes arbitrary. Funds are transferred without considering the efficiency impact. The usual procedure is that the request for required funds for the enterprises is submitted to the Ministry of Finance to integrate into government's budget through parent Ministry. A certain fund is set aside annually by the government which may be transferred to various public enterprises without investigating the genuineness of the requirement. If transfers are made according to the broadly stated fiscal objectives i. e., policy of resource mobilisation through public enterprises, the study of government's transfers to various public enterprises, their surplus generation, increase in fixed capital formation, and the interrelationship between transfers and surplus earned by public enterprises, and the investment in fixed capital formation becomes imperative.

Objectives

With this imperative in view this paper intends (a) to measure the extent to which different sizes and types of public enterprises have generated surplus either for self-financing or for transferring to the government, (b) to find what amounts of transfers different size and types of public enterprises do require, (c) to examine whether transfers to public enterprises are correlated with surplus and or with investment. This may help to indirectly judge the main purposes of the government behind making annual transfers to public enterprises. And (d) to examine whether or not investment by public enterprises in fixed capital formation is determined by surplus generation capacity.

Justification of the Study

This analysis focuses exclusively on the case of Nepal. Nepal is an underdeveloped country sandwiched between India and China. The creation of public enterprises in different sectors was the only way for Nepal to break the economic impasse. This is for the simple reason that the private sector is very much underdeveloped. Therefore, with the launching of development plans since mid 50s, a rapid increase in the size of public enterprises has been witnessed. Pertaining to the period 1977-78 (for which data are available for analysis and also Government's policy was changed afterwards) there were more than sixty public enterprises operating in various sectors. This number reduced to forty-five in the fiscal year 1980-81. Of the various justifications given by the Government for reducing this number, one important reason the Government mentioned (though untenable) was the blatant inefficiency of public enterprises in financial term. The creation of financial benefit by public enterprises has been the only official objective set for them. In all the budget documents and the development plans the main objective for public enterprises would be for mobilisation of financial resources for meeting the Government's public expenditure programme.

Until 1978-79 the Government had already invested Rs. 2237.5 million (about U.S. Dollar 157.57 million). This amount created employment for about 33000 people in the

public sector enterprises. But if we look into the contribution of these enterprises it presents a very dismal performance. The rate of return is declining and for some years the rate of return on networth is negative. According to the Government's report the net profit after tax was -15.3 million. So three factors have justified the need for this study. They are: (a) persistent insistence of the Government on the financial benefit criterion, (b) the regular transfer of money from the Treasury to public enterprises and (c) the unsatisfactory performance of these enterprises.

Methodology Followed in the Study

This analysis is based on the methodology adopted by Andrew H. Gantt and Giuseppe Dutto for their study on *Financial Performance of Government Owned Corporations in Least Developed Countries*. They had studied the financial performance of 64 corporations in 26 countries for an average of 7 years each. Nepal was not included in this study. However, this methodology has been modified in this study to explain the behavioural aspect between the interrelationship between investment profitability and financing of investment by using other variables.

This article is divided into two main parts according to the objectives specified. The first part covers the financial analysis. The technique used is a modified *Flow of Fund Analysis*. The various items of sources and application of fund have been expressed in terms of ratios whose base is the 'activity'. Activity is defined as the average of operating revenue and operating expenditure. This is used as a measure of the size of the public enterprises.

In order to calculate the amount of surplus to judge the financial performance and the quantum of government's transfers required by public enterprises the following informations were obtained. They are: (a) the amount of surplus (or loss) that a public enterprise has made, (b) the investment in fixed capital formation by public enterprises, (c) the surplus after investment, and (d) need for government transfers. For calculating the amount of surplus the operating expenses is deducted from the operating incomes. Following Gantt and Dutto, this surplus is called '*flow of fund*' throughout this paper. The word 'operating' excludes any income earned or expenses incurred outside the enterprises normal business activities. For instance, interest earned by way to investing money in buying securities of other companies, commission, brokerage or other expenses incurred for buying securities, etc., are excluded from computing operating incomes and operating expenses. These are referred as non-operating items. Depreciation is not included in the total operating expenses but deducted from the flow of fund to arrive at net income. This is to indicate how much replacement capital a given size of enterprise requires.

The next calculation is of investment in fixed assets. Here the figures of change in investment between two accounting periods has been taken place. The amount of net income is deducted from the change in investment in fixed capital formation to find out

the amount of budgetary support required to finance the public enterprises. These are all expressed in terms of ratios expressed as percentage of activity.

The second part of this article deals with certain behavioral aspects, i.e., the interrelationship between profitability, investment and government transfers. The rationale of studying this behavioral pattern is that Government transfers should lead to higher profitability if public enterprises are to act as agents of government's fiscal policy. Unless the public enterprises social obligations are not specified either by way of government's directives or on their own, higher investment should generally lead to higher profitability position. Apart from social obligation, there are other factors too (both external and internal) that may lead to lower returns, but the amount of investment can be computed by anticipating these factors.

