CHAPTER ONE

INTRODUCTION

1.1. Background

Nepal is a small land locked country wedged between two neighbouring economic powers, India and China. Agriculture, a subsistence sector is the main stay of life that provides employment to 79 percent of the total population. The contribution of agriculture sector to GDP is estimated to be 38 percent with existence of huge disguised unemployment, acute rural indebtedness and high incidence of poverty in this sector (M.K.Dahal). Being one of the least developed countries in the world the role of government is still vital to build up infrastructure, provide social services and alleviate poverty.

Nepalese economy is vulnerable. Wide spread poverty, rapid population growth, low economic growth, low income level of people, unemployment, inadequate infrastructure, foreign dependency, unutilized resources, inadequate distribution of wealth and income, lack of adequate industries and adverse balance of payments are the major characteristics of the Nepalese Economy. Government revenue plays a vital role in the rapid economic development program. Revenue for the country may be from external sources and internal sources. External sources of revenue are grants and loans from foreign government and multilateral financial institutions. Such external sources are uncertain and not good for healthy development of country's economy. Internal sources of government revenue are own sources within the nation. Internal sources of revenue constitute tax and non-tax revenue. Tax revenue includes various types of taxes such as custom duty, excise duty, VAT, income tax. In the total size of revenue, the share of tax revenue is very high in comparison to non-tax revenue. Tax revenue constitutes two components: direct tax and indirect tax. In the underdeveloped countries like ours, the share of indirect tax is very high as compared to direct taxes. The major components of direct taxes are income tax, land tax, house & land registration fees and profit tax. The contribution of income tax is the highest in the group of direct taxes.

In Nepal income tax is the third largest source of total tax revenue which was Rs.19 billion in FY 2007/08. Income tax plays a very important role in the Nepalese Economy. It is a tool of achieving maximum social and economic objectives as considered by the constitution of Nepal. As a poor country sources of government revenue are very limited. The domestic sources of the government revenue should be increased to escape from the condition of depending on foreign aids and loans.

In Nepal, modern tax system began with the advent of democracy and manifestation of the first consolidated budget comprising expenditure and revenue of Nepal in 1951 (Revenue Administration in Nepal, 1982). Since then there is big gap in between expenditure and revenue; to bridge the gap taxation has become a very important instrument in mobilizing the internal resources. But income tax (one of the major internal resource) was introduced for the first time in 1959 by the Finance Act 1959. A government can only impose tax to the person as per prevailing laws. So, first law of Nepal regarding the income tax was Business Profit and Salaries Tax Act 1960. Then after, income tax acts were revised three times in Nepal in 1962, 1974, 2002 respectively. Now the Income Tax Act 2002 is in practice.

1.2. Statement of the Problem

Nepal is one of the least developed countries mainly based on the agricultural economy. Its gross domestic product (GDP) per capita is $320 in 2006 (according to World Development Report 2008). Nepal's GDP per capita is the lowest in the South Asian countries. Agriculture sector, which contributes about 38 percent of GDP, is still free from the income taxation. About 31 percent of the total population is below absolute poverty line. The total revenue of Nepal is 107.5 billions in FY 2007/08 which was 13.1 percent of GDP. Tax revenue accounts for 10.4 percent contribution in GDP. The magnitude of tax revenue was 85.03 billions in the FY 2007/08. The poor performance of tax GDP ratio of Nepal has led to the problem of resources.

It has also been commonly known that the resource gap has been a serious bottleneck on the process of economic development of developing countries. Nepal is also not an exception to this situation. The financial resource gap of Nepal is becoming very serious. Its amount has been increasing from the very beginning of the budget practices. The resource gap of Nepal is in increasing trend. Consequently, this

situation led to dependency on foreign grants and loans. Foreign aid must be treated as complementary to the internal resource mobilization rather than substitutes. The efforts should be made to reduce the dependency on foreign aid due to its serious limitations. Deficit financing is another way to meet the growing resource gap but it leads to inflationary situation. Resource gap in Nepalese finances has occurred because the expenditure requirements or the government expenditures are growing at a much faster rate than its ability to mobilize additional resources. The reasons are as follows:

- ➢ Significant extension and expansion of regular government activities.
- ➢ Significant increase in the development expenditure.
- ➢ Increasing costs of maintenance.
- ➢ Increasing burden of debt servicing charges.
- ➢ Increasing government investment in public sector enterprises.
- ➢ Rising inflation.

Apart from the financial resource problem there is heavy reliance on indirect taxation in Nepal. But for developing country like Nepal, this is not desirable from the equity point of view. It has been a common phenomenon that the indirect taxation ultimately raises the prices of commodity because it is the tax levied on consumption. The higher the level of prices the value of money diminishes and consequently the heavy burden mainly falls on poorer strata of the society. Thus decreasing people's welfare and eventually leading to distortion in economic structure.

Though income tax encompasses elastic revenue yield potential, the habit of tax evasion and avoidance can be found among tax payers in order to escape or minimize the tax. Very few people possess the income tax consciousness. Voluntary compliance is the cornerstone of effective tax administration which is very poor in the context of developing countries including Nepal. Rich people resort to avoidance of taxes by recourse to legal loopholes and by taking advantage of administrative deficiencies. The contribution of direct taxes, especially of income taxation is considerably very low in Nepal. Though its share is gradually increasing with respect to tax revenue and GDP in recent years, income tax has serious limitations. The successful

implementation of income taxation in Nepal is limited by hastily formulated polices, its narrow coverage and base, inefficient administration, corrupt bureaucracy and existence of pressure group having a strong affinity with richer strata which has tendency to oppose innovation. A comprehensive study for reform of income tax in Nepal therefore has become necessary.

Nepalese income tax system has sufficient space for resource mobilization but it is not efficient and effective in its full potentiality. It has become unable to broaden tax base. The coverage of income tax is very poor. The tax paying habit of people is very poor. There is lack of skilled tax personnel, integrated taxpayer education programs, lack of assistance and guidance, lack of formats, manuals and guidelines, lack of research and development, lack of coordination between tax administration and other agencies and lack of adequate logistic support. Tax offices are looked upon as heaven for corruption, inefficiency, delays, unfair dealings, harassment and incompetent personal etc. The tax authorities are inefficient and ineffective in enforcement of tax laws. The tax base and tax evasion is widespread. To fulfil the desired goals, existing shortcomings of income tax system must be avoided and the legal base of income tax should be broadened.

Nepal has been using income tax from last forty-five years as an instrument of Fiscal Policy. Neither could it play the important role in reducing the inequalities of income and wealth nor could it provide substantial share to total revenue and GDP. The crucial need at this point is to give much attention to maximize the role of income tax in the total tax system in Nepal. The study deals with the following issues:

1. What is the structure of Nepalese income tax?

2. What is the trend of Nepalese income tax?

3. Is the income tax productive in Nepal?

4. What are the measures to be undertaken for effective implementation of income laws in Nepal?

1.3. Objectives of the Study

The main objective of the study is to analyse the structure of Nepalese income tax. The study also deals with the following secondary objective:

➢ To analyze the trend of Nepalese income tax and trace the recent efforts toward structural change;

➢ To measure the productivity of income tax for the period of FY 1974/75 to 2007/08; and

➢ To provide the suitable measures for improving existing scenario of income tax.

1.4. Importance of the Study

Nepal is an economically challenged country suffering from the resource gap from the very beginning. It has adopted the policy of mobilizing the internal resources to the maximum extent. It has been widely accepted that an inadequate volume of domestic resources mobilization is an important factor in holding back the process of growth and improvement in living standard in developing countries like Nepal. Revenue mobilization has a crucial role in fiscal policy implementation, especially in a developing country where the demand of public funds for public expenditure is high. Taxation is a powerful instrument for mobilizing the internal resources. As tax revenue is a major source of domestic revenue in Nepal, the measurement of tax elasticity and buoyancy would be very beneficial in terms of reforms in tax structure as well as revenue administration. This study shows the present tax structure of Nepal and the responsiveness of income tax.

To reduce external dependency, Nepal has to expand the tax revenue base. This study tries to find out the potential areas for direct tax, particularly for income tax. The best way to increase the tax revenue is by introducing new taxes and developing proper collection system. For this, productive, effective and efficient tax administration is needed. Nepalese income tax system has many legal loopholes and tax officers have many discretionary powers, which encourage both the taxpayers and tax personnel for tax evasion and corruption.

Though several research studies were carried out in the past, it is very useful to revisit tax elasticity and buoyancy in the present scenario. This study covers the long period of time consisting 33 years time series data from FY 1974/75 to 2007/08. This shows the difference in responsiveness of income tax in between the period before and after the liberalization that the Nepal has adopted. During this period a number of changes have taken place in the form of taxation in Nepal. The new income tax act 2002; adopting full-fledged self-assessment tax system, formation of integrated Inland Revenue department use of information technology etc. Still there are a lot of problems of recent changing nature. Studies must be done to identify the existing problems of tax administration and their sound remedial measures.

This study calculates the productivity and responsiveness of income tax of Nepal which shows the percentage change in income tax revenue due to percentage change in GDP i.e. how much responsive is the income tax. Role of the tax administration is the crucial thing in the tax system in developing countries like Nepal and thus this study will also briefly analyze the present situation of the tax administration. Lastly, this study will identify the recent challenging problems of the income tax system and best alternative ways would be suggested to make income tax less burdensome the taxpayers. So the recommendations of this study would be useful to the policy makers to get input for making the tax system efficient.

1.5. Limitations of the Study

This is a study based on the officially published data within some boundaries. So the study is not free from flaws. The limitations of the study are as follows:

> ➢ Because of the time and resource constraints only the secondary data and information has been included in the analysis and no attempts are made to examine the reliability and validity of the data;

> ➢ There are different methods for separating the discretionary changes from automatic growth of income tax revenue, but only Sahota has been used; and

> ➢ Revised GDP series for 2007/08 has been employed which limits the scope of the study.

1.6. Organization of the Study

The present study is divided into five chapters. **First chapter** is the introductory chapter which gives the background of Nepalese Economy and short description about the income tax of Nepal including objectives and limitations of the study. **Second chapter** is the review of literature which covers the theoretical as well as empirical aspects of the income tax from the international point of view and from Nepalese context. **Third chapter** explains the methodology employed in the study. In which description of the sources of data, nature of data, model used in the analysis and the variables introduced are defined. **Fourth chapter** shows the structure of income tax in Nepal since FY 1974/75 to FY 2007/08 which gives the trend, pattern, composition of income tax and its contribution to the GDP; and **Fifth chapter** is the last one which deals with the summary of the study, findings of the analysis and the suggestions recommended to escape from the problems occurred in smooth functioning of the tax system.

CHAPTER TWO

REVIEW OF LITERATURE

Both in developed and developing countries, the main source of government revenue collection is from both direct and indirect taxes. So different scholars have made empirical studies on the structure and productivity of different types of taxes.

The imposition of income tax in Nepal was since the FY 1959/60 under the "Business profit and Remuneration Tax Act-1960." Then after, various studies have been made concerning the various aspects of Nepalese tax such as: the structure, role, and productivity, legal and administrative framework etc. Many articles, books, reports, dissertations etc were prepared on these grounds.

The structure and productivity of tax is very important for government's revenue collection. There have been many empirical studies made to examine the structure and productivity of different types of taxes both in developed and Developing countries. The empirical literature review in this study is divided in two classes i.e. outside Nepalese context and studies on Nepalese context.

2.1. The Studies outside the Nepalese Context

The empirical studies of the structure and productivity of tax in an international context Choudhary (1975) made an analysis of income tax in the economy of Malaysia. The study applied the constant structure method, involving the use of effective rates to income taxes in Malaysia in order to estimate the elasticity of these taxes in the period of 1960 to 1970. In this paper total income tax has been divided into two components i.e. personal income tax and company income taxes since companies are subject to an independent flat rate tax in Malaysia and dividend are taxable in the hands of tax payers . The data from the Inland Revenue of Governments of Malaysia give the breakdown of assessed income and tax thereon by selected income groups. On the basis of information the effectiveness of tax on each income groups can be calculated for the reference year, and the application of these rates to

the corresponding income groups all the years generates a constant rate structure series.

The elasticity and buoyancy are calculated under assessed income tax. Buoyancy and elasticity of assessed personal income tax and company income tax are estimated separately and combination from the observations for 1961 to 1969.

The overall buoyancy of income tax and buoyancies of constituent parts (personal income tax and company income tax) are quite high. The buoyancy of total assessed income tax with respect to GDP is about 1.6 that of assessed personal income tax is 2.5 and is substantially higher than the buoyancy of 1.3 of assessed company taxes. This picture is little changed in relative sense for elasticity estimates. The overall elasticity of income tax is 1.1 under the 1969 tax structure while the elasticity of income tax is about 1.7 and is again substantially higher than the magnitude of company income tax elasticity (0.97).

From the study observed that despite a substantial change in the rates of personal income tax introduced in 1967, there is little difference when the 1961 constant structure elasticities (1.18, 1.72 and 0.97 of total assed income tax, personal income tax and business income tax respectively) are compared with those of the 1969 constant structure.

Buoyancies are generally higher than elasticities, reflecting the fact that the 1967 tax changes generated additional tax revenues. Buoyancies and elasticities of the personal income tax exceed those of company income tax.

A comparison of the average statutory rates of 1961 with those of 1969 shows that their progressivity increase up to the income level of M$ 30,000. Despite the increase in progressivity of the tax rates the estimated elasticity of the personal taxes was slightly lower in 1969(1.7) than in 1961(1.72). This was caused by a shift in the distribution of assessed income in favour of the higher income groups, where the rate increases were relatively less progressive.

The discussion on the behaviour of elasticity of personal and company income taxes suggest that the income tax ordinance of 1967 did not materially change the overall elasticity of income tax system. The tax-to-base elasticity is not very different from unity because of relative stability of the distribution of income in the tax brackets. Finally, the income elasticities of business tax are shown to be less than unity. Since with a proportional tax, the tax-to-base elasticity is bound to be unity, this result for company tax-to-GDP elasticity indicates a less than unity for assessed company income to GDP.

The empirical study of Creedy and Gemmell(2004) has analysed the elasticity of tax revenue ,estimates for income and consumption taxes in the united kingdom, revenue elasticity of income and consumption taxes (VAT and the main excises) with respect to changes in income in the UK over the period 1989–2000.

An important feature of these estimates is that they allow for changes in income-related deductions. Consumption tax revenue elasticities allow for changes in consumption patterns over time, in addition to differential savings rates across individuals. Values at individual and aggregate levels are reported. Furthermore, changes in revenue elasticities over the period are decomposed into effects associated with changes in the tax structure, real income growth and inflation.

Estimates of revenue elasticities are an important input into the debate on changes in the burden of taxation in the UK. Such estimates enable observed changes in average tax levels to be decomposed into those arising directly from budgetary changes and those that result from the tax system's built-in flexibility, in the absence of discretionary changes. Clark et al. (2002), for example, draw attention to the fact that, since 1996–97, real alcohol and tobacco duties have risen substantially, yet the share of these taxes in GDP has remained constant or declined. Revenue elasticity estimates help to identify how far such revenue changes represent 'in-built' effects related to the structure of these and other taxes. Tax revenue elasticities also provide vital inputs into a number of taxes forecasting models where, in association with assumptions regarding tax base changes, they generate revenue growth predictions for given tax policies. IFS (Institute for Fiscal Studies) provides tax forecasting models for income

and corporation taxes, for example, estimate or use revenue elasticities (see Giles and Hall

(1998)). Despite their usefulness, there are surprisingly few published tax revenue elasticity estimates for the UK. Indeed, the most recent estimates were provided by Johnson and Lambert (1989) for the period 1980–84, and these relate only to income taxes.4 However, from the mid-1980s, major changes have taken place to the income tax structure, involving a simplification of tax rates and allowances, the reduction and elimination of mortgage tax relief and, more recently, the extension of allowances/deductions for pension contributions, saving and families. There have also been changes in consumption taxes such as VAT and excise taxes, particularly on tobacco and petrol, and the taxation of domestic fuel.

These policy changes are likely to have affected both income and consumption tax revenue elasticities and are examined in detail in this paper. Estimates of aggregate revenue elasticities are obtained using convenient analytical expressions which have the advantage that they can be evaluated readily from official published sources.

Another empirical study of Bilquees(2004) has analysed the Tax responsiveness to changes in income which is a crucial variable in projecting the tax revenues of Pakistan and is a basic criterion for a good tax system. This response is measured by two concepts: tax elasticity which measures the automatic response of revenue to income changes, net of discretionary changes; and tax buoyancy which measures the total response of tax revenue to changes in income.

In developing countries generally, the major taxes tend to have low elasticity and sometimes even the buoyancy is low. This is mainly due to the inherent weaknesses in economic structure where a large majority remains out of the tax net due to low average income levels, and unorganised nature of most economic activities, which erode the income tax base. However, an equally important factor has been the provision of massive tax incentives and exemptions to the manufacturing sector over extended periods in most of these countries. As a result, the levels of budget deficits and borrowings, and/or aid requirements become unsustainable over time. Domestic resource mobilisation and reduction of budget deficits then become the major targets

of the Structural Adjustment Programmes in the short run and in many cases even in the long run.

In the case of Pakistan, while the initial stages of rapid economic growth were characterised by massive tax concessions, the nationalisation in the 1970s resulted in a massive shift to the informal sector, which became synonymous with the parallel or underground economy in a very short period.1 The continued reduction in formal employment, as a policy measure since the 1990s, has further expedited the expansion of the informal sector. As compared to 20 percent in 1974, after the nationalisation in 1972, and to 25 percent in 1990-91, it accounted for 54 percent of the GDP in 1998 [see Kemal (2003)]. As a result of the distortions created in the economy over time, Pakistan has had a chain of stand-by and structural adjustment and stabilisation programmes from 1973-74 until 2003.