To study these interrelationships the correlation coefficients between these variables and their respective *t*-values for all the public enterprises under study has been computed. Also computed is the relationship between (a) investment and profitability, (b) transfers and profitability, and (c) transfers and investment. In the first two cases profitability is expected to affect transfers. To compute the relationship between investment and profitability and transfers and profitability, it is taken one year lag in profitability. It is implied thereby that the current year's investment and transfers depend upon previous years profitability. Regarding transfers and profitability it is assumed that transfers are invested without any time lag.

Since all the public enterprises were expected indiscriminately to generate resources we clubbed them together to arrive at one coefficient for the years under study. This relationship was further tested by classifying public enterprises according to market structure and functional characteristics. This was not done by Gantt and Dutto. This classification will help to separate out those enterprises which should be able to show better financial performance than others.

In the market structure group public enterprises have been classified into three main groups e. g. monopoly, competitive, and other group. The other group consists of other market groups like duopoly, oligopoly, privileged market etc. But due to small number of public enterprises under such groups they are clubbed together and put under 'other group'. Under the functional classification there are five main groups. They are manufacturing, trade, public utilities, financial institutions and others. In the first two sectors there is enough observation to calculate a proper correlation coefficient. For the remaining sectors the number of observation is small. So instead of getting the coefficient for each year separately time series and cross-section figures is combined to get one coefficient. Owing to the fact that some public enterprises were established in 1973-74 the first two interrelationships could not be tested with the coefficients for 1974-75 and 1973-74 (lagged for the classified observation). Once we eliminate these enterprises for the above two years the number of ob-

servation will be small. Due to their being in the trade sector there is no gestation lag, therefore, the relationship for other years can be computed.

Owing to unavailability of data consistently and for all the existing enterprises beyond the period 1978-79 the study is restricted for a five year period i. e., from 1973-74. The reason for choosing the 1973-74 as the base period is that a large number of enterprises were established in the year 1972-73. The informations and data for this analysis are obtained from balance-sheets and profit and loss statements of all the 45 public enterprises selected for this study. The items of surplus, investment and transfers are not presented in their raw form, rather they are calculated as ratios whose base is the activity. For ready reference, activity is defined as average of operating revenue and operating expenditure of the public enterprises. As Gantt and Dutto stated "the base is a valuable analytical statistics, as well as providing a way around the problem of making comparisons among corporations. It is useful for governments to know how much subsidization, how much investment, etc., a given size of corporation may require."²

Empirical Results

Flow of Fund Ratio (As percent of Activity)

The flow of fund that means operating income minus operating expenditure has been computed as percentage of activity. This has been shown in Table 1.1. This table indicates that flow of fund constitutes only a small percentage of activity. The various sectors varied widely in terms of generating funds. Two sectors have generated comparatively high percentage of flow of funds. They are electricity and drinking water and financial institutions sectors.

Table 1.1
Flow of Fund Ratio (As percent of Activity)

Sectors	1973-74	1974-75	1975-76	1976-77	1977-78	Mean
1. Manufacturing	8.44	6.34	6.88	10.14	7.12	7.77
2. Trading	-0.83	1.06	-3.06	-2.14	-12.30	-3.56
3. Transport and Communication	-25.92	3.08	1.59	19.37	8.51	1.33
4. Electricity and Drinking Water	40.76	12.12	16.84	54.48	37.31	32.30
5. Community and Social welfare	-62.29	-60.25	-43.02	-45.70	-46.21	-51.50
6. Financial Institutions	37.42	24.72	34.95	39.45	39.74	37.26
7. Miscellaneous	11.77	-6.22	2.16	9.26	-1.11	-5.66
Mean	1.34	0.26	2.24	12.12	4.72	4.13

Regarding electricity and drinking water sector this percentage of flow of funds which comes to about 32.30 percent on an average is due to the exclusion of depreciation. If we add depreciation as an expense to the total operating expenses, the flow of fund will be very small or negative. This will be indicated by net income ratio. Only financial institutions will show a comparatively higher figure which is about 37.26 percent on an average. It means that for every 100 percent of activity 37.26 percent flow of fund is generated. The other two sectors which have comparatively better position are manufacturing and miscellaneous sectors which have 7.77 and 5.66 percent flow of fund on an average. The manufacturing sector had generated upto 10.14 percent of flow of fund in one of the years during the period under study. Transport and communication sector also showed a small percentage of positive flow of fund which is about 1.33 percent on an average. If depreciation allowance is deducted this sector will show a negative income ratio.

Public enterprises under trading sector have shown a performance far below the expectation and policy of His Majesty's Government. Their main objective (with some exception) would be to make revenue but contrary to this policy they are incurring deficits which the government has to bear. Even some of the public enterprises in the community and social welfare sectors are expected to generate flow of funds. But the losses in terms of activity are highest in this sector which is about - 51.50 percent on an average.

The overall mean figure shows that public enterprises have a very small percent of flow of fund. More investment may naturally increase the activity but it depends upon how expenditures and incomes are affected. If expenditures are increased more than incomes it will have a negative impact. This is so when the gestation lag is high. The actual generation of income will be indicated by the net income ratio. How much percentage of depreciation is constituted in the activity will be indicated by the depreciation allowance ratio shown in Table 1.2.

Depreciation Allowance (as percent of Activity)

The depreciation allowance which has been computed to find out the percentage of depreciation to flow of fund shows that sectors e.g. transport and communication, and electricity and drinking water, have the highest percentage depreciation allowance which came to about 16.89 and 31.15 percent respectively. In these two sectors the generation of flow of fund which is also expressed in activity terms is inadequate to meet the depreciation requirement. The lowest percentage of depreciation is being shown by the trading sector because of its comparatively small fixed assets requirement. The sectorwise depreciation allowance is shown in Table 1.2.

The mean figure indicates that except manufacturing and financial institutions, other sectors have a very high percentage depreciation allowance which comes to more than the flow of fund. In other sectors either the depreciation is so high that the flow of fund will be negative (i. e. the net flow of fund calculated below) or the flow of fund itself is nega-

tive so that if we add depreciation allowance the entire depreciation fund as well has to be financed externally. The yearwise position shows that only in 1976-77 the flow of fund was high enough to meet depreciation allowance (Table 1.1 and 1.2). In all the years the flow of fund is much less than the percentage of depreciation. The high rate of depreciation is inflated by exceptionally high depreciation activity ratio of the public utilities sector.

Table 1.2

Depreciation Allowance (As percent of Activity)

Sectors	1973-74	1974-75	1975-76	1976-77	1977-78	Mean
1. Manufacturing	5.72	5.24	5.68	4.78	4.41	5.17
2. Trading	0.98	0.16	0.19	0.67	0.71	0.54
3. Transport and Communication	20.28	14.52	16.52	15.42	17.70	16.89
4. Electricity and Drinking Water	35.34	46.52	26.48	36.92	30.51	35.15
5. Community and Social Welfare	3.16	4.98	5.40	8.18	8.73	6.09
6. Financial Institutions	2.88	1.30	3.07	1.34	1.56	2.03
7. Miscellaneous	5.34	5.29	7.46	7.17	11.98	7.45

Net Income Ratio (As percent of Activity)

The net income ratio (creation of surplus after providing for depreciation) either for self financing or for transferring to government's budget indicate a very bleak position. This has been computed by deducting the depreciation allowance from the flow of fund ratio. The net income ratio which has been shown in Table 1.3 shows that the sectors varied widely in generating net incomes. Only two sectors have generated fund for meeting either additional investment requirement or for other purposes. The highest amount of net income is being shown by the financial institution sector which is about 35.23 percent on an average. The manufacturing sector has only 2.6 percent net income. All other sectors have shown a loss making position. It shows that these sectors were not able to meet their current expenditure out of current incomes. Some sectors have shown some positive net income for some years. The electricity and drinking water and transport and communication sectors have shown a net income position for some years but the average position shows that they have a negative income. The net negative income position of the transport sector is quite high and comes to about 15.56 percent on an average. It means that quite a high percentage of the transfer, or funds have been spent to meet depreciation and other allowances. Higher activity may mean higher percentage contribution of depreciation to activity of this sector. The miscellaneous sector which has three public enterprises has shown a positive net income

ratio for three years but coming to the year 1977-78 it has shown a high percentage of negative income. The reasons being, one public enterprise which had offset the losses more than of other two public enterprises, has not been included in this year due to non-availability of data. This has caused a loss position on an average. The community and social welfare sector has shown a negative net income ratio for the years studied. The replacement of assets expenditure is comparatively higher in this group. Though the depreciation allowance is very low, the activity generated gives a high rate of negative flow of fund which is further aggravated by the addition of depreciation allowance.

Table 1.3
Net Income Ratio (As percent of Activity)

Sectors	1973-74	1974-75	1975-76	1976-77	1977-78	Mean
1. Manufacturing	2.72	1.1	1.12	5.36	2.71	2.6
2. Trading	-1.81	0.9	-3.79	-2.81	13.01	-4.1
3. Transport and Communication	-46.20	-11.44	-14.93	3.95	-9.19	-15.56
4. Electricity and Drinking Water	5.42	-34.4	-9.64	17.56	6.8	-2.85
5. Community and Social Welfare	-65.45	-65.23	-48.42	-53.88	-54.94	-57.59
6. Financial Institutions	34.54	33.42	31.88	38.11	38.18	35.23
7. Miscellaneous	6.43	0.93	-5.3	2.09	-13.09	-1.79
Mean	-9.19	-10.88	-7.02	1.48	-6.08	-6.34

The overall mean as indicated by this table shows that all the public enterprises taken together, the income generated by them is insufficient to meet even the depreciation allowance. The average percentage of negative income is about 6.34 percent. It shows that, of the additional resources transferred, about 6.34 percent of the activity will have to be made available in meeting the depreciation requirement. There is no fund left for self-financing. If we eliminate the community and social welfare sector, then only a certain percentage of fund will be left out because this alone shows -57.59 percent negative income ratio of its activity.