All the programmes had a special focus on tax reforms including improved tax governance, increasing the share of direct taxes, expanding the tax net, imposition of sales tax on a wider scale, and improving the tax elasticity and buoyancy. However, the implementation of the reforms particularly in the fiscal sector was visible only for the last programme of 2000-03. The expanded enforcement of the sales tax, rationalising the exercise of power by the tax officials, and some expansion in the tax net has been achieved. However, the overall tax revenues as a percentage of GDP still average less than 15 percent and the share of indirect taxes still exceeds 60 percent of total tax revenues.

When the elasticity of major revenue sources remains low despite tax reforms either due to low base, or due to evasion or avoidance, the governments raise additional resources through discretionary measures. Then, the growth of tax revenues comes through high buoyancy rather than through elasticity. The objective of the paper was to measure the buoyancy and elasticity of the tax system in Pakistan over the period 1974-75 to 2002-03 by using the Divisia Index Approach, and analyse the factors responsible for the resulting size of elasticity coefficients. The coefficient of elasticity depends on the level of tax rates, the progressivity of the rate structure, and the responsiveness of the tax base to changes in income. This makes it possible to break up the value of elasticity into two components—the response of the tax base to a change in income, and the response of the tax yield to a change in the tax base of

individual taxes through decomposition of elasticities [see Musgrave (1959)]. The value of base to income elasticity does not depend on the progressivity of tax rates; it simply relates the responsiveness of the tax base to a change in income. The growth of the base depends on the way the structure of the economy changes with economic growth. The tax-to-base elasticity depends on the tax rates; if the rate structure is progressive or if there is an improvement in tax administration, the tax-to-base elasticity will be raised by preventing evasion. The decomposition of elasticity in this manner permits us to identify the source of growth of tax revenues.

2.2. The Studies in Nepalese Context

The study of Agrawal (1978) mainly deals with the necessity of resource mobilization of Nepal through the reform of income tax. It showed the growing resource gap since 1951/52 onward and sought the way for filling it up. For this they examined elasticises and buoyancies for major Nepalese taxes with base GDP, using the series of different tax revenues from 1967/68 to 1975/76 for measuring their productivities. The values of buoyancy and elasticity for income tax was found to be 2.18 and 2.01 respectively and differences was also high, The square of correlation coefficient (R^2) for income elasticity was 0.94, which indicated a good relationship between GDP and income tax. The base buoyancy of income tax was 2.25 and base elasticity was 2.08, which were the highest among all the major taxes. This study also projected the amount of income tax that would mobilize in future under contemporary situation. This study projected the amount of income tax for 15 years from 1975/76 to 1990/91 under the assumption of holding the growth rate of 21.6 percent in future years and amount of income reached to Rs.1638.27 millions in FY 1990/91 from Rs.87.17 millions of FY1975/76.

This report suggests income tax will become a very important source in filling the resource gap but the reforms in the field of technical and administrative is very much essential. The study identified main defects of the income tax administration as failure to locate new taxpayers, to maintain the proper accounts, delay in assessment, poor taxpayer compliance, evasion and avoidance of tax and defective management. Low

tax base, inefficient administration and corrupted bureaucracy are the major sectors to be reformed.

Subedi (1982) analyzed the importance of income tax in Nepal. The main objectives of his study were to examine the contribution of income tax to total revenue, the growth of income tax collection, its ratio to GDP and to calculate its elasticity. It is reported that, the tax structure was diversified to tap resources in 1959/60. A reform was made in 1962/63 introducing the comprehensive income tax with a long term motive. The share of income tax to total revenue is increasing but it covers a small portion only. The role of income tax in Nepalese tax structure is rising constantly in absolute terms. Income tax is very important for economic development though it is unable to fulfil the objective because it plays very minor role in total tax revenue.

Tax administration in Nepal suffers from a number of interacting and interrelated problems which have badly affected its productivity. The study has found the taxation system highly elastic i.e. the elasticity of income tax in the period 1965/66 to 1979/80 is 1.76.

The study has identified various challenges in the income tax system of Nepal and suggests that these challenges can be converted into meaningful opportunities through timely reform. For this,

- ➢ Law of income tax system should be clear, precise and the terms must be well defined and there must be wealth tax

- ➢ Supplemented for income tax.

- ➢ Taxpaying procedure should be made easy.

- ➢ Tax payer should be well informed about the procedure and law.

The Study of Dahal (1984) primarily deals with the revenue productivity and responsiveness of the tax yields in Nepal's tax system for the period of FY 1964/65 to 1980/81. It has tried to identify the actual critical points where in the elasticity problem is acute. An effort has also been made to identify the factors mainly responsible for elasticity of tax structure especially with reference to income taxation

in Nepal. The period of study was FY 1964/65 to 1980/81, which was divided into two sub periods from FY 1964/65 to 1972/73 as period I and from FY 1972/73 to 1980/81 as period II.

Overall elasticity of the total revenue in tax structure of Nepal for the period of study equals almost unity (1.01) which is significant at 1 percent level whereas the elasticity of the tax revenue is 0.92. This shows that tax revenue is not responsive in tax structure. An efficient tax ought to give better results and if it is progressive it should possess necessarily elasticity greater than unity. The elasticity of income tax is 1.38. This shows that the elasticity of most lucrative component of direct tax is greater than unity. The overall buoyancies are significantly greater than that of elasticity coefficients during this period. The buoyancy of total revenue is 1.54 and that of tax revenue is 1.52 significant at 1 percent level. At the same time period the buoyancy of income tax is 1.86.

For the sub period I (1964/65 to 1972/73), the elasticity of premier indirect tax is less than unity (0.93) which is significant at 1 percent level. The elasticity of total revenue, tax revenue, and income tax are 0.87, 0.82, and 0.61 respectively. This implies that the elasticity coefficient of individual taxes has not been revenue responsive during this period. In other words, the productivity of revenue of most of the taxes has been very low in this period. But the value of buoyancy coefficient shows more responsiveness. The buoyancy coefficient of total revenue is 1.54 whereas of tax revenue is 1.52 with high value of $\overline{R^2}$. The buoyancy coefficient of income tax is very high 2.71; this shows that the role of discretionary change is very high in revenue collection through income tax.

For the sub period II (1972/73 to 1980/81), the elasticity of total revenue, tax revenue, and income tax are 0.98, 0.92, and 1.38 respectively. This implies that the elasticity coefficient of total revenue and tax revenue are not revenue responsive during this period. But the income tax showed highly elastic as compared to the period I and the whole period. But the value of buoyancy coefficient shows more responsive. The

buoyancy coefficient of total revenue is 1.37 whereas of tax revenue is 1.34 with high value of $\overline{R^2}$. Thus, the total revenue and tax revenue are buoyant.

From the analysis, it was found that the direct tax had smaller elasticities as compared with indirect taxes. The result shows that direct taxes are responsible for the sluggishness of aggregate tax yields. The elasticities of direct taxes are smaller for all the periods. The supposedly more progressive taxes are in fact less elastic.

In fact the inelastic nature of tax system in developing countries is an inherent characteristic resulting from heavy reliance placed on indirect taxes in general contains better automatic growth potentialities. The causes of income tax being inelastic are: unscientific slab structure and rate, inefficient tax administration, high practices of tax evasion and avoidance etc. The important factor leading to inelasticity of income tax is that the income from agriculture sector is out of tax net.

Acharya (1994) analyzed the structure of Nepalese income, examined the productivity of income tax revenue and assesses the existing problems and future prospects of income taxation in Nepal. This paper was prepared considering the secondary data of the period 1964/65 to 1989/90.
The study shows that the income tax revenue in Nepal rose from 0.09 percent to 1.02 percent of GDP during the FY 1964/65 to 1989/90 with slight fluctuations. During the same period it increased from 3.52 percent to 12.8 percent of the total tax revenue and from 10.21 percent to 64.95 percent of the total direct tax revenue with slight ups and downs. The relative share of individuals in total income tax revenue is not less than 50 percent since the FY 1977/78 onwards and others (public enterprises, remunerations, house rent and interest income) have also increased significantly.
During this period the elasticity and buoyancy of Nepalese income tax revenue seem to be 0.8393 and 1.7969 respectively with base GDP. R^2 values in both the cases are high (0.7895 and 0.9156 respectively), t and F statistics are significant at 1 percent level.

At last the conclusion was that Nepal has followed the leading global trend in the structure of income tax system. Her income tax revenue is increasing gradually in relative term. The contribution of individuals in total income tax revenue seems to be greater in FY 1977/78 to 1991/92 followed by public enterprises, remuneration, house rent and interest tax. Many income tax payers favoured progressive tax rate but not the sharp progressivity. They suggested fixing the rate at 10, 15 and 25 percent for each difference of Rs.50, 000 for yearly income of individuals over the exemption limit at current prices. 35 percent flat rate for corporate bodies seem to be reasonable.

The role of discretionary changes in the Nepalese income tax revenue is gradually increasing. During the period of 1964/65 to 1989/90 its value seems to be 56.63 percent of the total tax revenue. More reliance on discretionary change through the increase of tax rate and extension of tax base is harmful. Therefore, to raise income tax revenue simplification of the tax structure legal and administrative aspects, understanding with the consent of tax payers are recommended. Adhikary(1995) made another study on elasticity and buoyancy of Nepalese tax .The study proceeds by starting that the fiscal sector occupies the most prominent in a developing economy .Nepal is no exception to this, as the level of development, has made it imperative for the government to involve in various aspects of economic activities. Not only is the government required to develop basic social and physical infrastructures but also the resources required for such purpose have to be mobilised, against the background of a large size of population with very little capacity to pay any kind of taxes. Revenue administration in general and the tax system in particular needs to be thoroughly analysed so as to improve resource mobilisation A sound knowledge of tax structure and responsiveness of major taxes to changes in income would help to prepare a more realistic budget estimate as well as help maintaining overall fiscal stability .

This study has been conducted with a view to empirically measure elasticity and buoyancy of major taxes including total revenue in Nepal. Further ,this study has been conducted with a view to have a primary knowledge of revenue productivity and the responsiveness of tax yields in the Nepalese tax structure for a definite period .The period covered is FY 1974/75 to FY1993/94. In view of the unsatisfactory results of

both the buoyancy and elasticity of the tax, the whole period (FY1974/75to FY1993/94) has been divided into two sub-periods: the first form (FY1974/75 to FY 1983/84) and the second period from (FY1984/85 toFY1993 /94).The present study, though of preliminary nature, could serve as a basis for detailed study later on. Although limited in scope and theoretical elaboration, the study nevertheless has estimated the elasticity i.e. built in flexibility and the buoyancy (sensitivity) of the major components of tax revenue i. e. import duties ,tax on consumption (sales tax and excise duties)and income tax which ,on the average ,together accounted for about four-fifths (78.7percent)of the total tax revenue .Apart from estimating the elasticity and buoyancy of these taxes with respect to gross domestic product , such estimation has also been made with respect to proxy base of the above mentioned taxes.

Khadka (1995) analyzed how the Nepalese income tax evolved over the years also seeks to bring out the main issues of the existing system and recommend some policy measures. Income tax was introduced in 1959 to generate more revenue to finance development activities and to help achieve social justice. In the long history of income tax different types of exercises have been taken place regarding the exemption of income tax and inclusion under the income tax. Graduated rates of income tax were introduced from the very beginning under this system net income is divided into different bands which are subject to progressive tax. In the beginning, Nepalese income tax has treated the family as tax unit and tax is levied on the joint income of the family. But in FY 1977/78 the system of joint taxation was replaced by a system of individual taxation. This system of individual taxation has also made withholding more simple and accurate since final tax liability depends only on the income of the individuals though the system leads to a decline in their total tax bill of the tax payer.

The study further adds the major issues related to the income taxes are; narrow coverage, unscientific tax assessment, deviation from the basic principle (progressivity of income tax) of income taxation, no adjustment for inflation etc. These problems have seriously affected in the process of resource mobilization through taxation. Given the Nepal's level of economic development and the state of its record and account keeping system, tax administration and tax consciousness, a drastic returning with the aim of achieving vertical equity and raising substantial revenue from income tax does not seem to be feasible at this stage. However, persistent efforts are to be made in order to strengthen the income tax system in the long run such as; extension of coverage, improvement of tax assessment, use of

presumptive method, extension of withholding tax, introduction of current year basis which will prevent a fall in revenue in real terms due to inflation, inflation adjustment etc.

The study concluded that the Nepalese income tax system has under gone considerable change in its introduction. Several experiments have been made regarding its types, coverage, rates, allowances, tax unit, and tax assessment and so on. There is a scope for broadening the coverage of this tax, legally and administratively. Currently extended sources of income should be gradually under the tax net and those included in the tax net should be taxed effectively and uniformly. The tax system should be made growth oriented through measures including complete carry-forward of losses, completion of tax treaties with major trading partners and grand of incentive in a very simple and easy way.

Nepal (2002) analyzed whether Nepalese income tax system is automatic responsive type? If yes, to what extent and if not, why? And to what extent it is being correlated to tax rate changes. Is structure of exemptions riddled with loopholes, inequalities and arbitrary expenditures? If it is so, then to what extent, they have eaten into the potentialities of revenue raising components of income tax.

The study period covers from 1980/81 to 1998/99. Revenue yield from personal income tax as percentage of GDP has gone up from 0.37 to 0.75 during period starting from FY 1980/81 to 1988/89 but there after it, as percentage of GDP, has gone down continuously and reached a low level of 0.39 in the year 1995/96. Although it registered advance after 1995/96 and reached a level of 0.67 in the year 1998/99.

The overall elasticity of Nepalese income tax for the period of 1980/81 to 1996/97 works out to 0.53. This shows that the structure of income tax in Nepal is not much responsive. It also shows elasticity coefficient before the restoration of democracy of Nepal was 0.35 (1980/81 to 1989/90) but rose to 1.21 after the restoration of multiparty democracy in Nepal.

Over the period, exemption and deduction had eaten substantially and potentiality of revenue rising of income tax. Faulty and non-rational layout of exemptions and deductions and under-reporting of income continued to kill-off revenue raising potential of income tax.

The study has suggested regarding the income tax that any scheme of reforms with regard to personal income tax must necessarily proceed by acknowledging the violation caused by the principle of equal treatment of equals by the plethora of exemptions and deductions. In the case of personal income tax structure of exemptions and deductions were found to be riddled with loopholes, inequalities and arbitrary expenditures. Also, contributions of agriculture to total income are more than 60 percent but the earnings from the agriculture have been exempted from the levy of income tax. Bringing in to the tax net the commercial agriculture earnings of registered firm, partnership and company has been necessitated.

Regarding the rate structure, for making the sacrifice level equal for all taxpayers rate of tax has to be such that it bears a constant relationship with the after tax income in the hand of assesses. After restoration of multiparty democracy in Nepal, the revenue from both personal and corporate income tax showed buoyancy never seen before. Some pitfalls are still there, total number of income tax payers are still less than 1percent of total population. There is considerable scope for raising the yield of income tax further particularly through revamping of tax administration and securing better compliance strengthening of tax administration deserve earnest consideration.

The Study made by Paudel (2002) focused on the structure of income tax in Nepal and estimated the elasticity and buoyancy of income tax in Nepal for the period of 25 years from 1975 to 2000. The study has shown that Nepal has been heavily relying on the external and internal debt to meet the budget deficit because of low revenue collection compared to the total expenditure. The dependence is increasing, which is not desirable for any economy. Thus, it is more essential to mobilize the internal revenue to the optimum level. The trend of overall revenue in Nepal shows the continuous increasing over the study period with an average annual growth 16 percent. In the composition of revenue, share of tax revenue is significantly higher than non tax revenue within the tax revenue the contribution of indirect tax decreases from 74 percent in 1975/76 to 73 percent in 1999/00. Similarly, within the direct tax, income tax was the largest source which contributed more than 86 percent in 1999/00. The elasticity and buoyancy coefficient of income tax have been found to be 0.61 and 1.36 respectively during the period under review. This shows that Nepalese income tax is very inelastic. The difference (0.75) between buoyancy and elasticity coefficients shows that there are minimum chances for further discretionary changes.

She has also evaluated the success of the voluntary disclosure of income scheme (VDIS) program.

At last, she says that the Nepalese tax administration has been attempting to modify itself to meet the pressing challenges brought about by change in technology and economic policies. However, still its working procedures are traditional and the cost administration has not brought to the satisfactory level.

The study of Timsina (2007) on Revenue mobilization has admits a crucial role of fiscal policy implementation, especially in a developing country where the demand of public funds for public expenditure is high. It is a better source of resource mobilization than the other sources such as deficit financing and money creation. As tax revenue is the major source of domestic revenue in Nepal, the measurement of tax elasticity and buoyancy would be very beneficial in terms of reforms in tax structure as well as revenue administration .in addition to this, the study of tax elasticity and buoyancy is useful for revenue forecasting.

Tax revenue may change due to a variety of factors, such as changes in income, change in tax rate and tax base, change in efficiency of tax assessment and collection, among others .the responsiveness of tax revenue to such changes can be explained with the help of tax elasticity and buoyancy .'' Tax elasticity may be defined as the ratio of a percentage change in adjusted tax revenue to a percentage change in income i.e. nominal GDP. On the other hand, tax buoyancy refers to changes in actual tax revenues due to the changes in income as well as due to the changes in discretionary measure such as tax rate and tax base "(Mukul 1977, p.63).This distinction between the tax elasticity and buoyancy is very useful in analyzing and evaluating weather future revenues will be sufficient to meet the resources needs without changing the rates or bases of the existing tax. To measure the tax elasticity, historical tax series must be adjusted so as to eliminate the effects of tax revenues from discretionary changes. If there is no change in the tax rates and the tax base during the reference period, the buoyancy will be the same as elasticity. Against this background, this study attempts to utilize the time series approach to empirically estimate the tax elasticity and buoyancy in Nepal for the period 1975-2005. The major components of tax revenue such as import duties, value added tax (VAT), income tax and excise duties are scrutinized. For the period prior to the launch of the VAT, the sum of sales tax, contract tax, entertainment tax and hotel tax is used for the elasticity estimation.