Investment Ratio (As percent of Activity)

The total financial requirement ratio will be indicated by the investment ratio minus the surplus after investment ratio. The calculation of investment ratio i. e., the change in investment in fixed assets is done by taking the average of all public enterprises under each sector. For this the figures of fixed assets is taken for a period of six years and then calculated the change in it. The investment ratio is given in Table 1.4. This table

Indicates that the ratio of investment to activity is very high in the capital intensive projects like electricity and drinking water sector requiring heavy finance. The reason for a high ratio investment to activity in the financial institution sector is that the expenditure and income of financial institutions are unlike other sectors. The deposit-investment function of the financial institutions is mainly of capital expenditure. This shows that quite a high amount of investment is required to generate one more unit of activity. In these two cases i.e., electricity and drinking water and financial institutions, about Rs. 3.43 and Rs. 2.34 worth of investment is required respectively on an average to generate 1 unit of activity. The trading and manufacturing sectors had comparatively a low percentage of investment ratio.

In the trade sector about Rs. 0.36 worth of investment was required to produce one unit of activity. The manufacturing sector required only 14 paisa (100 paisa makes one rupee) worth of investment to produce one unit of activity on an average. It is due to the fact that the whole operation of these sectors are reflected in the income and expenditure statement. Whatever sales and purchases or transaction takes place this is reflected either in the income or in the expenditure. The community and social welfare and miscellaneous sectors have equal investment ratio which came to about 42.95 percent on an average. The transport and communication sector showed the lowest activity to investment ratio despite its high capital intensity nature.

Table 1.4
Investment Ratio (As percent of Activity)

Sectors	1973-74	1974-75	1975-76	1976-77	1977-78	Mean
1. Manufacturing	-2.97	13.62	43.30	1.38	11.71	13.41
2. Trading	2.07	2.22	5.47	6.42	1.65	3.57
3. Transport and Communication	36.36	10.48	85.66	34.85	15.82	36.63
4. Electricity and Drinking Water	19.95	418.04	147.40	683.05	446.60	343.0
5. Community and Social Welfare	12.90	38.74	85.19	39.54	40.67	42.9
6. Financial Insti- tutions	288.58	506.40	70.21	195.42	108.27	233.7
7. Miscellaneous	6.25	8.71	59.04	129.58	7.82	42.28
Mean	51.88	142.60	70.61	155.75	80.39	102.2

The overall mean figures as shown in the table indicated that 1 rupee worth of investment was required to generate 1 unit of activity. It shows that the overall position of activity to investment ratio is very expensive. It also indicates that the capital invested was not

properly utilized. This would have been justified if the flow of fund i. e., the gap between operating income and operating expenses was quite high. But the flow of fund ratio shows that the percentage of operating expenses was higher than the income. Another feature of investment ratio is that it depicted a wide variation among the sectors during the period under study. Either the generation of activity in each year or the amount of fixed assets or both varied, which caused a wide fluctuation in the investment ratio over the years. This has caused a sharp variation in the flow of fund ratio.

The overall mean investment percentage which is 102.24 percent (Table-4) requires that the investment to be financed either from internal or external source, is quite high. If additional amount of activity is to be generated the cost of producing one extra unit of activity is quite high which may or may not lead to extra income. As the overall negative flow of income ratio shows that there is no surplus left for financing internally the additional investment that may take place. The negative income ratio plus the investment ratio shows that the total financial requirement which directly falls on the government because there are legal restrictions for easy access to capital market. The total financial burden of the government for owning public enterprises has been given in the Table 1.5.

Surplus After Investment Ratio³ (As percent of Activity)

The surplus after investment ratio worked out in Table 1.5 indicates that all the sectors require a high percentage of external financing. There are some sporadic cases of surplus which is more than the change in fixed investment, for instance, in the case of manufacturing, electricity and drinking water, and miscellaneous sectors have shown this position. But in all other years either the surplus generated is far below the investment requirement or the negative income has further attenuated the amount of investment which further increases the external source of finance. But it is interesting to see that high investment ratio shows high flow of fund ratio. The case of electricity and drinking water, and financial institutions have indicated a very high percentage of investment ratio followed by a high percentage of flow of fund ratio. Similarly a low percentage investment ratio (for example in the trade sector) is followed by a low flow of fund ratio. However, the percentage of self-financing varies in both the situations. As shown in Table 1.5 the overall mean ratio indicates that about 98.1 percent of external fund is required to generate 100 percent of activity which gives only 4.14 percent of internal resources. So if extra activity is to be generated, then the enterprises have to procure about 98.1 percent of the total finance from outside sources. But the sectorwise position shows a wide variation. The manufacturing and trade sectors have the lowest surplus after investment ratio on an average. They have indicated only 5.64 and 7.13 percent external resources respectively in which in the former case there is some internal financing but in the later case it is negative. The highest percentage of external finance of the former sector is inflated by the establishment of two public enterprises in 1973-74 which increased the mean figure, and in the later case due to the continuous incre-

ase in the deposits of the financial institutions which led to an increased amount of investment. Community and social welfare sector also indicated a high degree of external finance which is slightly below the mean figure. It is also due to the high amount of losses which comes to about 51.50 percent on an average. This has been shown in the Tale 1.5.

Table 1.5
Surplus after Investment Ratio (As percent of Activity)

Sectors	1973-74	1974-75	1975-76	1976-77	1977-78	Mean
1. Manufacturing	11.41	-7.28	-36.5	8.76	-4.59	-5.64
2. Trading	-2.9	-1.16	-2.07	-8.56	-13.95	-7.13
3. Transport and Commucation	-62.28	-7 40	-84.07	-15.48	-7.31	-35.30
4. Electricity and Drinking Water	20.81	-405.92	-130.56	-372.13	-409.29	-310.71
5. Community and Social Welfare	-75.19	-98.99	-126.21	-85.24	-86.88	-94.45
6. Financial Insti- tutions	-251.16	-471.68	-35.26	-155.97	-68.53	-196.52
7. Miscellaneous	5.51	-2.49	-56.88	-120.32	-8.93	-36.62
Mean	-50.54	-142.34	-68.37	-143.63	-85.64	-98.1

As shown in Table 1 5 the overall ratio indicated that, though some sectors have a high degree of internal resources on a comparative basis, it is quite burdensome for the government to meet the increasing volume of investment of public enterprises. None of the sectors were able to have surplus for transferring to the government account. However, on a micro basis some public enterprises have shown surplus after investment. The average position of the public enterprises is very weak.

Transfer Ratio (As percent of Activity)

The burden that the government has to bear for meeting investment and losses of public enterprises has been explained by the transfer ratio. This transfer is computed by taking the share capital and long term loans both granted by the government. As stated earlier the capital structure of public enterprises constitutes of share capital and long term loans which makes the total transfer of fund from the government to the public enterprises. There is no loan from outside sources. In addition to these sources, the investment and losses of public enterprises has also been taken into account. This transfer is expressed in terms of activity to find out how much government transfer is required to generate one unit of activity. This ratio is shown in Table 1.6.

Table 1.6
Transfer Ratio (As percent of Activity)

Sectors	1973-74	1974-75	1975-76	1976-77	1977-78	Mean
1. Manufacturing	46.17	23.21	27.69	2.91	20.77	24.15
2. Trading	-19.14	2.95	128.63	25.85	90.08	45.67
2. Transport and Communication	54.78	45.74	73.37	22.09	36.72	46.54
4. Electricity and Drinking Water*	-5.49	693.34	658.58	421.00	449.22	443.33
5. Community and Social Welfare**	95.24	303.62	58.41	40.90	51.87	110.01
6. Financial Insti- tutions***	130.50	-53.02	81.11	156.24	85.74	80.12
7. Miscellaneous***	0	0	211.57	38.74	16.77	89.03
Mean	50.34	169.31	177.05	101.10	107.31	121.02

* The share capital of NEC had declined in 1973-74 and therefore, it showed a negative ratio. It's share declined in 1975-76 also

** This sector has not received the amount of long term debt. Only the change in share capital is included.

***These two sectors have not received any subsidy. In the miscellaneous sector one public enterprise had received share capital in 1973-74 and in 1974-75 but due to its gestation lag, it could not generate sufficient activities and therefore, the ratio is zero. In other enterprises there is no transfer in 1973-74 and 1974-75.

This above table shows a wide variance among sectors regarding the government transfers. Sectors also varied widely in each year. Public enterprises received fund irrespective of their financial performance. There is some relationship between low level of investment and low level of transfer but it is also not a consistent relationship. For instance, manufacturing sector showed a surplus after investment in 1973-74 and 1976-77 but it had received fund from the government. It is interesting to note that its transfer was highest in 1973-74. In all other years it received a high amount of fund to meet its investment requirement. The average position shows that its actual requirement was 5.64 percent for investment financing but it received 24.15 percent transfer from the government. It shows that the extra percentage was used to meet its short term capital requirement. The average transfer of fund shows that for every 4.14 units of activity, the government supplied Re 1 worth of transfer. Similar is the case with the trading sector. This sector showed a negative transfer ratio in the year 1973-74 whereas it required a small percentage of fund i. e., 2.9 percent in that year. Its investment requirement had never exceeded more than 13.95 percent

but the transfer of fund was 128.63 percent in 1975-76. This was due to a number of enterprises being brought into existence. But coming to the year 1977-78 it received 90.08 percent of financial support. The wide gap between actual investment requirement and actual transfer of fund shows that the short term capital requirement was met out of this extra fund. This is also justified by high current capital requirement position of this sector.