Alternatively, the buoyancy and the elasticity of tax revenues are also estimated by applying the partitioning approach. "Under this approach, tax elasticity and buoyancy coefficient are partitioned into tax to base and base to income component '' (Ibid, p.66) In other words ,tax elasticity and buoyancy are estimate with respect to the gross domestic product(GDP)as well as their respective proxy base." An advantage of using such a partitioning approach is the ability to identify factors responsible for rapid or lagged revenue growth .Factors that affect the tax to base elasticity such as tax rates ,exemptions and improvements in tax administration are within the control of the fiscal authorities , thereby making this making this making this measure important for related purpose .the base to income elasticity ,on the other hand is determined largely the way in which the economic structure responds to growth ''(Yuthika ,1991,p.76) The research methodology used in this study is Sahota method which is different to methods used in previous studies. Further time series is examined by using regression equation.

CHAPTER THREE

METHODOLOGY

3.1. Conceptual Framework

Revenue administration in general and the tax system in particular needs to be thoroughly analysed so as to improve resources mobilisation. A sound knowledge of the tax structure and the responsiveness of major taxes to the change in income would help to prepare a more realistic budget estimate as well as help in maintaining overall fiscal stability. Elasticity and buoyancy are the two popular concepts which are mostly used to measure the responsiveness of taxes in tax system.

3.1.1. Elasticity

The elasticity refers to the total change in tax revenue excluding discretionary change, associated with a given percentage change in National Income (NI). It measures the automatic response of revenue to the change in income i.e. revenue increase excluding the effect of discretionary change in legal bases, rates, exemptions limit, administrative reforms etc. Elasticity is a static concept. The yield effects of normal improvements in administration unaccompanied by legal changes are thus included in this measurement of elasticity. Thus, elasticity is also regarded the method of measurement of automatic response of revenue to income changes.

Elasticity is measured with adjusted data while buoyancy is measured with unadjusted data. If an elasticity of unity means that each one percentage change in GDP is accompanied by one percentage change in tax revenue, an elasticity of less than unity means that the percentage change in revenue will be less than the percentage change in GDP and an elasticity greater than one means that the percentage change in revenue will exceed that in GDP. A tax system is said to be elastic if the measure exceeds one and inelastic if it is less than one. High tax elasticity is said to be desirable attribute because it leads to natural growth in revenue for financing the rapidly growing development expenditure without the need for politically difficult decisions to raise taxes. However, major sources of government revenue may have a low elasticity, in

which case the authorities must seek additional revenue by introducing discretionary changes.

3.1.2 Buoyancy

Tax buoyancy refers to the ratio of total percentage change in the tax revenue including discretionary changes to a given percentage change in NI. If buoyancy is higher than elasticity, it signifies that discretionary changes can raise additional revenue and vice versa. It measures the total response of tax revenue to change in income i.e. revenue increase including the effect of discretionary changes. Buoyancy is a dynamic concept. The response of tax revenue to changes in income has often been singled out as a vital ingredient in considering the criteria for a tax system in a developing country. The ratio of percentage change in the income tax revenue to the percentage change in national income gives the buoyancy coefficient of an income tax under consideration.

The difference between the elasticity and buoyancy coefficient of the tax is used to whether discretionary changes always siphon off additional revenue and vice versa. Because of the nature of discretionary changes they can be adopted in a particular situation to collect more revenue immediately to fulfil the current requirement but in the long run, raising elasticity is desirable and frequent discretionary changes might be intractable and may be unpopular as well.

An efficient tax system ought to give better results and be progressive; it should possess elasticity greater than one. Of course the degree of progressiveness depends upon the desired level of objectives of the economy.

Generally, elasticity and buoyancy are defined as the ratio of relative change in dependent variable (tax yield in the study) to the relative change in independent variable (GDP). Mathematically, both elasticity and buoyancy have been calculated on the basis of following equation;

$$e = \frac{\Delta T}{T} \times \frac{Y}{\Delta Y} \quad \cdots\cdots\cdots\cdots\cdots\cdots (1)$$

Where;

e is elasticity of total tax to GDP ΔT is change is tax revenue T is tax revenue (income tax) ΔY is change in GDP Y is GDP

The income elasticity of each separate tax may be decomposed into the elasticity of tax to base and the elasticity of base to income. Thus, the base elasticity and buoyancy have been calculated on the basis of the following equation;

$$e_1 = \frac{\Delta T}{T} \times \frac{\Delta B}{B} \quad \cdots\cdots\cdots\cdots\cdots\cdots (2)$$

Where,

e_1 is elasticity of total tax to proxy base   T is tax revenue

ΔT is change is tax revenue

ΔB is change in proxy base (non-agriculture GDP)

B is amount of proxy base (non-agriculture GDP)

For calculating elasticity, the adjusted revenue yields are used. This is done to eliminate discretionary changes to find out the built in flexibility where as the actual yields are used to calculate buoyancy. By calculating the difference between elasticity and buoyancy the role of discretionary changes in income tax revenue is observed.

3.2. Calculation of Net Income Tax Series

Actual revenue data reflect both normal growth and discretionary changes. Thus to construct a hypothetical net revenue series from gross revenue we have to eliminate the discretionary changes from the tax receipt series. The discretionary changes are defined as:

Legal changes in the tax rates or in the tax base,

The introduction of new taxes, and certain administrative efforts,

The automatic effect is the total tax increase in any given period minus the increase due to discretionary actions. There are some important methods which are used for tax revenue adjustment: Constant Structure Method, Dummy Variable Method, Proportional Adjustment Method, and Divisia Index Method. Among them, Proportional Adjustment Method is more relevant particularly in developing countries like ours where data arrangements are not good.

In Proportional Adjustment Method, it adjusts the historical revenue series for each to derive a revenue yield based on the structure of rate and exemptions for a reference year. In this method, there are several alternative methods for adjustment such as: Prest Method; Sahota Method and Chand Method.

I) Prest Method: This method begins with estimates of the effects of discretionary tax changes on the year's receipts, often prepared by treasury officials. The separation of discretionary effects is then accomplished in two steps. First, a preliminary series of adjusted tax yield for each year the estimated amount attributed to the discretionary changes in that year. Second, this adjusted series is then further refined to form a final series that excludes the continuing impact of each discretionary change on future years. The Prest formula is;

(a) T_1, T_2… T_t… T_n are actual tax yields for a series of years.

(b) D_1, D_2… D_t… D_n measures the effect of discretionary change in the tth year's revenue outturn.

(c) T_{ij} indicates the jth year's actual tax yield adjusted to the tax structure that existed in year i.

If $i = 1$ is the reference year, the series T_{11}, T_{12}, T_{13}, ……, T_{1t}, ……., T_{1n} represents what the tax receipts would have been if the tax structure had remained as in year 1 with all discretionary changes removed from the years following year 1. It is this series that forms the basis used here for measuring the elasticity of a tax. The series is developed as follows:

$$T_{11} = T_1$$

$$T_{12} = T_2 - D_2$$

$$T_{13} = T_{23} \times \frac{T_{12}}{T_2}$$

$$T_{14} =$$

.

.

$$T_{1j} =$$

II) Chand Method: In this method the adjusted tax yield at present year found on the basis of following year's adjusted value. The formula for adjustment is;

$$T_{nr} = T_r \times \frac{T_{r+1}}{T_{r+1} - D_{r+1}} \times \ldots \ldots \frac{T_n}{T_n - D_n}$$

Where, n = reference years and the number of years considered.

T_{nr} = adjusted or net tax yield in rth year.

D_r = discretionary change in rth year.

T_r = actual tax yield at rth year.

r = 1, 2……., n.

III) Sahota Method:

Sahota's adjustment of actual tax receipts to a series (I_i), which he argues, excludes discretionary effects, is accomplished by:

$$I_i = \frac{T_i}{T_{i-1}}(I_{i-1})$$

Where, T_i stands for i^{th} year tax collection adjusted to rates in year i-1. This can be written in other way:

$$\text{IT}_t =$$

Where, IT_t = index of net tax receipt of the year t.

AT_t = actual tax yield of the year t.

RT_t = actual discretionary changes

t = the tth year.

t-1 = the one period lag.

Sahota Method is used for making adjustment to eliminate discretionary changes. It adjusts the actual figure or the current year on the basis of the adjustment figure of the previous year. Same result comes from another Prest Method also. Constant Structure Method is the best method for calculating adjusted revenue series in developed countries where previous data are easily available but for developing countries like Nepal, Sahota method is the second best method, as it requires less data details.

3.3. Nature and Sources of Data

The data that are used for this study are only the secondary data which are already published by the different institutions. The sources of data are the information received from books, journals and articles concerned with the study. The major sources of secondary data are as follows:

➢ Economic Survey of various years, MOF, GON, Nepal.

➢ Budget Speech of various years, MOF, GON, Nepal.

➢ Reports and Records of Inland Revenue Department.

➢ Research Studies by Centre for Economic Development and Administration concerning the Income Tax.

➢ Books Related to Income Tax.

➢ World Development Report, 2008.

➢ World Development Indicator, 2008.

➢ Statistical Pocket Book of various years, CBS, Kathmandu, Nepal.

➢ Statistical Year Book, CBS, Kathmandu, Nepal.

3.4. Variables Used in the Model

Total revenue of the government has been classified into tax and non-tax revenue. Further, tax revenue is again divided into direct tax and indirect tax. Direct tax

includes income tax, the tax on land revenue and registration fees. Similarly, indirect tax in turn is divided into custom and tax on consumption and production of goods and services. The independent variable, GDP, will be regressed with income tax as the dependent variable in the study to estimate the elasticity and buoyancy coefficient of income tax.

Dependent Variable	Independent Variables
Income Tax (T)	Total GDP(Y), Non-Agriculture GDP (Y_1)

3.5. Specification of the Model

The formula that is used to estimate elasticity as shown in the equation (1) ignores true functional relationship between the variables. Therefore, elasticity can be obtained by regressing the income with the tax yield by using following exponential form of equations as:

$$T = \alpha Y^\beta \dots\dots\dots\dots\dots\dots\dots (3)$$

Where, β measures the elasticity or buoyancy

Elasticity is defined as the automatic response of tax revenue to change in GDP and buoyancy as the total response of tax revenue including discretionary changes, associated with a given percentage change in GDP.

In this study the double log linear model is used to estimate the built-in-flexibility or elasticity with respect to adjusted revenue series is measured from the relation.

$$T_a = \alpha Y^\beta$$

Taking log on both sides;

$$\log T_a = \log \alpha + \beta \log Y \dots\dots\dots\dots\dots\dots (4)$$

For base elasticity,

$$\log T_a = \log \alpha + \beta \log Y_1 \dots\dots\dots\dots\dots\dots (5)$$

Similarly, sensitivity or buoyancy coefficient with respect to actual tax revenue series and GDP is estimated from the relation.

$$T = \alpha Y^{\beta}{}_{1}$$

Taking log on both sides;

$$\log T = \log \alpha + \beta_1 \log Y \ldots\ldots\ldots\ldots\ldots\ldots\ldots (6)$$

For base buoyancy,

$$\log T = \log \alpha + \beta_1 \log Y_1 \ldots\ldots\ldots\ldots\ldots\ldots\ldots (7)$$

Where,

T_a = adjusted tax revenue series T = actual tax revenue series

Y = total GDP Y_1 = total non-agriculture GDP

β = elasticity coefficient β_1 = buoyancy coefficient

α = coefficient

Here T_a and T are dependent variables and Y & Y_1 are independent variables.

Empirical test developed here is that there is good and strong relationship between respective independent variables and dependent variables. Common statistical test namely F-test has been used to test the significance of the coefficient of elasticity and buoyancy at 1 percent level of significance and to test the reliability of the model being used. The value of R^2 has been calculated to see how good the relationship between the dependent and independent variables are in the equation.

3.6. Tools of Analysis

Both quantitative as well as qualitative methods have been employed for the purpose of data analysis. However, the quantitative tools have been employed widely. It has been seen as the best method for the data analysis and also to reach at the conclusion. Different statistical tools for both estimation and test have been employed as demanded by the objectives so specified above. With regard to the model used above following measures are carried out to check the reliability of the analysis;

Coefficient of Determination (R^2)

The R-squared (R^2) statistic measures the success of regression in predicting the values of dependent variables within the sample. Estimate of coefficient of determination (R^2) shows the percentage of the total variation in dependent variables explained by independent variables. The value of R^2 lies between 0 and 1. The higher the R^2 the greater will be the percentage of the variation of dependent variable (T) explained by the independent variable (Y) i.e. the better the 'goodness of fit' of the regression plane to the sample observations and closer the R^2 to zero the worse the fit of regression plane.

Adjustment Coefficient of Determination ($\overline{R^2}$)

This measure is also employed to get additional information about the goodness of fit. One problem with using R^2 as a measure of goodness of fit is that the R^2 will never decrease as more regressors are added. In the extreme case, we can always obtain an R^2 of one if we include as many independent regressors as there are sample observations. The adjusted, commonly detonated as $\overline{R^2}$ penalizes the R^2 for the addition of regressors which does not contribute to the explanatory power of the model.

t-test

The t-test is based on the students' distribution. It is used to test the hypothesis about any individual partial regression coefficient. To compute the t-statistic, the standard errors for each input are computed separately. The t-ratio is the significant test of the regression coefficient of the hypothesis. Broadly speaking a test of significance is a procedure by which sample results are used to verify the truth or falsity of null hypothesis. The decision to accept or reject null hypothesis is made on the basis of value of the test statistic obtained from the data at hand. The t-statistic, which is computed as the ratio of an estimated coefficient to its standard error, is used to test hypothesis that a coefficient is equal to zero, to interpret the t-statistic given that the coefficient is equal to zero.

D-W test

D-W test is the test that justifies whether there is serial autocorrelation or not in the residual terms. Moreover, it measures the linear association between adjacent residuals from a regression model.

If there is no serial correlation, the D-W statistic will be around 2. The D-W statistic will be around 2. The D-W statistic will fall below 2 if there is positive serial correlation. If there is negative correlation the statistic will lie somewhere between 2 and 4. Positive serial correlation is the most commonly observed form of dependence. As a rule of thumb with 50 or more observations and only a few independent variables, a D-W statistic below about 1.5 is a strong indication of positive first order serial correlation.

There are three main limitations of the D-W test as a test for serial correlation. First, the distribution of the D-W statistic under the empirical test depends on the data matrix. The usual approach to handling this problem is to place bounds on the critical region, creating a region where the test results are inconclusive. Second, if there are lagged dependent variables on the right-hand side of the regression, the D-W test is no longer valid. Lastly, you may only test the empirical test of no serial correlation against the first order serial correlation. This measure will be carried out to check the autocorrelation. Since the estimation is based on the time series data, check for the autocorrelation is most.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

The process of domestic resource mobilization for development in Nepal has so far mainly depended on taxation as an effective instrument for this purpose. Its main function lies in rising public saving to be used for capital formation. It has been seen that many developing countries have given more emphasis on the role of taxation as an instrument of resource mobilization in the early stage of development. In the opinion of many economists the ratio of tax revenue to GDP is treated as one of the most important criteria for measuring and judging a country's economic performance.

4.1. Tax Effort Ratio and Per Capita Income: International Comparisons

Nepal is one of the poorest countries with GDP 8938 $ million in 2006 and GNI per capita is 320 $ in 2006, according to the World Development Indicator 2008. The contribution of tax revenue to GDP in 2006 was only 8.9 percent which is lower in the SAARC countries. The table 4.1 shows that the highest GDP is of USA 13163870 $ million in 2006 while tax revenue as percentage of GDP is 11.9 percent. Similarly, the highest contribution of tax revenue to GDP is 29 percent in the case of South Africa. GNI per capita of Nepal is also very low and it is around 250 $ since long time. But with regard to other countries either belongs to low income country or lower middle income country the GNI per capita income is comparatively high.

Table 4.1

GDP, Per Capita Income and Tax Revenue as Percentage of GDP of Selected Countries in 2006

Countries with different Income Group	GDP in 2006 (in million of $)	GNI Per Capita 2006 (in US $)	Tax Revenue as % of GDP
Lower Income			
Nepal	8938	320	8.9
India	911813	820	10.7
Pakistan	126836	800	9.5
Ghana	12906	510	22.4
Lower Middle Income			
Sri Lanka	26964	1310	15.3
Thailand	206338	3050	16.9
Peru	92416	2980	13.5
Upper Middle Income			
Argentina	214241	5150	14.2
Chile	145843	6810	20.7
Malaysia	150672	5620	---
South Africa	255155	5390	29.0
High Income			
Australia	780531	35860	23.7
Switzerland	380421	58050	10.5
USA	13163870	44710	11.9
UK	2376984	40560	28.8

Source: World Development Indicator 2008,   pg. 14-16; 202-204

4.2. Tax Structure of Nepal

When the GON presented first budget in the FY 1951/52, the revenue structure was typically that of traditional economy with 73 percent of government receipts coming from non-tax sources and land tax only. But latter in the late 1950s the share of non-tax revenue declined drastically, because of the increasing contribution of indirect tax on foreign trade. In the FY 1974/75 the share of non-tax revenue was 16.5 percent of total revenue and reached to the minimum 14.8 percent in the year 1982/83. But it reached to the maximum 26.9 percent in the year 1991/92. The data on table 4.2 shows that the contribution of tax revenue in the total revenue is almost 80 percent of the total revenue and never declined below 75 percent except in the FY 1986/87 and 1991/92. Thus role of tax revenue in domestic resource is highly significant.

Table 4.2
Contribution of Tax Revenue and Non Tax Revenue in Total Revenue
(1974/75 to 2007/08)

Fiscal Year	Total GDP	Revenue	Revenue as % of GDP	Total Tax Revenue	Tax Rev. as% TR.	Non-Tax Revenue	NTR as % TR
1974/75	16571	1008.4	6.1	841.7	83.5	166.7	16.5
1975/76	17394	1115.6	6.4	911.2	81.7	204.9	18.4
1976/77	17280	1322.9	7.7	1100.1	83.2	222.8	16.8
1977/78	19732	1582.0	8.0	1243.9	78.6	338.2	21.4
1978/79	22215	1811.9	8.2	1476.8	81.5	334.9	18.5
1979/80	23351	1880.0	8.1	1528.8	81.3	351.2	18.7
1980/81	27307	2419.2	8.9	2035.7	84.1	383.5	15.9
1981/82	30988	2679.5	8.6	2211.3	82.5	468.2	17.5
1982/83	33761	2841.6	8.4	2421.1	85.2	420.5	14.8
1983/84	39390	3409.3	8.7	2737.0	80.3	672.3	19.7
1984/85	44441	3916.6	8.8	3151.2	80.5	765.5	19.5
1985/86	53215	4644.5	8.7	3659.3	78.8	985.2	21.2
1986/87	61140	5975.1	9.8	4372.4	73.2	1602.7	26.8
1987/88	73170	7350.4	10.0	5752.8	78.3	1597.6	21.7
1988/89	85831	7776.9	9.1	6287.2	80.8	1489.6	19.2
1989/90	99702	9287.5	9.3	7283.9	78.4	2003.6	21.6
1990/91	116127	10729.9	9.2	8176.3	76.2	2553.5	23.8
1991/92	144933	13512.7	9.3	9875.6	73.1	3637.1	26.9
1992/93	165350	15148.4	9.2	11662.5	77.0	3485.9	23.0
1993/94	191596	19580.8	10.2	15371.5	78.5	4209.4	21.5
1994/95	209974	24575.2	11.7	19660.0	80.0	4945.1	20.1
1995/96	239388	27893.1	11.7	21668.0	77.7	6225.1	22.3
1996/97	269570	30373.5	11.3	24424.3	80.4	5949.2	19.6
1997/98	289798	32937.9	11.4	25939.8	78.8	6998.1	21.2
1998/99	330018	37251.0	11.3	28752.9	77.2	8494.4	22.8
1999/00	366251	42893.8	11.7	33152.1	77.3	9741.6	22.7
2000/01	441519	48893.6	11.1	38865.1	79.5	10028.8	20.5
2001/02	459443	50445.5	11.0	39330.6	78.0	11115.0	22.0
2002/03	492231	56229.8	11.4	42587.0	75.7	13642.7	24.3
2003/04	536749	62331.0	11.6	48173.0	77.3	14158.0	22.7
2004/05	589412	70122.7	11.9	54104.7	77.2	14770.3	21.1
2005/06	654055	72282.1	11.1	57427.0	79.4	13341.5	18.5
2006/07	727089	87712.0	12.1	71126.7	81.1	15559.3	17.7
2007/08	820814	107546.5	13.1	85025.3	79.1	19840.0	18.4

Sources: Master Table of Appendix II   * = Revised

Estimate

Note: TR – Total Tax Revenue   NTR – Non-Tax Revenue   GDP – Gross Domestic Product

Similarly, in the figure 4.1, the multiple bar diagram shows that the share of tax revenue is very high in comparison to the non tax revenue. The amount of total revenue has grown in increasing trend from FY 1990/91 and the path has been followed by the tax revenue as well.

Figure 4.1

**Composition of Tax Revenue and Non-Tax Revenue
(1990/91 to 2007/08)**
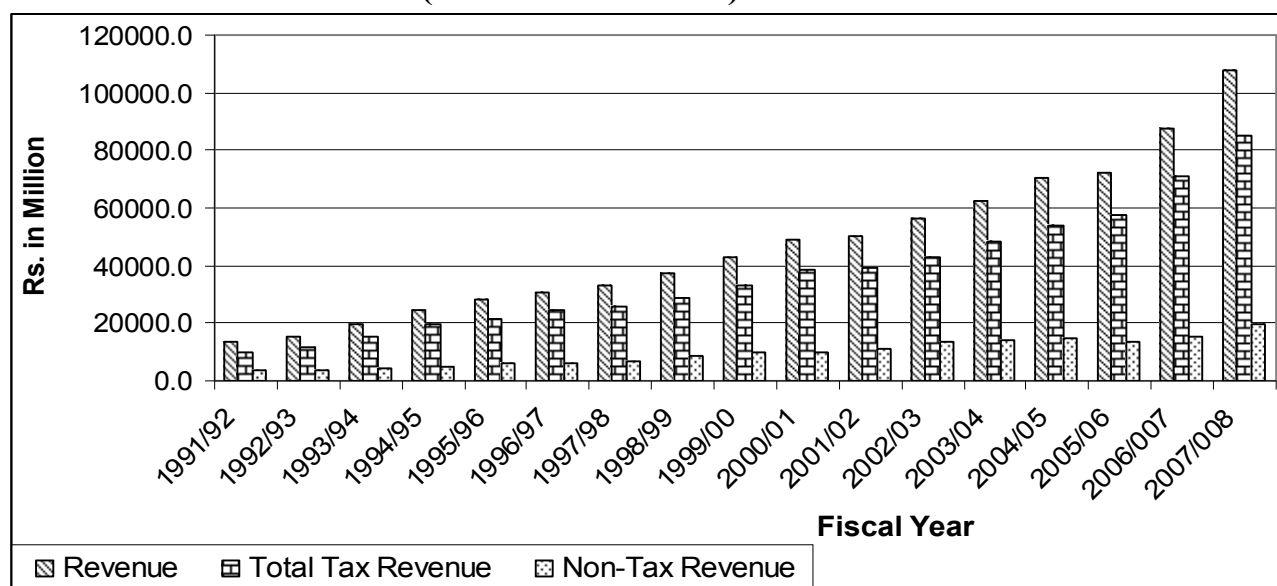
4.3. Composition of Tax Revenue

The contribution of tax revenue in the total revenue is significant from the very beginning. The major components of tax revenue are direct tax and indirect tax. The table 4.3 shows, there has been simultaneous increment in both direct tax and indirect tax in absolute term during the study period. The amount of tax revenue was Rs.841.7 million in the FY 1974/75. In which the share of direct tax was 21.9 percent whereas 78.1 percent of indirect tax. From the early 80s the amount of tax revenue had grown tremendously and reached the amount of Rs.85025.3 million in the FY 2007/08. But the share of direct tax and indirect tax vary from year to year. The figure in the table shows the share of direct tax declined from 21.9 percent in FY 1974/75 to 16.2 percent in FY 1991/92 and then reached to 27.1 percent in FY 2007/08 increasing continuously except some fluctuation in few years.

Similarly, the share of indirect tax increased from 78.1 percent in FY 1974/75 to 83.8 percent in FY 1991/92 then started to decline and reached to 72.9 percent in FY 2007/08. However, the share of indirect tax was very high before 1990 but declined after the restoration of democracy and adaptation of the liberalization policy by the nation. This has sought that country should try to mobilize the resources through

direct taxation rather than indirect taxation since the country is already a member of WTO and SAFTA.

Table 4.3
Contribution of Direct Tax and Indirect Tax in Total Tax Revenue
(1974/75 to 2007/08)

Rs. In Million

Fiscal Year	Direct Tax(DT)	DT as % of TR	Indirect Tax(IDT)	IDT as % of TR	Total Tax Revenue
1974/75	184.5	21.9	657.2	78.1	841.7
1975/76	236.0	25.9	675.2	74.1	911.2
1976/77	295.7	26.9	804.4	73.1	1100.1
1977/78	306.2	24.6	937.7	75.4	1243.9
1978/79	253.1	17.1	1223.7	82.9	1476.8
1979/80	253.8	16.6	1275.0	83.4	1528.8
1980/81	353.2	17.4	1682.5	82.6	2035.7
1981/82	379.9	17.2	1831.4	82.8	2211.3
1982/83	445.1	18.4	1976.0	81.6	2421.1
1983/84	541.8	19.8	2195.2	80.2	2737.0
1984/85	559.7	17.8	2591.5	82.2	3151.2
1985/86	661.8	18.1	2997.5	81.9	3659.3
1986/87	768.7	17.6	3603.7	82.4	4372.4
1987/88	1010.2	17.6	4742.6	82.4	5752.8
1988/89	1331.4	21.2	4955.8	78.8	6287.2
1989/90	1435.1	19.7	5848.8	80.3	7283.9
1990/91	1369.7	16.8	6806.6	83.2	8176.3
1991/92	1595.2	16.2	8280.4	83.8	9875.6
1992/93	2036.2	17.5	9626.3	82.5	11662.5
1993/94	2855.3	18.6	12516.2	81.4	15371.5
1994/95	3849.3	19.6	15810.7	80.4	19660.0
1995/96	4655.5	21.5	17012.5	78.5	21668.0
1996/97	5340.0	21.9	19084.3	78.1	24424.3
1997/98	6187.9	23.9	19751.9	76.1	25939.8
1998/99	7516.1	26.1	21236.8	73.9	28752.9
1999/00	8951.5	27.0	24200.6	73.0	33152.1
2000/01	10159.4	26.1	28705.7	73.9	38865.1
2001/02	10597.5	26.9	28733.1	73.1	39330.6
2002/03	10105.8	23.7	32481.2	76.3	42587.0
2003/04	11912.6	24.7	36260.4	75.3	48173.0
2004/05	12265.4	22.7	41839.3	77.3	54104.7
2005/06	13961.5	24.3	43465.5	75.7	57427.0
2006/07	18980.3	26.7	52146.4	73.3	71126.7
2007/08	23006.5	27.1	62018.8	72.9	85025.3

Sources: Master Table of Appendix II   * = Revised Estimate

Note: TR – Total Tax Revenue   DT – Direct Tax   IDT – Indirect Tax

The line graph of the figure 4.2 shows the satisfactory growing trend of the total tax revenue. In the line graph including the period of 18 year gives the result of 10 times increase in the tax revenue beginning from the FY 1990/91. But in the case of

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components, direct tax has taken pace only in the last few years of study period. There is always the dominant role of indirect tax in the total tax revenue.

Figure 4.2
Trend of Tax Revenue
(1990/91 to 2007/08)
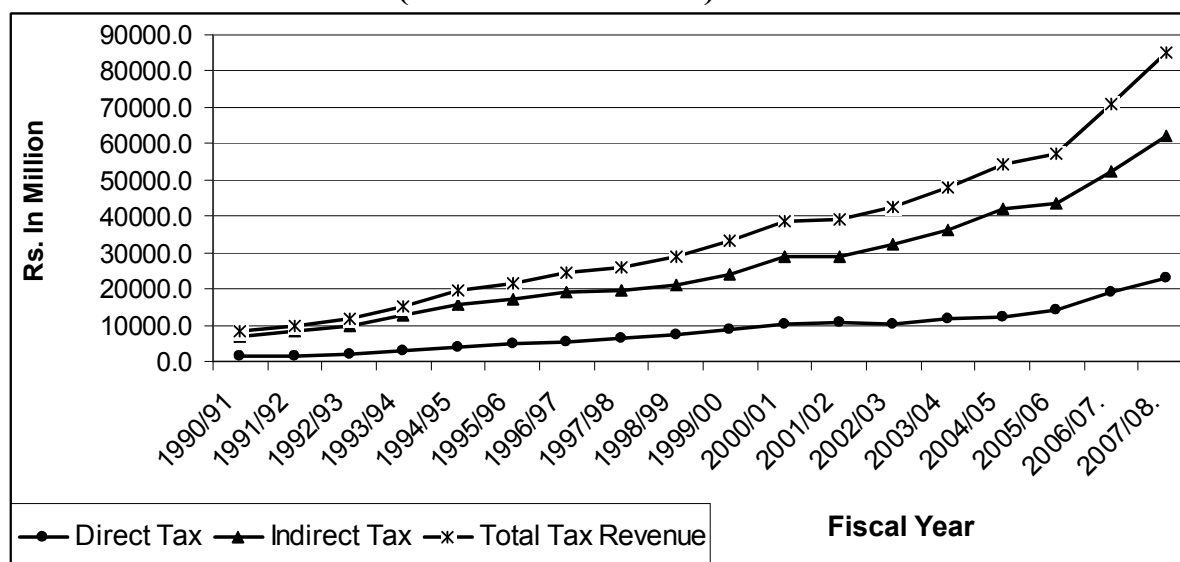
Source: Table 4.3

4.4. Share of Various Taxes in the GDP

During the study period the share of total revenue has increased from 6.1 percent of GDP in FY 1974/75 to 13.1 percent in FY 2007/08, this shows the increasing trend of revenue at a slower pace. Shares of all kinds of taxes are in increasing trend though not satisfactory in some cases.

The share of custom duties was about 2 percent of GDP in the FY 1974/75 and in the succeeding year its share was not encouraging which lay between 2 to 3 percent of GDP. In the FY 2007/08 its share in GDP was only 2.6 percent. In the case of export duties and land revenue and registration, their share was very low. In almost all the year the share of export duties remain about 0.1 percent of GDP. But the share of land revenue and registration remained about 0.5 percent of the GDP in most of the year. Table 4.4 shows, the major taxes that contributed significantly in the revenue are sales tax/VAT, import duty and income tax during the study period. Their share was 1.1, 1.1 and 0.3 percent of GDP respectively in the FY 1974/75 and reached 1.7, 1.7 and 0.6 percent of GDP in the FY 1990/91.

But after the restoration of democracy in 1990, Nepal adopted the policy of liberalization and the concept of open economy then the share of sales tax and income tax rose significantly. After the introduction of VAT in Nepal in 1997 the resource mobilization through VAT became the backbone of the Nepalese economy. In the FY 2007/08 the share of import duties, VAT and income tax reached 2.1, 3.6 and 2.3 percent respectively of GDP.

Table 4.4

Share of Various Taxes in the GDP (1974/75 to 2007/08)

Figures are in Percentage

Fiscal Year	Total Revenue	Custom Duty	Export Duty	Import Duties	Sales Tax/ VAT	Land Revenue and Registration	Income Tax
1974/75	6.1	2.0	0.2	1.1	1.1	0.8	0.3
1975/76	6.4	2.1	0.2	1.2	0.9	0.8	0.5
1976/77	7.7	2.2	0.3	1.2	1.3	0.8	0.8
1977/78	8.0	2.3	0.2	1.7	1.4	0.7	0.7
1978/79	8.2	2.8	0.2	2.4	1.6	0.5	0.5
1979/80	8.1	2.6	0.3	2.2	1.7	0.5	0.4
1980/81	8.9	3.0	0.3	2.4	2.0	0.7	0.5
1981/82	8.6	2.7	0.1	2.4	1.9	0.5	0.6
1982/83	8.4	2.3	0.1	2.1	2.1	0.5	0.7
1983/84	8.7	2.1	0.1	1.9	2.0	0.5	0.7
1984/85	8.8	2.4	0.1	2.0	1.9	0.5	0.7
1985/86	8.7	2.3	0.1	2.0	1.9	0.5	0.7
1986/87	9.8	2.5	0.1	2.1	1.9	0.5	0.7
1987/88	10.0	3.0	0.1	2.7	1.8	0.5	0.8
1988/89	9.1	2.7	0.1	2.5	1.6	0.5	1.0
1989/90	9.3	2.7	0.0	2.7	1.7	0.5	0.9
1990/91	9.2	2.6	0.1	2.4	1.7	0.5	0.6
1991/92	9.3	2.3	0.1	1.9	2.0	0.4	0.6
1992/93	9.2	2.4	0.1	1.9	2.1	0.5	0.7
1993/94	10.2	2.7	0.2	2.3	2.4	0.4	1.0
1994/95	11.7	3.3	0.2	2.8	2.9	0.4	1.3
1995/96	11.7	3.1	0.1	2.6	2.7	0.4	1.4
1996/97	11.3	3.1	0.1	2.6	2.6	0.4	1.5
1997/98	11.4	2.9	0.1	2.4	2.5	0.3	1.7
1998/99	11.3	2.9	0.1	2.3	2.7	0.3	1.9
1999/00	11.7	3.0	0.1	2.4	2.8	0.3	2.0
2000/01	11.1	2.8	0.1	2.4	2.8	0.1	2.1
2001/02	11.0	2.8	0.2	2.1	2.7	0.2	1.9
2002/03	11.4	2.9	0.2	2.1	2.7	0.3	1.7
2003/04	11.6	2.9	0.1	2.0	2.7	0.3	1.8
2004/05	11.9	2.7	0.1	2.1	3.2	0.3	1.8
2005/06	11.1	2.3	0.1	1.8	3.3	0.3	1.7
2006/07	12.1	2.3	0.1	1.9	3.6	0.3	2.2
2007/08	13.1	2.6	0.1	2.1	3.6	0.4	2.3

Source: Master Table Appendix III

4.5. Share of Direct Tax

Nepalese tax revenue is mainly dependent on the indirect taxes such as tax on international trade and sales tax/VAT on goods and services. But in the total revenue the role of direct tax is also significant from the very beginning. The table 4.5 shows the share of direct tax in tax revenue, total revenue and GDP respectively. In the beginning of the study period i.e. in FY 1974/75 the amount of direct tax was Rs.184.5 million. Though its growth is not smooth in the early period, after FY 1991/92 the amount of the direct tax has grown significantly. In the FY 2007/08 it reached to Rs.23006.5 million from Rs.1595.2 million in the FY 1991/92.