The transport and communication sector showed wide variation. Sometimes funds are small than the actual requirement and higher at other time. But the average picture shows that about 11.24 percent resources were used for either financing losses or meeting short term capital requirement. The highest gap between actual transfer and actual investment is being shown by electricity and drinking water sector. The ratio of surplus after investment on an average is 310.71 percent but the average transfer of fund comes about 443.33 percent. It means that 132.62 percent of the total transfer is being deployed for current purpose. This sector also shows the highest percentage transfer ratio. This is because of its high capital intensity nature. It received highest fund in the year 1974-75 which was 693.34 percent of activity, which was due to two enterprises being incorporated in this year. The community and social welfare and the miscellaneous sectors also received transfers more than the actual requirement on an average. They have also used this fund either to meet current capital requirement or financing the losses. The only sector which received less than the actual requirement was financial institutions. Its average requirement was 233.78 percent but it received only 80.12 percent. This is because the investment was financed by other sources of capital mainly the current sources—deposits and cash and bank balance.

The overall mean figure indicated that the surplus after investment ratio was 98.1 percent but the government supplied 121.02 percent transfers which comes to more than the overall requirement. The overall situation is that for every 100 percent of activity the government supplied 121.02 percent of funds. It also means that public enterprises under study had a very poor financial performance. If replacement capital is not taken into account, flow of fund represented 4.14 percent of activity on an average. They also showed a wide sectoral variation from a high positive flow of fund to a high negative fund. This analysis shows that high positive flow of fund has a high investment function and high negative flow of fund has a comparatively low investment function.

The flow of fund is inadequate even to meet the replacement capital which is 10.48 percent of activity—more than double of the flow of fund. The negative surplus or fund to be met from external source comes to about -6.34 percent on an average. But taking the actual assets formation (expressed in terms of activity) and the funds to be met for replacement capital, the fund to be supplied from the external sources is quite high. The overall mean figure for actual investment is 102 percent of activity. Therefore, the actual fund for capital to be met from external sources comes to about 108.36 percent of activity. The government supplied more than the requirement i. e., 121.02 percent. It is self evident

that the extra funds were used in meeting losses and other short term capital. So about 89.54 percent of the total external fund was used for fixed capital requirement and its replacement.

Net Transfers Ratio⁴ (As percent of Activity)

The net transfers of fund from the government to public enterprises comes to a very high figure. Only very few public enterprises have transferred funds to the government. The following table shows the transfers position from the government to the public enterprises.

Table 1.7
Dividend Ratio and Net Transfers Ratio (As percent of Activity)

	1973-74	1974-75	1975-76	1976-77	1977-78
1. Total Dividend (Rs in '000)	20,793	71,923	93,092	68,106	69,422
2. Total Annual Transfers from the Government to Public Enterprises (Rs in '000)	92,503	2,06,741	2,33,157	3,08,519	2,77,315
3. Percentage of 1 to 2.	22.48	29.95	38.28	22.08	25.05
4. Ratio of Dividend to Activity (average)	6.60	11.54	11.27	14.55	13.15
5. Total Net Transfer	43.74	157.77	165.78	86.55	94.16

Note: The Dividend figure is computed from Auditor General Reports.

The amount of dividend transferred mainly by the central bank is about 11.42 percent of activity. This high ratio of dividend is due to the contribution of the central bank which was 73.09 percent on an average. Many other public enterprises have transferred some fund to the government which is less than 1 percent transfer ratio. If the average transfers from the public enterprises is deducted, the net transfers comes to 109.9 percent of activity. The total dividend as percent of total transfers shows a high rate but if the rate of dividend is computed on the total investment made this will show a very small rate of return on investment. This result is similar to the conclusion drawn by Gantt and Dutto that "Government owned corporation, rather than serving as a focal point for collecting financial resources for their own investment or for other purpose have generally placed a financial burden on parent governments".

The Behavioural Aspect and Its Implications

The overall result for these pairs of relationship viz. transfer to profitability, investment to profitability and transfer investment, show that governments transfers do not depend upon the profitability position of the public enterprises.