Share of direct tax to tax revenue is varying from year to year. In FY 1974/75, direct tax had contributed 21.9 percent to the tax revenue but it declined slowly and reached to 16.2 percent in FY 1991/92 except some increment in few years. But after the FY 1991/92, it grew to 27 percent in the FY 1999/00 and again it is declined. Now the share of direct tax to tax revenue is 27.1 percent.

The share of direct tax to the total revenue is also declining. In few years of the beginning it was encouraging but later it faded away. In FY 1974/75 the share of direct tax to total revenue was 18.3 percent. It reached to minimum in the FY 1991/92 with 11.8 percent and again it began to increase with some fluctuation. Now in FY 2007/08 the share of direct tax to total revenue is 21.4 percent.

The share of direct tax to GDP is encouraging from the very beginning. In the FY 1974/75, direct tax was 1.1 percent of the total GDP. But after the FY 1996/97 share of direct tax to GDP crossed the 2 percent and is now 3.2 percent of the GDP.

Table 4.5
Share of Direct Tax,1974/75 to 2007/08 (in Rs million)

Fiscal Year	Direct Tax	Direct Tax as % of Tax Revenue	Direct Tax as % of Total Revenue	Direct Tax as % of GDP
1974/75	184.5	21.9	18.3	1.1
1975/76	236.0	25.9	21.2	1.4
1976/77	295.7	26.9	22.4	1.7
1977/78	306.2	24.6	19.4	1.6
1978/79	253.1	17.1	14.0	1.1
1979/80	253.8	16.6	13.5	1.1
1980/81	353.2	17.4	14.6	1.3
1981/82	379.9	17.2	14.2	1.2
1982/83	445.1	18.4	15.7	1.3
1983/84	541.8	19.8	15.9	1.4
1984/85	559.7	17.8	14.3	1.3
1985/86	661.8	18.1	14.2	1.2
1986/87	768.7	17.6	12.9	1.3
1987/88	1010.2	17.6	13.7	1.4
1988/89	1331.4	21.2	17.1	1.6
1989/90	1435.1	19.7	15.5	1.4
1990/91	1369.7	16.8	12.8	1.2
1991/92	1595.2	16.2	11.8	1.1
1992/93	2036.2	17.5	13.4	1.2
1993/94	2855.3	18.6	14.6	1.5
1994/95	3849.3	19.6	15.7	1.8
1995/96	4655.5	21.5	16.7	1.9
1996/97	5340.0	21.9	17.6	2.0
1997/98	6187.9	23.9	18.8	2.1
1998/99	7516.1	26.1	20.2	2.3
1999/00	8951.5	27.0	20.9	2.4
2000/01	10159.4	26.1	20.8	2.3
2001/02	10597.5	26.9	21.0	2.4
2002/03	10105.8	23.7	18.0	2.2
2003/04	11912.6	24.7	19.1	2.4
2004/05	12265.4	22.7	17.5	2.3
2005/06	13961.5	24.3	19.3	2.4
2006/07	18980.3	26.7	21.6	2.9
2007/08	23006.5	27.1	21.4	3.2

Sources: Master Table of Appendix II and III

4.6. Composition of Direct Tax

In the Nepalese tax structure, the major components of direct taxes keep on changing from the beginning. But the major components of direct taxes are income tax, land tax and house and land registration tax. Until the FY 1993/94 vehicle tax was considered as a direct tax and from FY 1994/95 it has been classified under the indirect tax.

The table 4.6 depicts the different heads of the direct tax and their share to the direct tax. Since the income tax was introduced in the FY 1959/60, its share to the direct tax is very low in the early days. In FY 1974/75 the amount of direct tax was only Rs.184.5 million, in which the share of land revenue alone was Rs.126.9 million which was 68.8 percent of the total direct tax. In the same year, the amount of income tax was Rs.47 million which was 25.5 percent of the direct tax. After the lapses of time the scenario changed, the amount of income tax increased tremendously. Its share in direct tax has been increasing continuously and crossed 80 percent from the FY 1998/99. In the FY 2007/08 the amount of income tax was Rs.19026.2 million which was 82.7 percent of the direct tax.

The share of land revenue declined sharply from the early period. But the share of house and land registration which was very low in the beginning, changed in the latter days. In the early years of the 1990s the share of the house and land registration to direct tax highly increased and reached to 35.8 percent in FY 1991/92 but declined then after. It declined sharply again in the FY 2000/01 and then increased to 12.7 percent of the direct tax amounting Rs.2919.8 million.

Table 4.6
Composition of Direct Tax and Their Share in Direct Tax, 1974/75 to 2007/08 (in Rs million)

Fiscal Year	Direct Tax	Income Tax	Income Tax as % of Direct Tax	Land Revenue & Registration	L R & Reg. as % of Direct Tax	Others	Others as % of DT
1974/75	184.5	47.0	25.5	126.9	68.8	10.6	5.7
1975/76	236.0	87.2	36.9	135.5	57.4	13.3	5.6
1976/77	295.7	133.3	45.1	139.7	47.2	22.7	7.7
1977/78	306.2	136.8	44.7	141.1	46.1	28.3	9.2
1978/79	253.1	103.0	40.7	110.3	43.6	39.8	15.7
1979/80	253.8	101.2	39.9	121.2	47.7	31.4	12.4
1980/81	353.2	144.0	40.8	178.5	50.5	30.7	8.7
1981/82	379.9	189.8	50.0	170.0	44.7	20.1	5.3
1982/83	445.1	240.2	54.0	171.5	38.5	33.4	7.5
1983/84	541.8	290.9	53.7	212.4	39.2	38.5	7.1
1984/85	559.7	307.3	54.9	218.6	39.1	33.8	6.0
1985/86	661.8	364.4	55.1	244.3	36.9	53.1	8.0
1986/87	768.7	437.5	56.9	284.0	36.9	47.2	6.1
1987/88	1010.2	579.0	57.3	366.9	36.3	64.3	6.4
1988/89	1331.4	861.2	64.7	401.0	30.1	69.2	5.2
1989/90	1435.1	919.0	64.0	451.7	31.5	64.4	4.5
1990/91	1369.7	745.9	54.5	538.7	39.3	85.1	6.2
1991/92	1595.2	855.4	53.6	636.1	39.9	103.7	6.5
1992/93	2036.2	1124.8	55.2	754.9	37.1	156.5	7.7
1993/94	2855.3	1824.5	63.9	833.2	29.2	197.6	6.9
1994/95	3849.3	2823.5	73.4	937.7	24.4	88.1	2.3
1995/96	4655.5	3431.4	73.7	1066.6	22.9	157.5	3.4
1996/97	5340.0	4123.3	77.2	1015.4	19.0	201.3	3.8
1997/98	6187.9	4898.1	79.2	1004.2	16.2	285.6	4.6
1998/99	7516.1	6170.0	82.1	1003.1	13.3	343.0	4.6
1999/00	8951.5	7420.6	82.9	1015.9	11.3	515.0	5.8
2000/01	10159.4	9114.0	89.7	612.9	6.0	432.5	4.3
2001/02	10597.5	8903.7	84.0	1131.8	10.7	562.0	5.3
2002/03	10105.8	8131.9	80.5	1414.3	14.0	559.6	5.5
2003/04	11912.6	9514.5	79.9	1697.5	14.2	700.6	5.9
2004/05	12265.4	10466.2	85.3	1799.2	14.7	0.0	0.0
2005/06	13961.5	10933.5	78.3	2180.3	15.6	847.7	6.1
2006/07	18980.3	15731.8	82.9	2253.5	11.9	995.0	5.2
2007/08	23006.5	19026.2	82.7	2919.8	12.7	1060.5	4.6

Source: Master Table Appendix II

The figure 4.3 states the composition of direct tax from the FY 1974/75 to 2007/08. In the beginning the space covered by the land revenue was significant but coming at the

end of the study period it vanished. In the opposite, the space of income tax increased rapidly from the beginning and reached maximum in the FY 2000/01. The share of house and land registration in direct tax was on average during the study period but from the FY 1979/80 to 1995/96 it covered some more space.

Figure 4.3

Composition of Direct Tax (1974/75 to 2007/08)
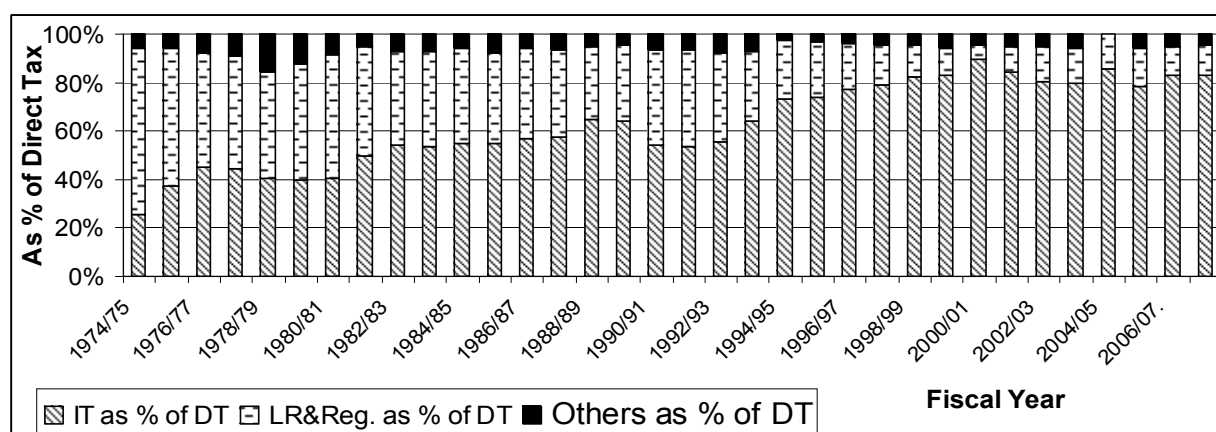
Source: Table 4.6

4.7. Share of Income Tax in the Total Revenue in Selected Countries

Modern income tax was first introduced by Britain as a temporary instrument to generate revenue required for the war finance. Now the tax is major source of revenue in the developed as well as developing countries. The relative importance of tax revenue is shown by the adjoing table 4.7, only of some selected countries. Table 4.7 shows that the share of income tax to total tax revenue in Australia is highest which 65 percent of the total revenue were in 2006. Among the selected countries of the world Nepal has the lowest share of income tax in the total revenue which was 11 percent in the year 2006.

Table 4.7

Share of Income Tax in the Total Revenue in Selected

Countries in 2006

Country	Taxes on Income, Profits, and Capital gains as % of Total Revenue (2006)
USA	57
Australia	65
India	39
Pakistan	20
Sri Lanka	16
Switzerland	19
Nepal	11
Thailand	36
Malaysia	47
Peru	24

Source: World Development Indicators 2008, pg 242-244

In general, the bulk of the income tax revenue comes from the individual income tax in developed countries while corporate tax provides the bulk of the income tax revenue in the developing countries.

4.8. Share of Income Tax

Income tax was introduced in FY 1959/60 for the first time when it generated revenue of Rs.203 thousands. In FY 1962/63, income tax revenue increased to Rs.2 millions. Income tax was initially levied only on business income and salary. In the FY 1959/60 business tax provided about 80 percent of the total income tax revenue.

Income tax was fourth largest source of revenue in the FY 1974/75 when it generated a sum of Rs.47 million. In FY 1977/78 the components of income tax was revised. According to which the major components were corporate income tax, income tax from individuals and from remunerations. The corporate income tax included income

tax from public enterprises, semi-public enterprises and private corporate bodies. Then the amount of income tax grew rapidly and reached to Rs.1824.5 million in the FY 1993/94 which was 63.9 percent of the direct tax, 11.9 percent of tax revenue and 1 percent of the GDP.

In the fiscal year 1994/95 the components of the income tax were again revised. They were corporate income tax, individual income tax, tax on house and land rent and the interest tax. Corporate income tax included government corporate, public limited corporate and private limited corporate where as individual income tax included the tax on the income from remuneration and business, industry and occupation. So that the amount of income tax increased to Rs.2823.5 million in FY 1994/95 form Rs.1824.5 million of previous year which was 73.4 percent of the direct tax, 14.4 percent of total tax revenue and 1.3 percent of the GDP.

Again in the FY 2002/03 the bases of income tax were revised. They are corporate income tax, tax on remuneration, income tax on investment, tax on windfall gain and others. The corporate income tax includes government corporate, public limited corporate, private limited corporate, personal or sole trading and other institutions. Similarly, the components of the income tax on investment are tax on lease or rent, interests, capital gains, dividends and other income from investment. In the FY 2007/08 the amount of income tax was Rs.19026.2 million which was 82.7 percent of the direct tax, 22.4 percent of the tax revenue, 17.7 percent of the total revenue and 2.3 percent of the GDP.

Table 4.8
Share of Income Tax as Percentage of Different Heads
(1974/75 to 2007/08)

Rs In Million

| Fiscal Year	Income Tax(IT)*	IT as % of DT	IT as % of Tax Revenue	IT as % of Total Revenue	IT as % of GDP
1974/75	47.0	25.5	5.6	4.7	0.3
1975/76	87.2	36.9	9.6	7.8	0.5
1976/77	133.3	45.1	12.1	10.1	0.8
1977/78	136.8	44.7	11.0	8.6	0.7
1978/79	103.0	40.7	7.0	5.7	0.5
1979/80	101.2	39.9	6.6	5.4	0.4
1980/81	144.0	40.8	7.1	6.0	0.5
1981/82	189.8	50.0	8.6	7.1	0.6
1982/83	240.2	54.0	9.9	8.5	0.7
1983/84	290.9	53.7	10.6	8.5	0.7
1984/85	307.3	54.9	9.8	7.8	0.7
1985/86	364.4	55.1	10.0	7.8	0.7
1986/87	437.5	56.9	10.0	7.3	0.7
1987/88	579.0	57.3	10.1	7.9	0.8
1988/89	861.2	64.7	13.7	11.1	1.0
1989/90	919.0	64.0	12.6	9.9	0.9
1990/91	745.9	54.5	9.1	7.0	0.6
1991/92	855.4	53.6	8.7	6.3	0.6
1992/93	1124.8	55.2	9.6	7.4	0.7
1993/94	1824.5	63.9	11.9	9.3	1.0
1994/95	2823.5	73.4	14.4	11.5	1.3
1995/96	3431.4	73.7	15.8	12.3	1.4
1996/97	4123.3	77.2	16.9	13.6	1.5
1997/98	4898.1	79.2	18.9	14.9	1.7
1998/99	6170.0	82.1	21.5	16.6	1.9
1999/00	7420.6	82.9	22.4	17.3	2.0
2000/01	9114.0	89.7	23.5	18.6	2.1
2001/02	8903.7	84.0	22.6	17.7	1.9
2002/03	8131.9	80.5	19.1	14.5	1.7
2003/04	9514.5	79.9	19.8	15.3	1.8
2004/05	10466.2	85.3	19.3	14.9	1.8
2005/06	10933.5	78.3	19.0	15.1	1.7
2006/07	15731.8	82.9	22.1	17.9	2.2
2007/08	19026.2	82.7	22.4	17.7	2.3

Source: Master Table Appendix-I

If we see the increasing trend of Income tax, it is most likely to surpass the custom duties in future and will be the second largest source of revenue whereas the VAT will be the first largest source. The share of income tax to direct tax was much lower in the early years of the study period. Income tax contributed only 25.5 percent of the direct tax in the FY 1974/75. Then after, it has been increasing continuously and rapidly. As a result, its share to direct tax has not decreased from 50 percent after 1980. In FY 2000/01 the share of income tax to direct tax was 89.7 percent while in FY 2001/02 it was 84 percent. This decrease in the share of income tax for the period from FY 2002/03 is due to the application of VDIS program in 2001. It had caused sharp increased in the income tax in 2001 and not in that extent after withdrawal of

the VDIS in 2002. Also the land tax and house rent tax has been excluded recently from income tax. In the FY 2007/08 the share of income tax to direct tax has reached only 82.7 percent.

Recently, the income tax has been divided into corporate income tax remuneration tax, income tax on investments, and tax on windfall gains. Thus, the income tax is one of the prime sources of direct tax in Nepal. But the share of income tax to total tax revenue is still lower than the developed countries. The more the revenue generated from income tax, the more progressive and equitable the tax system will be.

Figure 4.4
A Line Graph of Income Tax as a Percentage of GDP
(1974/75 to 2007/08)
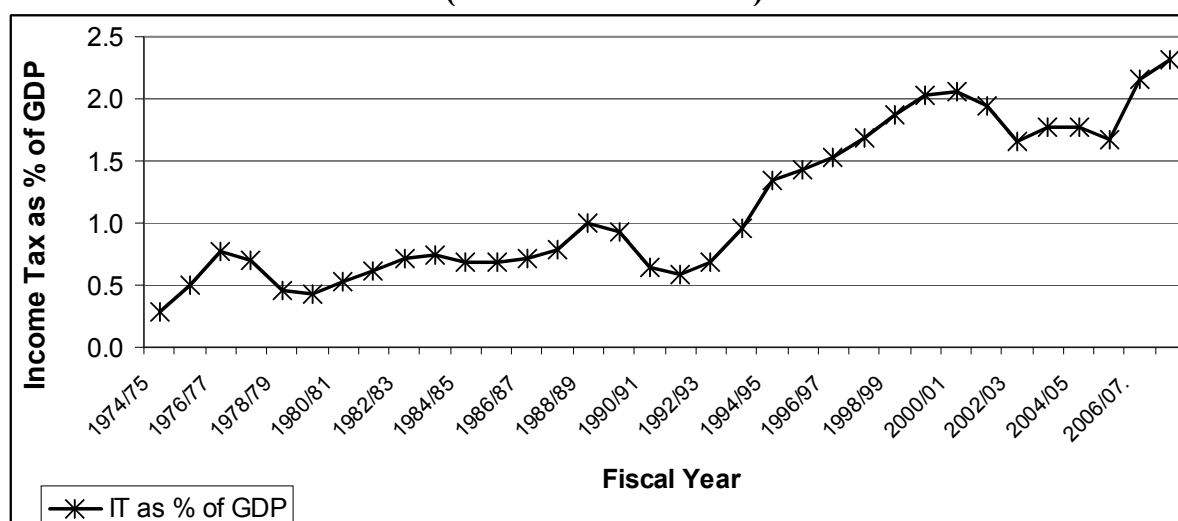
Source: Master Table Appendix III

In the figure 4.4, the share of income tax to GDP is shown. Initially the share of income tax to GDP is increasing slowly from the 1974/75. In the FY 1976/77 it reached at high and started to decline to minimum in the FY 1979/80. Again it showed some prosperity and reached to maximum in the FY 1988/89 contributing 1 percent of GDP. From the FY 1992/93, there was sharp rise in the history of income tax and reached to maximum in the FY 2000/01 contributing 2.1 percent of the GDP. However, the income tax GDP ratio suddenly came down to 1.7 percent in the FY 2002/03 reflecting the adverse effect of insurgency to the economy despite the vigorous attempts of broadening the tax base and reducing the tax rate in recent years. But after the year 2006/07 it has maintained a level of 2 percent share in the GDP.

4.9. Composition of Income Tax

Until the FY 1993/94, income tax was divided in to corporate income tax, individual income tax and tax on remuneration. But, from the FY 1994/95 income tax revenue was divided into main four groups' viz., individual income tax, corporate income tax, interest tax and house and land rent tax. Of these taxes, corporate tax was collected from government corporations, public and private limited companies and partnership firms. Individual income tax was collected from individuals and proprietorship firms. Interest tax was collected from banks or finance companies that pay interest on all types of deposits and the house rent tax was levied on income obtained from the renting out the house and land in urban areas. Again from the FY 2002/03 it was revised and now the components of income tax are: corporate tax, tax on remuneration, tax on investment, tax windfall gain and others. The corporate income tax includes tax revenue from Government Corporation, Public Limited Corporation, Private Limited Corporation, personal or sole trading and other institutions. Similarly, the income tax on investment includes tax on lease or rent, interests, capital gains, dividends and other income. In the table 4.9 composition of income tax is shown from the FY 1974/75 to 2007/08. Initially, the income taxes was given in gross amount but later on from the FY 1977/78 the category of the different heads under income tax were made. The bases of the income tax were revised twice then, in FY 1994/95 and FY 2002/03. This shows that government is trying to widen the tax base to increase the internal resource mobilization.

Table 4.9

Composition of Income Tax

(1974/75 to 2007/08)

Figures are Rs. In Million

Fiscal Year	Sources of Income Tax				
	Public Enterprises	Semi-public enterprise	Private Corporate Bodies	Individuals	Remuneration
1974/75	47.0				
1975/76	87.2				
1976/77	133.3				
1977/78	34.6	6.7	5.9	85	4.6
1978/79	27.0	5.2	0.9	61.4	8.5
1979/80	28.1	7.6	2.2	55.7	7.6
1980/81	41.0	0.8	1.0	91.4	9.8
1981/82	37.4	0.3	0.2	143.7	8.1
1982/83	53.4	1.5	0.3	173.9	11
1983/84	63.7	2.2	0.8	212.5	11.7
1984/85	93.1	1.4	0.5	196	16.3
1985/86	110.8	1.8	2.0	234.5	15.3

	Govt. Corporate	Public Ltd. Companies	Private Ltd. Companies	Individual		Land & House Rent	Interest Tax
				Remuneration	Business/Industry & Occupation		
1986/87	120.9		1.2	0.2	284.3		30.9
1987/88	193.2		1.9	1.9	348.6		33.4
1988/89	216.9		2.6	0.4	597.4		43.8
1989/90	240.9		2.4	0	625		50.7
1990/91	162.2		2.7	0	531.2		49.9
1991/92	171.1		5.3	6.5	617.9		54.7
1992/93	255.3		2.6	9.5	800.7		56.7
1993/94	534.1		2.1	19.7	1184.8		83.8
1994/95	860.2	440.1	465.5	118.4	754.8	72.8	111.6
1995/96	1144.5	563.9	564.2	133.1	799.8	106	119.8
1996/97	1231.1	858.4	603.8	168.1	967.5	140.1	154.4
1997/98	1317.8	925.1	693.8	322.2	1239.8	187.1	212.1
1998/99	1526.5	1155	780.7	396.5	1787.8	204.2	319.5
1999/00	2198.8	1339.5	900.1	451.5	1865.1	251.2	414.5
2000/01	2928.0	1924.3	1134.2	597.3	1804.8	261.4	463.9
2001/02	1769.3	1412.0	1173.9	835.6	2897.4	384.2	467.7

	Corporate Tax					Remuneration	Investment	Windfall Gain	Others
	A	B	C	D	E				
2002/03	1251.0	1236.3	1166.3	1799.6	96.6	1252.6	1321.8	2.3	5.4
2003/04	2056.6	1531.3	1250.8	1870.5	107.6	1391.2	1292.2	5.4	8.8
2004/05	1332.4	2467.8	1531.3	1885.7	127.8	1675.9	1424.8	6.8	13.8
2005/06	195.8	3405.6	1703.0	1958.8	313.4	1771.1	1546.6	8.8	30.5
2006/07	1019.7	5717.1	2307.0	2306.6	255.2	2008.0	2080.0	11.7	26.6
2007/08	204.5	7185.5	3139.1	2429.8	290.5	2430.2	3260.1	19.1	67.5

Source: Budget Speech and Economic Surveys of various years, MOF, GoN

Note: 1) A- Govt. Corporation, B-Public Ltd. Corporation, C-Private Ltd. Corporation, D-Personal or Sole Trading, E-Other Institutions.

2) *Tax on Investment includes tax on lease or rent, interest, capital gains, dividends and other income from investment.*

The table 4.9 shows that the share of different heads of income tax in the total amount of income tax from FY 1990/91 to 2007/08. In which the share of corporate tax is very high then individual tax comes in the second.

Table 4.10

Share of Different Heads to Income Tax

(1990/91 to 2007/08)

Fiscal Year	It	% of It	Corporate tax	% of It	Individual Tax	% of It	Remuneration	% of It
1990/91	745.9	100	164.9	22.1	531.2	71.2	49.9	6.7
1991/92	855.4	100	182.9	21.4	617.9	72.2	54.7	6.4
1992/93	1124.8	100	267.4	23.8	800.7	71.2	56.7	5.0
1993/94	1824.5	100	555.9	30.5	1184.8	64.9	83.8	4.6

Fiscal Year	It	% of It	Corporate Tax	% of It	Individual Tax	% of It	H & L Rent Tax	% of It	Interest Tax	% of It
1994/95	2823.5	100	1765.8	62.5	873.2	30.9	72.8	2.6	111.6	4.0
1995/96	3431.4	100	2272.6	66.2	932.9	27.2	106	3.1	119.8	3.5
1996/97	4123.3	100	2693.3	65.3	1135.6	27.5	140.1	3.4	154.4	3.7
1997/98	4898.1	100	2936.7	60.0	1562.0	31.9	187.1	3.8	212.1	4.3
1998/99	6170.0	100	3462.2	56.1	2184.3	35.4	204.2	3.3	319.5	5.2
1999/00	7420.6	100	4438.4	59.8	2316.6	31.2	251.2	3.4	414.5	5.6
2000/01	9114.0	100	5986.5	65.7	2402.1	26.4	261.4	2.9	463.9	5.1
2001/02	8903.7	100	4355.2	48.9	3732.6	41.9	348.2	3.9	467.7	5.3

Fiscal Year	It	% of It	Corporate Tax	% of It	Remuneration	% of It	Investment	% of It	WF Gain	% of It	Others	% of It
2002/03	8131.9	100	5549.8	68.2	1252.6	15.4	1321.8	16.3	2.3	0.0	5.4	0.1
2003/04	9514.5	100	6816.8	71.6	1391.2	14.6	1292.2	13.6	5.4	0.1	8.8	0.1
2004/05	10466.2	100	7345.0	70.2	1675.9	16.0	1424.8	13.6	6.8	0.1	13.8	0.2
2005/06	10933.5	100	7576.5	69.3	1771.0	16.2	1546.6	14.1	8.8	0.1	30.5	0.4
2006/07	15731.8	100	11605.6	73.8	2008.0	12.8	2080.0	13.2	11.7	0.1	26.6	0.2
2007/08	19026.2	100	13249.3	69.6	2430.2	12.8	3260.1	17.1	19.1	0.1	67.5	0.5

Source: Budget Speech of Various Years, MOF

The figure 4.5 gives the picture of the composition of income tax at present in the FY 2007/08. The corporate tax has covered 69.6 percent of the total income tax and tax on investment comes to the second.

Figure 4.5

Pie Chart Showing Composition of Income Tax (FY 2007/08)
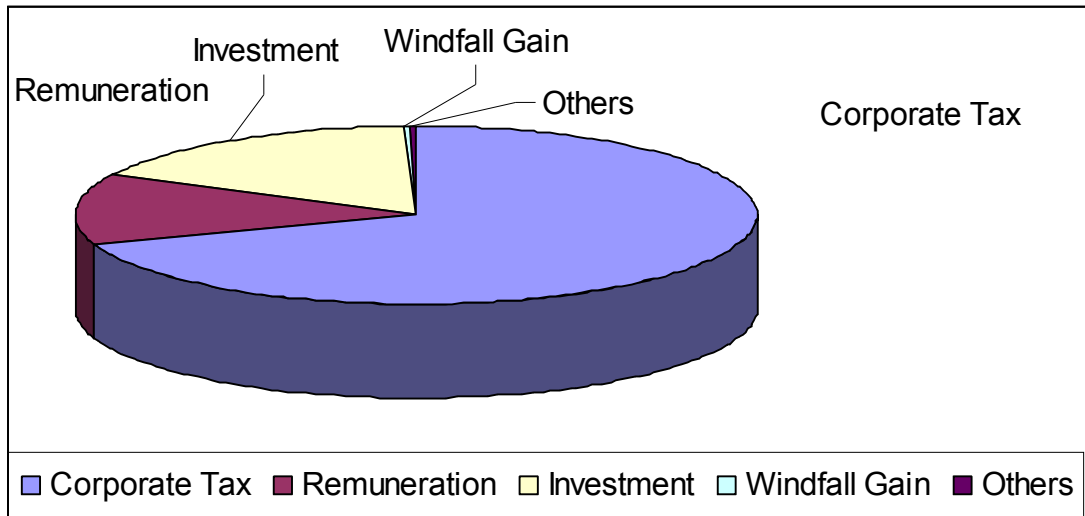
Source: Table 4.10

4.10. Income Tax Exemptions Limit

Exemptions limit is an important variable while managing the income tax. The purpose of keeping exemptions limit is to exclude the poor from income taxation, to reduce administrative problems etc. For every year, Finance Act prescribes the exemptions limit for individuals, families, couples and corporations. But exemptions limit was not allowed to corporate tax payers' from the FY 1965/66, non-resident taxpayers from the FY 1974/75 and partnership from the FY 1975/76. The exemptions limit indifferent years are shown in the table 4.11.

Table 4.11
Income Tax Exemptions Limit
(1974/75 to 2007/08)

Figures are in Rupees

Fiscal Year	Individual	Couple	Family
1974/75	4,500	6,000	6,000
1975/76	5,500	6,500	7,500
1976/77 to 1978/79	6,500	7,500	8,500
1979/80 to 1980/81	7,500	10,000	10,000
1981/82 to 1982/83	10,000	15,000	15,000
1983/84 to 1989/90	15,000	20,000	20,000
1990/91	20,000	30,000	30,000
1991/92 to 1996/97	25,000	35,000	35,000
1997/98	30,000	40,000	40,000
1998/99	40,000	50,000	50,000
1999/00	50,000	60,000	60,000
2000/01 to 2001/02	55,000	75,000	75,000
2002/03	65,000	85,000	85,000
2003/04 to 2004/05	80,000	100,000	100,000
2005/06-2006/07	100,000	125,000	125,000
2007/08-	115,000	140,000	140,000

Source: 1. Finance Act of various years, Ministry of Finance, GON.

2. Budget Speech of various years, MOF, GON

Figure 4.6
Income Tax Exemptions Limit (1974/75 to 2007/08)
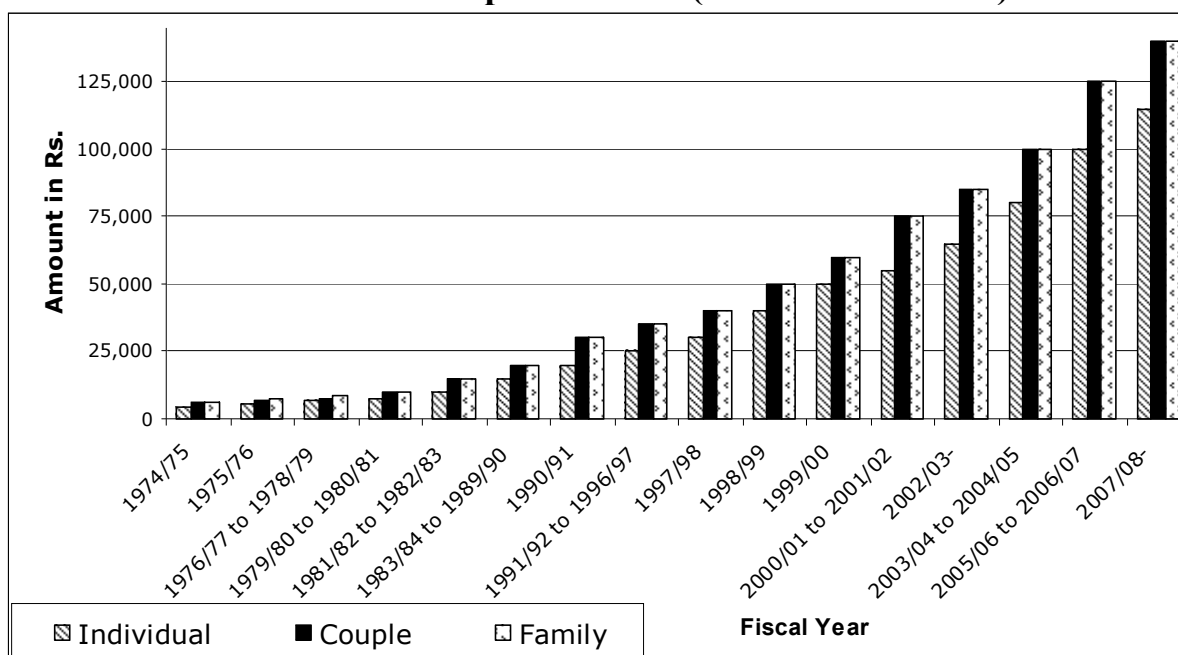
Source: Table 4.11

4.11. Income Tax Rates

Rate structure of income tax has been changing continuously since its introduction. In FY 1959/60, net income was divided into 11 brackets. When income over Rs.7000 a year was subject to graduated rates ranging from 5 percent to 25 percent. For the personal income, the slabs have varied form a minimum of two to maximum of eight from the FY 1982/83 to 2002/2003. From the FY 2002/03, the income tax was divided in to two slabs. The rates have varied from 15 to 25 percent. For partnership firms, corporations and non-resident, the income tax rate was same as the rate of personal income from 1984/85 to 1993/94 but exemption limit is not allowed for them. After FY 1994/95, they were taxed at flat rate. The tax rate was reduced form 35 percent in FY 1995/96 to 30 percent for bank, finance companies and financial forms and 25 percent for others (including partnership firms) in FY 1999/00.

Under the new Income Tax Act 2002, individual income tax is levied with two rates of 15 percent and 25 percent. For individuals, who have Rs.120, 000 incomes or Rs.1, 200,000 turnovers form any kind of business in metropolitan or sub metropolitan

cities, municipalities and other area in Nepal are subject to pay Rs.2000, Rs.2000, Rs.1500 and Rs.1000 as annual flat rates, respectively.

Under the new income tax act, the corporate income tax is levied with single rate of 25 percent. For bank and financial institutions the rate is 30 percent of taxable income. Industrial enterprises are subject to a maximum rate of 20 percent. Table 4.12 shows the income tax rate for personal income in Nepal in various years.

Table 4.12

Rate of Personal Income Tax in Nepal

(1975/76 to 2007/08)

Fiscal Year	Slabs (Over and above the exemption limit)
1975/76	5000(7%) 5000(10%) 10000(20%) 10000(30%) 10000(40%) 50000(55%) Balance (60%)
1976/77 to 1977/78	10000(5%) 10000(10%) 10000(20%) 10000(30%) 10000(40%) 50000(45%) Balance (51%)
1978/79	5000(5%) 5000(10%) 10000(15%) 20000(25%) 50000(35%) 100000(45%) Balance (51%)
1979/80 to 1981/82	5000(5%) 5000(10%) 10000(15%) 20000(20%) 20000(30%) 30000(40%) Balance (50%)
1982/83 to 1988/89	5000(10%) 5000(15%) 10000(20%) 15000(25%) 15000(30%) 30000(40%) 20000(50%) Balance (55%)
1989/90 to 1990/91	10000(15%) 15000(25%) 20000(35%) 20000(40%) 30000(45%) Balance (50%)
1991/92	10000(10%) 20000(20%) 20000(30%) 20000(40%) Balance (50%)
1992/93 to 2001/02	25000(15%) 40000(25%) Balance (40%)
2002/03 to 2007/08	75000(15%) Balance (25%)

Source: Budget Speech of various years, MOF, GON.