The correlation coefficient for all the four years shown (Annex I) do not indicate any significant relationship. Neither do they show any consistent relation. For example, for the years 1974-75 and 1973-74 there is an insignificant negative relationship, whereas for other years it is positive. The t value also does not show any significant correlation even at 85 percent level of significance except for the year 1976-77. Transfers were granted without attaching importance to this consideration. Similarly the correlation between investment and profitability shows a very small degree of positive correlation. If the nature and objectives of public enterprises were similar to that of private enterprises higher profitability would have led to high amount of capital stock. This insignificant relationship shows that certain amount of fund was made available to keep the public enterprises operating. Though the value for the last two years show the correlation coefficient at 90 percent level of significance, the correlation coefficient are not showing that higher capital formation is not followed by higher profit. The relationship between transfers and investment shows a significant relationship for the last three years. It shows that the amount of transfers made in the first two years would have been used either to cover up deficits to meet other revenue expenditures. High transfers have created higher amount of fixed assets formation.

When the overall result is classified according to market structure, the results are different. The relationship between transfers and profitability in the 'monopoly group' is positive but insignificant. This relationship in other market groups e. g. competition and 'other', shows an inverse relationship (Annex II). The insignificant relationship in these two groups is due to low transfers and poor financial performance in the competition group and high transfers and poor financial performance in 'other group'. The relationship between investment and profitability shows that in the monopoly and other group there is a positive but insignificant relationship (except for the first coefficient under monopoly group) and in the competition group, there is negative correlation for two years which is significant in one year and insignificant in another year. This trend shows that investment and profitability do not indicate any consistent relationship. The market classification for transfers and investment shows that monopoly and competition groups have used a high degree of transfers in capital formation in the last three years. The competition group shows a negative but insignificant relations while the 'other' group has a very inconsistent picture.

The correlation coefficient (when observed in terms of functional classification) between transfers and profitability, and investment and profitability do not present any consistent relationship. In some years the relation is inversely or positively high and in other years it is positively and inversely insignificant (Annex III A and III B). The relationship between transfers and investment also indicates a similar absence of consistent relationship though the degree of association is high in the trading sector. The correlation for the financial institutions, public utilities and other sector (computed by combining time series and cross-section data for owing to small number of observations) do not show any

significant relationship, either inverse or positive (Annex III B). Only the t value of the correlation coefficient between transfers and investment for public utilities group indicates a highly positive significant picture. The t value of the correlation coefficient between investment and profitability for 'other' group has indicated a significantly inverse relationship. The correlation in other pairs of relationship are quite insignificant. Financial institutions and other sector exhibit a negative but insignificant relationship in investment and profitability and transfers and profitability position.

The statistical investigation proves that government transfers of funds have been used for capital formation by most of the public enterprises (except a few under community and social welfare and miscellaneous sectors according to our classification) only in the last three years. But neither the amount of transfers nor investment is guided by the profitability position. If public enterprises are used for providing social benefits (by providing subsidy) then relationship between transfers and investment should not be significant. Another reason is that if break-even pricing policy was followed by all the public enterprises then profits would not have been generated and the relationship would not be significant. But keeping the government's fiscal policy in view, the interrelationship between investment profitability and transfers do not indicate any sensible correspondence. Hence government's policy to judge solely in terms of profitability to consider the rationality of disinvestment or transferring to the private sector do not hold any ground. For this public enterprises should be seen in the existing constraints for improving their efficiency

Conclusion

A considerable amount of debate is going on in Nepal at least in the government circle particularly after the '80s regarding the investment policy in public enterprises and the rationale for keeping the enterprises in the public sector. Due to high accumulated deficit in the public enterprises some of them have been liquidated and others are to be transferred to the private sector. This has been the policy found in the annual budgets of the government.

It is in this perspective that this study attempts to analyse the financial performance of public enterprises in Nepal. However, in terms of the relation of public enterprises with the government no sound argument could be stipulated on the basis of the unsatisfactory performance of these enterprises. The financial performance of public enterprises in Nepal if analysed according to their sizes indicates that most of the public enterprises did not generate enough surplus for meeting even their own self-financing needs. Nearly 100 percent of their financial need for fixed capital formation was met by external sources i. e., from government fund. They have proved to be a drag on the government's financial resources. Similarly government's fiscal policy regarding the role of public enterprises does not bear any relation with the financial performance of the public enterprises. Government's transfers policy is not motivated by the past financial performance.

nance of these enterprises. Resources are transferred to public enterprises because they have to be operated in the broader national interest. Even the development and expansion policy of public enterprises (increase in fixed capital formation) has no statistical relation with the surplus making policy. The study of interrelationship between investment, profitability and transfers observed in terms of market structure and functional classification also do not show any logically tenable relation. Only in respect of a few variables there are deducible information but which are not sound and dependable to arrive at general conclusion. There are statistical proofs that the transfers were not even matched with financial position of the enterprises. Both category of public enterprises, enterprises having poor performance and moderately doing better have received government's financial support.

It is concluded that government criteria of judging the performance of public enterprises in terms of earning capacity is not attained until the period covered in this study. On the contrary, the public enterprises have become a big drag on the precious financial resources of the government. The use of fund is merely to keep the public enterprises getting going. It is suggested that the government should classify the public enterprises into four main categories according to their functions. They could be safely grouped into: (a) manufacturing (b) trading (c) financial institutions, and (d) services. After this classification they should be studied in terms of financial and non-financial objectives. For the public enterprises which are mainly for revenue consideration the rate of return should be fixed according to the market situation, pricing policy, capital investment and other critical constraints. Performance should be evaluated on the basis of these criteria. Those enterprises falling under this group which can not meet the objectives even in the long run should be dissolved or if possible transferred to the private sector. Other categories should be judged on the basis of the government policy, national interest and social considerations. There might be some enterprises which could run on the break-even condition. For others which have socio-economic objectives the government should provide the subsidy over and above the average costs. Having enterprises without justifying the rationale of their creation would be financially burdensome.

Annex - I
Correlation Coefficient and t value for all the Public Enterprises

Transfers	Investment	Profitability	R of Transfers to Profitability	t value	R of Investment to Profitability	t value	R of Transfers to Investment	t value
1973-74	1973-74	—	—	—	—	—	0.0550	0.321
1974-75	1974-75	1973-74	-0.21595	1.223	0.05114	0.298	0.1633	1.098
1975-76	1975-76	1974-75	0.08596	0.559	0.19224	0.126	0.5752	4.603
1976-77	1976-77	1975-76	0.1524	1.011	0.24258	1.637	0.8623	11.298
1977-78	1977-78	1976-77	0.0417	0.270	0.17447	1.149	0.8921	28.812

Annex - II
Correlation Coefficient and t value according to Market Classification

Transfers to Profitability	Transfers	Investment	Profitability	Monopoly		Competition		Other	
				R	t	R	t	R	t
Transfers to Profitability									
Transfers	1975-76		Profitability	0.2342	0.761	-0.1378	0.520	-0.1154	0.432
	1976-77		1974-75	0.2714	0.890	0.0462	0.172	0.3821	1.610
	1977-78		1975-76	0.2475	0.902	-0.9766	6.814	-0.4793	1.964
Investment to Profitability									
Investment	1975-76		Profitability	-0.1343	0.428	0.1241	0.467	0.1021	0.369
	1976-77		1974-75	0.2824	0.830	-0.2001	0.764	0.2461	0.914
	1977-78		1975-76	0.2920	0.965	-0.5840	2.697	0.1680	0.614
Transfers to Profitability									
Transfers	1973-74		Investment	0.0072	0.022	-0.3212	1.268	0.0875	0.316
	1974-75		1973-74	0.6255	2.533	-0.589	0.220	-0.7746	4.417
	1975-76		1974-75	0.6721	2.868	0.6966	3.633	0.2623	0.979
	1976-77		1975-76	0.9393	8.653	0.7931	4.870	0.7477	4.058
	1977-78		1976-77	0.9815	16.151	8.6814	3.480	0.3454	1.343
	1977-78		1977-78						

Annex- III A

Correlation Coefficient and t value according to Functional Classification

		<i>According to Sectoral Classification</i>			
		Manufacturing Sector		Trading Sector	
		R	t	R	t
Transfers to Profitability					
<i>Transfers</i>	<i>Profitability</i>				
1975-76	1974-75	0.3125	1.039	0.0370	0.122
1976-77	1975-76	0.4812	1.747	-0.8633	5.744
1977-78	1976-77	0.4554	1.616	-0.9076	-7.164
Investment to Profitability					
<i>Investment</i>	<i>Profitability</i>				
1975-76	1974-75	-0.0116	0.369	0.0269	0.892
1976-77	1975-76	-0.2162	1.923	-0.8291	4.9171
1977-78	1976-77	-0.0594	1.880	0.3025	1.052
Transfer to Investment					
<i>Transfers</i>	<i>Investment</i>				
1973-74	1973-74	0.1651	0.5288	-0.3948	1.424
1974-75	1974-75	-0.2527	0.827	0.7664	3.958
1975-76	1975-76	0.6987	3.0845	0.8367	5.071
1976-77	1976-77	0.7981	4.1786	0.9757	14.638
1977-78	1977-78	0.5596	2.1352	0.4758	1.794

Annex- III B

Correlation Coefficient and t value according to Market Classification

Variables	Public Utilities		Financial Institutions		Other Sectors	
	R	t	R	t	R	t
1. Transfers to Profitability	0.1278	0.629	-0.1063	0.529	-0.2796	1.429
2. Investment to Profitability	0.1498	0.742	-0.1999	0.956	-0.0789	3.880
3. Transfers to Investment	0.6433	4.444	-0.1512	0.8514	0.1730	1.623

Notes

1. For details see Andrew H. Gantt and Gauseppe Dutto, 'Financial Performance of Government Owned Corporations in less Developed Countries', *IMF Staff Papers*, Vol. XV, 1968, pp. 102-40.
2. *Ibid.*, p. 207
3. Surplus after investment means the total change in investment (investment between two accounting periods) minus flow of fund.

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