4.12. Calculation of Net Income Tax Series

Actual revenue data reflect both normal growth and discretionary changes. Thus to construct a hypothetical net revenue series from gross revenue we have to eliminate the discretionary changes from the tax receipt series.

Since, the budget documents do not provide actual revenue derived from discretionary changes separately; budgetary estimates have been used to compute such series. The revenue series derived on this basis by using Sahota method is shown in the table 4.13. Since the study period is further divided into two periods, the net income tax series for period I is taken from the same table, table 4.13 and for period II from FY 1990/91 to 2007/08 is shown in the table 4.14.

Table 4.13
Trends of Net Income Tax Series
(1974/75 to 2007/08)

Rs. In million

Fiscal Year	Estimated Income Tax	Discretionary Changes	DC as % of Est. It	Actual It	ATt as % of It	RTt	Adjusted It
1974/75	55.0	20.0	36.4	47.0	85.5	17.1	47.0
1975/76	71.2	13.7	19.2	87.2	122.5	16.8	70.4
1976/77	125.0	20.0	16.0	133.3	106.6	21.3	90.4
1977/78	140.2	-2.5	-1.8	136.8	97.6	-2.4	94.5
1978/79	175.0	5.0	2.9	103.0	58.9	2.9	69.1
1979/80	205.5	-4.5	-2.2	101.2	49.2	-2.2	69.4
1980/81	206.0	15.0	7.3	144.0	69.9	10.5	91.5
1981/82	196.9	30.5	15.5	189.8	96.4	29.4	101.9
1982/83	321.5	60.0	18.7	240.2	74.7	44.8	104.9
1983/84	316.5	33.0	10.4	290.9	91.9	30.3	113.8
1984/85	380.0	72.0	18.9	307.3	80.9	58.2	97.5
1985/86	450.3	0.3	0.1	364.4	80.9	0.2	115.5
1986/87	447.5	43.5	9.7	437.5	97.8	42.5	125.2
1987/88	546.0	0.0	0.0	579.0	106.0	0.0	165.7
1988/89	1027.7	400.0	38.9	861.2	83.8	335.2	150.5
1989/90	920.0	25.0	2.7	919.0	99.9	25.0	156.2
1990/91	938.5	71.0	7.6	745.9	79.5	56.4	117.2
1991/92	905.0	0.0	0.0	855.4	94.5	0.0	134.4
1992/93	810.0	10.0	1.2	1124.8	138.9	13.9	174.6
1993/94	1413.7	265.0	18.7	1824.5	129.1	342.0	230.1
1994/95	2924.7	150.0	5.1	2823.5	96.5	144.8	337.8
1995/96	4000.0	490.0	12.3	3431.4	85.8	420.3	360.3
1996/97	4595.0	305.0	6.6	4123.3	89.7	273.7	404.2
1997/98	4750.0	380.0	8.0	4898.1	103.1	391.8	441.7
1998/99	5780.0	1500.0	26.0	6170.0	106.7	1601.2	412.0
1999/00	7369.2	302.5	4.1	7420.6	100.7	304.6	475.2
2000/01	9982.5	974.6	9.8	9114.0	91.3	889.8	526.7
2001/02	11140.0	340.0	3.1	8903.7	79.9	271.7	498.8
2002/03	9862.5	510.0	5.2	8131.9	82.5	420.5	432.0
2003/04	8697.5	550.0	6.3	9514.5	109.4	601.7	473.5
2004/05	10500.0	1408.1	13.4	10466.2	99.7	1403.6	451.0
2005/06	10953.1	846.9	7.7	10933.5	100.4	850.5	434.5
2006/07.	11728.8	935.2	8.0	15731.8	134.1	1254.4	575.3
2007/08.	15529.7	1339.5	8.6	19026.2	122.5	1641.1	635.8

Source: Budget Speeches of Various Issues, MoF.

Note: i) For calculating Adjusted Income Tax, Sahota method is used.

ii) I_t denotes the income tax, D.C. denotes the discretionary changes, AT_t denotes the actual income tax and RT_t denotes the actual discretionary changes.

Figure 4.7
Trend of Actual and Net Income Tax
(1974/75 to 2007/08)
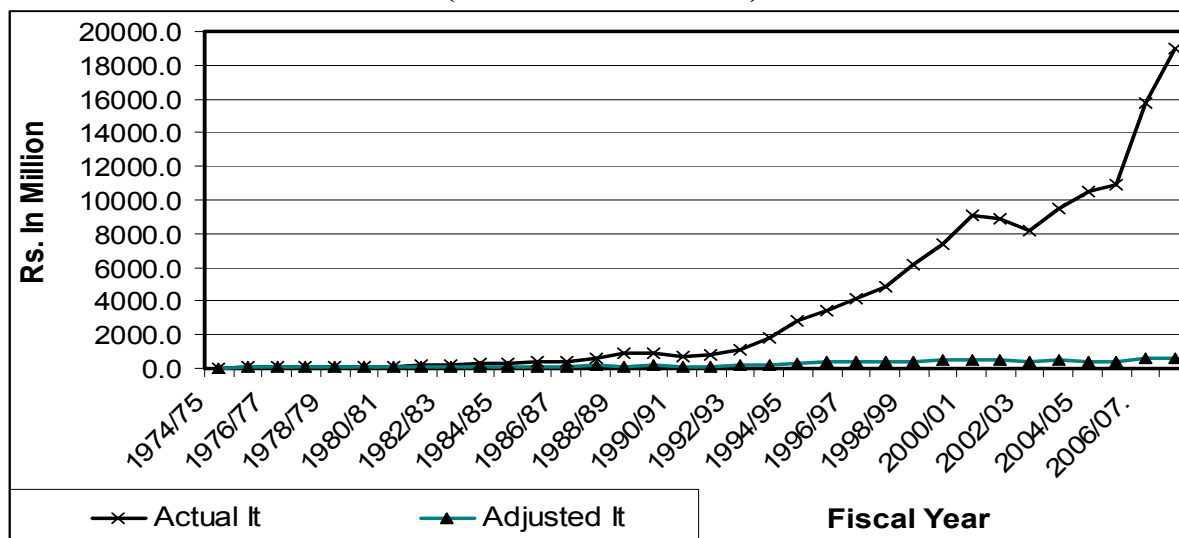
Source: Table 4.13

Table 4.14
Trends of Net Income Tax Series for
Period II (1990/91 to 2007/08)

Rs. In Million

Fiscal Year	Estimated Income Tax	Discretionary Changes	DC as % of Est. It	Actual It	ATt as % of It	RTt	Adjusted It
1990/91	938.5	71.0	7.6	745.9	79.5	56.4	745.9
1991/92	905.0	0.0	0.0	855.4	94.5	0.0	855.4
1992/93	810.0	10.0	1.2	1124.8	138.9	13.9	1110.9
1993/94	1413.7	265.0	18.7	1824.5	129.1	342.0	1464.2
1994/95	2924.7	150.0	5.1	2823.5	96.5	144.8	2149.7
1995/96	4000.0	490.0	12.3	3431.4	85.8	420.3	2292.5
1996/97	4595.0	305.0	6.6	4123.3	89.7	273.7	2571.9
1997/98	4750.0	380.0	8.0	4898.1	103.1	391.8	2810.8
1998/99	5780.0	1500.0	26.0	6170.0	106.7	1601.2	2621.8
1999/00	7369.2	302.5	4.1	7420.6	100.7	304.6	3023.8
2000/01	9982.5	974.6	9.8	9114.0	91.3	889.8	3351.2
2001/02	11140.0	340.0	3.1	8903.7	79.9	271.7	3174.0
2002/03	9862.5	510.0	5.2	8131.9	82.5	420.5	2748.9
2003/04	8697.5	550.0	6.3	9514.5	109.4	601.7	3012.9
2004/05	10500.0	1408.1	13.4	10466.2	99.7	1403.6	2869.8
2005/06	10953.1	846.9	7.7	10933.5	100.4	850.5	2764.8
2006/07	11728.8	935.2	8.0	15731.8	134.1	1254.4	3660.9
2007/08	15529.7	1339.5	8.6	19026.2	122.5	1641.1	4045.6

Source: Budget Speeches of Various Issues, MoF.

Note: i) For calculating Adjusted Income Tax, Sahota method is used.

ii) I_t denotes the income tax, D.C. denotes the discretionary changes, AT_t denotes the actual income tax and RT_t denotes the actual discretionary changes.

4.13. Calculation of Elasticity and Buoyancy

Elasticity and buoyancy of income tax is calculated here including the data from the FY 1974/75 to 2007/08. Further, it is divided into two periods; from FY 1974/75 to 1989/90 period I and from FY 1990/91 to 2007/08 period II. The year 1990 is taken here as the break even point to compare the productivity of income tax before and after the liberalization of the Nepalese economy since Nepal adopted the liberalization policy after the restoration of democracy in 1990. After this a lots of changes were gone through in the economic polices.

Also, the elasticity and buoyancy of income tax is calculated with respect to non-agriculture GDP as proxy base from the fiscal year 1974/75 to 2007/08. Similarly, it has also been divided into two periods for comparison.

To calculate elasticity and buoyancy of income tax revenue, the relevant variables are given below:

Table 4.15
Total GDP, Non-agriculture GDP, Total Income Tax and Adjustment Income Tax Series (1974/75 to 2007/08)

Rs. In Million

Fiscal Year	Total GDP(Y)	Non-agriculture GDP(Y1)	Actual Income Tax (T)	Adjusted Income Tax(Ta)
1974/75	16571.0	5021.0	47.0	47.0
1975/76	17394.0	5783.0	87.2	70.4
1976/77	17280.0	6774.0	133.3	90.4
1977/78	19732.0	7980.0	136.8	94.5
1978/79	22215.0	8693.0	103.0	69.1
1979/80	23351.0	9668.0	101.2	69.4
1980/81	27307.0	11628.0	144.0	91.5
1981/82	30988.0	13085.0	189.8	101.9
1982/83	33761.0	14479.0	240.2	104.9
1983/84	39390.0	16619.0	290.9	113.8
1984/85	44441.0	21680.0	307.3	97.5
1985/86	53215.0	26079.0	364.4	115.5
1986/87	61140.0	30517.0	437.5	125.2
1987/88	73170.0	36415.0	579.0	165.7
1988/89	85831.0	43259.0	861.2	150.5
1989/90	99702.0	49232.0	919.0	156.2
1990/91	116127.0	60759.0	745.9	117.2
1991/92	144933.0	79777.0	855.4	134.4
1992/93	165350.0	95260.0	1124.8	174.6
1993/94	191596.0	111007.0	1824.5	230.1
1994/95	209974.0	124407.0	2823.5	337.8
1995/96	239388.0	142492.0	3431.4	360.3
1996/97	269570.0	160785.0	4123.3	404.2
1997/98	289798.0	177303.0	4898.1	441.7
1998/99	330018.0	197645.0	6170.0	412.0
1999/00	366251.0	221120.0	7420.6	475.2
2000/01	441519.0	287738.0	9114.0	526.7
2001/02	459443.0	295518.0	8903.7	498.8
2002/03	492231.0	321597.0	8131.9	432.0
2003/04	536749.0	353128.0	9514.5	473.5
2004/05	589412.0	392726.0	10466.2	451.0
2005/06	654055.0	445464.0	10933.5	434.5
2006/07	727089.0	503554.0	15731.8	575.3
2007/08	820814.0	566361.0	19026.2	635.8

Source: i) For GDP Master Table Appendix II

　　　　ii) For total income tax revenue and adjusted income tax revenue series,

　　　Table No. 4.13

The adjusted data for calculating elasticity for period I is taken from the same table, table 4.13 and for second period is given in table 4.14.

Table 4.16

Total GDP, Non-agriculture GDP, Total Income Tax and Adjustment Income Tax Series for Period II (1990/91 to 2007/08)

Rs. In Million

Fiscal Year	Total GDP(Y) (at current price)	Total GDP(Y₁) (at current price)	Actual Income Tax (T)	Adjusted Income Tax(Ta)
1990/91	116127.0	60759.0	745.9	745.9
1991/92	144933.0	79777.0	855.4	855.4
1992/93	165350.0	95260.0	1124.8	1110.9
1993/94	191596.0	111007.0	1824.5	1464.2
1994/95	209974.0	124407.0	2823.5	2149.7
1995/96	239388.0	142492.0	3431.4	2292.5
1996/97	269570.0	160785.0	4123.3	2571.9
1997/98	289798.0	177303.0	4898.1	2810.8
1998/99	330018.0	197645.0	6170.0	2621.8
1999/00	366251.0	221120.0	7420.6	3023.8
2000/01	441519.0	287738.0	9114.0	3351.2
2001/02	459443.0	295518.0	8903.7	3174
2002/03	492231.0	321597.0	8131.9	2748.9
2003/04	536749.0	353128.0	9514.5	3012.9
2004/05	589412.0	392726.0	10466.2	2869.8
2005/06	654055.0	445464.0	10933.5	2764.8
2006/07	727089.0	503554.0	15731.8	3660.9
2007/08	820814.0	566361.0	19026.2	4045.6

Source: i) For GDP Master Table Appendix II

ii) For total income tax revenue and adjusted income tax revenue series,

Table No. 4.14

Table 4.17
Elasticity and Buoyancy of Nepalese Income Tax
(1974/75 to 2007/08)

Statistics → Income Tax	Estimated Log α	Estimated β₁ and β	R (Correlation Coefficient)	R² (Coefficient of Determination)	$\overline{R^2}$ (Adjusted R²)	F-Statistics	D-W Statistics
Buoyancy	-4.02 (-24.06)	1.40 (42.596)	0.99	0.98	0.98	1814.39	0.72
Elasticity	-0.66 (-4.48)	0.58 (20.17)	0.96	0.93	0.93	406.63	0.67
Difference		0.82					

Note: This calculation is based on the data of Table 4.15

Values in the parenthesis are t-value of the parameter and significant at 1% level

F-values are significant at 1% level

The Table 4.17 shows that the elasticity and buoyancy for total period FY 1974/75 to 2007/08 found 0.58 and 1.40 respectively. The value coefficient of determination is very high, showing goodness of fit.

Table 4.18
Elasticity and Buoyancy of Nepalese Income Tax for Period I
(1974/75 to 1989/90)

Statistics → Income Tax	Estimated Log α	Estimated β_1 and β	R (Correlation Coefficient)	R^2 (Coefficient of Determination)	$\overline{R^2}$ (Adjusted R^2)	F-Statistics	D-W Statistics
Buoyancy	-2.16 (-7.21)	1.08 (15.21)	0.97	0.95	0.94	231.41	0.96
Elasticity	0.49 (2.31)*	0.36 (7.33)	0.897	0.81	0.79	53.68	1.63
Difference		0.72					

Note: This calculation is based on the data of Table 4.15

> *Values in the parenthesis are t-value of the parameter and significant at 1% level*
>
> *F-values are significant at 1% level*
>
> ** means not significant at 1% level*

The Table 4.18 shows that the elasticity and buoyancy for period I FY 1974/75 to 1989/90 found 0.36 and 1.08 respectively. The value coefficient of determination is very high, showing goodness of fit.

Table 4.19
Elasticity and Buoyancy of Nepalese Income Tax for Period II
(1990/91 to 2007/08)

Statistics → Income Tax	Estimated Log α	Estimated β_1 and β	R (Correlation Coefficient)	R^2 (Coefficient of Determination)	$\overline{R^2}$ (Adjusted R^2)	F-Statistics	D-W Statistics
Buoyancy	-5.38 (-10.63)	1.64 (17.93)	0.98	0.95	0.95	321.38	0.41
Elasticity	-0.77 (-1.43)*	0.75 (7.66)	0.89	0.79	0.77	58.73	0.35
Difference		0.89					

Note: This calculation is based on the data of Table 4.16

> *Values in the parenthesis are t-value of the parameter and significant at 1% level.*
>
> *F-values are significant at 1% level*
>
> ** means not significant at 1% level*

The Table 4.19 shows that the elasticity and buoyancy for total period II FY 1990/91 to 2007/08 found 0.75 and 1.64 respectively. The value coefficient of determination is very high, showing goodness of fit.

The responsiveness of any tax system directly relies of the economic structure or bases of that particular country. In this context, base elasticity is highly useful. Here base elasticity and base buoyancy of income tax is calculated taking non-agriculture GDP as the proxy base since the income from the agricultural income is out of tax net.

Table 4.20
Base Elasticity and Base Buoyancy of Nepalese Income Tax
(1974/75 to 2007/08)

Statistics → Income Tax	Estimated Log α	Estimated β_1 and β	R (Correlation Coefficient)	R^2 (Coefficient of Determination)	$\overline{R^2}$ (Adjusted R^2)	F-Statistics	D-W Statistics
Buoyancy	-2.67 (-19.6)	1.20 (42.40)	0.99	0.98	0.98	1797.38	0.63
Elasticity	0.0097 (-0.81)*	0.5 (20.2)	0.96	0.93	0.93	408.11	0.65
Difference		0.7					

Note: This calculation is based on the data of Table 4.16

Values in the parenthesis are t-value of the parameter and significant at 1% level

F-values are significant at 1% level

* means not significant at 1% level

The table 4.20 shows that the base elasticity and base buoyancy for total period FY 1974/75 to 2007/08 found 0.50 and 1.20 respectively. The value coefficient of determination is very high, showing goodness of fit.

Table 4.21

Base Elasticity and Base Buoyancy of Nepalese Income Tax for Period I (1974/75 to 1989/90)

Statistics → Income Tax	Estimated Log α	Estimated β₁ and β	R (Correlation Coefficient)	R² (Coefficient of Determination)	$\overline{R^2}$ (Adjusted R²)	F-Statistics	D-W Statistics
Buoyancy	-2.40 (-8.07)	1.14 (16.02)	0.97	0.95	0.95	256.49	1.12
Elasticity	0.26 (1.18)	0.41 (7.72)*	0.90	0.81	0.80	59.61	1.46
Difference		0.73					

Note: This calculation is based on the data of Table 4.15

Values in the parenthesis are t-value of the parameter and significant at 1% level

F-values are significant at 1% level

* means not significant at 1% level

The Table 4.21 depicts that the elasticity and buoyancy for period I FY 1974/75 to 1989/90 found 0.41 and 1.14 respectively. The value coefficient of determination is very high, showing goodness of fit.

Table 4.22

Base Elasticity and Base Buoyancy of Nepalese Income Tax for Period II (1990/91 to 2007/08)

Statistics → Income Tax	Estimated Log α	Estimated β₁ and β	R (Correlation Coefficient)	R² (Coefficient of Determination)	$\overline{R^2}$ (Adjusted R²)	F-Statistics	D-W Statistics
Buoyancy	-3.99 (-9.01)	1.44 (17.36)	0.97	0.95	0.95	301.22	0.43
Elasticity	-0.15 (-0.32)*	0.66 (7.66)	0.89	0.79	0.77	58.70	0.34
Difference		0.78					

Note: This calculation is based on the data of Table 4.16

Values in the parenthesis are t-value of the parameter and significant at 1% level

*F-values are significant at 1% level   * means not significant at 1% level.*

The Table 4.22 shows that the elasticity and buoyancy for period II FY 1990/91 to 2007/08 found 0.66 and 1.44 respectively. The value coefficient of determination is very high, showing goodness of fit.

The calculation of elasticity and buoyancy of income tax with respect to GDP as well as base elasticity and base buoyancy of income tax with respect to proxy base (non-agriculture GDP) is given above. It consists the period of FY 1974/75 to 2007/08. For making the analysis more effectiveness, this period is further divided in to two parts. The time period from FY 1974/75 to 1989/90 is the Period I and from FY 1990/91 to 2007/08 is the Period II. The year 1990 is taken as the break even point since Nepal adapted the policy of open economy or followed the process of liberalization after the restoration of democracy in 1990. The comparative study of two periods gives the effectiveness in tax collection especially, in the sector of income tax.

The elasticity of income tax 0.58 is extremely low in comparison with buoyancy 1.40 in the period 1974/75 to 2007/08, which is shown in the Table 4.17. Thus, the income tax is less responsive to change in GDP. The buoyancy of income tax with respect to GDP is 1.40, which means that one percent change in GDP cause 1.40 percent change in income tax yield. This indicates that the government has concentrated more on introducing various discretionary measures rather than broadening the income tax base. Such an income tax structure is not conductive to support growing development activities because it needs frequent changes in the tax rates through legislative procedures. It creates the complication of mobilizing additional revenue. It also adds uncertainty to the existing environment. Exemption of agriculture income from income tax net, continuous decreasing tax rates and more or less constant tax base, low valuation of imported goods, which further lowers the income tax, complication in identifying the income from service sectors etc. are the main reasons of low income elasticity in Nepalese tax system. The inelastic nature of income tax indicates that is still potentiality of raising the income tax through widening tax base, certain administration reforms and may be raising tax rates.

The elasticity of income tax is 0.36 and 0.75 of the study period I and II respectively. This shows the income tax is inelastic or income tax revenue is less responsive to the GDP. But the income tax revenue is more responsive in period II in comparison to period I. The buoyancy is 1.08 and 1.64 of the study period I and II respectively. This shows the income tax is highly buoyant.

The difference between buoyancy and elasticity coefficients is utilized to know how much percentage change in revenue by one percent change in GDP due to discretionary changes. The higher difference means the high possibility of raising the tax collection through discretionary changes. The difference between buoyancy and elasticity is 0.82 in the whole period and 0.72 and 0.89 in period I and II respectively. This indicates that the role discretionary changes are very high to yield the revenue from income tax, especially in the period II.

The values of base elasticity and base buoyancy of Nepalese income tax during FY 1974/75 to 2007/08 are 0.50 and 1.20 respectively, in table 4.20. This shows the income tax is inelastic with respect to proxy base also. But the values of base elasticity and base buoyancy of period I and period II are 0.41 and 1.14 and 0.66 and 1.44 respectively. The low value of base elasticity and base buoyancy coefficient of income tax to base indicates a poor relationship between base and tax. That is change in base only cannot bring desired change in the tax revenue and some other factors are also responsible which are to be applied to bring change in the tax revenue structure.

The difference between base buoyancy and base elasticity is 0.70, 0.73, and 0.78 in whole period, period I and period II respectively. This means one percent change in income tax yield through discretionary change. It is seemed that the role of DC is greater than the automatic growth in income tax revenue in all period. But it is very high in the period II. Thus Nepalese income tax system is likely to be buoyant rather than elastic.

The values of correlation coefficient (R) in all cases are more than 0.9 shows that there is strong positive relationship between related dependent and independent variables. The coefficient of determination (R^2) measures the goodness of fit of regression. The R^2 for income elasticity is 0.92 and for buoyancy is 0.98, which indicates that the association between GDP and income tax holds good. The values of R^2 are also high in the period I and II. Similarly, the value of R^2 in case of base elasticity and base buoyancy are also significantly high. Here R^2 measures the variation in income tax revenue due to the variation in GDP. The value of R^2 is comparatively greater in the case of buoyancy than in the elasticity of relevant variables.

To check whether the variation is due to variation in GDP and in GDP originating from non–agriculture sector, F-test is utilized. The tabular value of F statistics for given degree of freedom at 1 percent level of significant is less than the calculated value in all cases. Since the calculated value is highly significant, the relationship is reliable. Similarly, in case of base elasticity, the calculated value of F is significantly higher than the tabulated value of F statistics. Thus it can be confirmed that the variation in income tax revenue is mainly caused by the variation in GDP as well as GDP originating from non-agriculture sector.

The result of t-statistics which gives the significance of parameters is also significant at 1 percent level but $\log\alpha$ of base elasticities of whole period, period I and period II are not significant at 1 percent level.

The value of d-statistics in all cases are less than 1, this shows that there is positive autocorrelation at given degree of freedom and significant at 1 percent level.

4.14 Major Findings

Nepal has been heavily relying on the external and internal debt to meet the budget deficit because of the low revenue collection compared to the total expenditure. The dependence is increasing, which is not desirable for any economy. Thus, it is more essential to mobilize the internal revenue to the optimum level. The study shows the share of tax revenue is about 79.1 percent and non-tax revenue was about 18.4 percent of the total revenue in FY 2007/08. In this way, tax has been a major source of revenue mobilization.

Among various taxes, Customs and VAT are two major sources of indirect tax and income tax is one of the major sources of direct tax. Over the past several years Nepal has been pursuing the policy of lowering the tax rate to reduce the burden. In this regard, increasing the tax coverage, simplifying and making procedures transparent, reforming tax administrations, promoting self assessment, educating taxpayers and utilizing other measures, are essential to more than offset the revenue loss caused by lowering tax rates. The major findings of this study are given below:

In Nepal, the share of tax revenue to GDP was 8.9 percent and per capita income was only $ 320 in 2006, which was lowest among the SAARC countries. In Switzerland share of tax to GDP was 10.5 during the same period and its per capita income was $58050. Though the tax effort ratio is to some extent equal, its amount is very high because of its high GDP. Its PCI is also more than hundred times of Nepal.

In 2007/08 the share of total revenue to GDP was 13.1 percent and while that of tax revenue was 10.7 percent. The share of customs, sales tax/VAT and income tax to GDP was 2.6, 3.6 and 2.6 percent respectively, during the same period.

In the composition of tax revenue, the share of indirect tax is always dominant from the very beginning. At present the share of direct tax and indirect tax are 21.4 percent and 78.6 percent of total tax revenue respectively. Direct tax is composed of income tax, land revenue, house and land revenue registration and others. The share of income tax is dominant in the FY 2007/08. It contributes 82.7 percent of the direct tax where as land tax has been vanished.

Income tax contributes 82.7 percent in direct tax, 22.4 percent in tax revenue, 17.7 percent in total revenue and 2.3 percent in the total GDP. Income tax is also composed of corporate tax, individual income tax, and remuneration tax. But their components are revised time to time. In FY 2007/08 the share of corporate tax is dominant where as the remuneration tax comes to the second and their share is 70.7 and 15.3 percent to the income tax.

Tax exemptions limit has done timely change from the beginning to tap the potentiality of resource. Tax rate is also fixed according to the need. It has maintained the progressivity with less number of slabs for individual income after 1990s. At present there are only two slabs with 15 and 25 percent above the exemption limit.

The values of elasticity in all cases are less than unity implies that the income tax is not responsive. This show there is still potentiality of raising the income tax through widening base, administrative reforms and may be raising tax rates.

CHAPTER FIVE
SUMMARY, CONCLUSION AND RECOMNENDATIONS

5.1. Summary

Nepal is a land locked country. Here economic situation is vulnerable. To improve here economy government revenue plays vital role. The major sources of government revenue are tax revenue and non-tax revenue. Tax revenue is more reliable and permanent source of revenue. It` has been facing resource gap problem because of the very fast growing trend of government expenditure and insufficient collection of revenue. This gap is covered by taking the help of foreign government or borrowing from the people.

In this connection, income tax a major component of direct tax has played a crucial role in fulfilling the gap from equity point of view. To strengthen the potentiality of income tax, timely suited tax laws are formulated. The Income Tax Act 2002 has solved all most all the issues appeared before. This act is based on full fledged self-assessment system.

Tax effort ratio measures the country's economic performance. In Nepal, the share of tax revenue to GDP was 8.9 percent and per capita income was only $ 320 in 2006, which was lowest among the SAARC countries. In Switzerland share of tax to GDP was 10.5 during the same period and its per capita income was $ 58050. Though the tax effort ratio is to some extent equal, its amount is very high because of its high GDP. Its PCI is also more than hundred times of Nepal.

The major sources of revenue are tax revenue and non-tax revenue. During the study period FY1974/75 to 2007/08 the share of tax revenue and non-tax revenue in the total revenue fluctuates around 80 percent and 20 percent respectively. The tax revenue composed of direct tax and indirect tax. In the FY 1974/75 the share of direct tax in tax revenue was only 21.9 percent with the amount of Rs.184.5 million and indirect tax 78.1 percent with the amount of Rs.657.2 million. In the later year the

share of indirect tax increased gradually by reducing the share of direct tax. Again after the FY 1994/95 the share of direct tax has increased gradually and reached 27.1 percent in the FY 2007/08. The share of direct tax in the total revenue is 21.4 percent and in GDP 3.2 percent.

The direct tax consists of income tax, land revenue, house and land registration and others. In the FY 1974/75 the income tax was very low (Rs.47 million) and the land revenue was very high (Rs.90.9 million). But in the succeeding fiscal year the amount of land revenue ahs declined and vanished at present. The share of income tax is appeared as the dominant source of direct tax with the amount of Rs.19 billion contributing 82.7 percent in the direct tax in the FY 2007/08. Income tax has contributed 22.4 percent to the total tax revenue, 17.7 percent to the total revenue and 2.3 percent in the GDP in the FY 2007/08.

Timely change has been made in the income tax base so that the scope of the income tax has increased. Corporate tax is the major source of income tax which contributes 69.64 percent in the income tax in the FY 2007/08 where as the individual tax/remuneration tax contributes 12.77 percent in the same fiscal year. This was just opposite in the FY 1974/75. Timely change in the exemptions limit and rate has been made so as to make the tax system more efficient.

The measurement of elasticity and buoyancy of income tax gives the responsiveness of income tax in the tax system. The elasticity measurement of income tax in the period of FY 1974/75 to 2007/08 is 0.58; this shows the income tax is inelastic. The buoyancy greater than unity; 1.4 implies that the income tax is buoyant. The value of regression coefficient greater than 0.9 shows there is strong positive relationship between income tax and GDP. Value of R^2 for elasticity and buoyancy are greater than 0.9 implies dependent variable is well explained by the independent variable. The study of responsiveness of income tax dividing in two periods (FY 1974/75 to 1989/90 period I and FY 1990/91 to 2007/08 period II) also shows the value of elasticity less than one i.e. 0.36 in period I and 0.75 in period II. But the values of buoyancy are 1.08 in period I and 1.64 in period II. This implies that the income tax is comparatively elastic in period II.

Since the income tax is collected from non-agriculture sector only, the base elasticity and base buoyancy have also calculated taking non-agriculture GDP as independent variable taking time from FY 1974/75 to 2005/06. The value of base elasticity is very low 0.5 and buoyancy is 1.2 with strong positive correlation between the variables. The results of elasticity after dividing the study period into two taking 1990 as the break even point has given 0.41 in period I and 0.66 in period II.

5.2. Conclusion

The study on income tax collecting the data from the FY 1974/75 to 2007/08 shows that the income tax is very important source of revenue. Its share in the total revenue is in increasing trend. The timely changes policies with respect to income tax are very important in the collection of income tax. But the calculation of elasticity and buoyancy of income tax shows the income tax is buoyant rather than elastic. This implies that the role of discretionary power is significant in the collection of income tax.

5.3 Recommendations

On the basis of the findings of the present study, the following specific suggestions have been recommended for a sound and effective income tax system.

- **Broadening Income Tax Base**

Over the years, income tax rates have been lowered substantially both in the areas of personal and corporate income tax. Tax rates in Nepal are among the lowest in South Asia. Till very recently, income tax base was not broadened so as to more than offset the revenue loss caused by drastic reduction in tax rates. However, the newly enacted Income Tax Act has brought most of the sources of income under the tax net that were hitherto untaxed. With the full-fledged implementation of the Act from the next fiscal year it can be hoped that the elasticity of the Nepalese income tax will increase to a significant extent. Nevertheless there are some areas that have not been taxed to the fullest extent. Still the Act has exempted agricultural income, which contributes about 38% of GDP. Similarly, foreign sourced income has been virtually untaxed. It may be recalled that remittance from abroad covers a huge chunk of GNP of Nepal. Likewise, capital gains have been taxed only partially. Thus,

1) The government should levy tax on agricultural income after providing certain exemption limit.

2) Liability to pay should be based on ability to pay, which further depends on the area of land owned by the farmers and marginal productivity of the land.

3) For the sake of neutrality as well as to broaden the tax base foreign sourced income should be taxed. If the same income is taxed abroad, taxpayers should be provided with the credit facility. To materialize this, double taxation avoidance treaty should be concluded with as many countries as possible at least with major source countries.

4) Capital gains tax should be effectively implemented in investment for non-business purpose as well.

- **Reform Tax Administration**

More often, it is mentioned that tax administration in developing countries is tax policy, which means that until and unless policy measures are backed by corresponding administrative reforms, they are doomed to failure. This very clearly recognizes the important role of tax administration in developing countries like Nepal. Therefore, the administrative reform is critical to the success of tax policy. In view of the above and the administrative problems stated elsewhere, following measures are suggested:

a) The tax policies, tax laws and tax administration are interrelated part of taxation. Hence, government should mobilize these aspects and consider serious attention towards its effectiveness.

b) Tax policy should have clear-cut directive and consistent with a long term perspective of the policy. At present the tax policy should be focused on optimum resource mobilization for the purpose of the expenditure revenue gap.

c) As the whole of information is central to the success of tax administration, information collation should be consolidated. Intra-departmental as well as inter-departmental networking at least among the departments within the MOF should be established at the earliest. The scope of PAN should be expanded to cover such things as purchase and sale of land, vehicles etc. it should be provided to as many taxpayers as possible. Taxpayers who hesitate to come to IROs or are either unaware about it, should be provided the PANs in their doorsteps.

d) In IRD, a separate "Research and Analysis Unit" should be established in order to find our new avenues of the taxation and to find out the lapses in tax policy persuaded by the government.

e) Efforts need to be made, to institutionalize the recently created LTO along proper lines. Its organizational structure must be functional and it should have adequate physical facilities.

f) Tax collection officials should be well trained, well-remunerated and reasonable and serve punishments should be well published for demonstration effect.

g) The present system of making assessment of every return filed should be stopped. Rather, a credible system, of random sampling should be developed in which only those taxpayers who have underreported their income or inflated their expenditure substantially could be detected. Only this should give message among taxpayers that honest taxpayers are not harassed by tax administration. On the other, it would convey a message to taxpayers that if they are not to report their profit accurately, there is always a probability of being detected and punished.

h) The terms and the procedure under the act should be simplified so that even laymen could understand easily.

i) The tax officials also need to be reoriented to implement the new act smoothly. They should be familiarized with recent innovation in the field of public administration particularly in tax administration whereby taxpayers are treated as clients. And hence, client orientation should be the thrust of the administrative reforms.

j) Modern taxes are implemented under the self-assessment system. It is, therefore, necessary to have a large number of tax officers who have a good knowledge of accounting and auditing. This means it should be made mandatory to have a basic degree on accounting auditing and the tax system in order to be eligible to apply for the position of tax officers.

k) Enhancing voluntary compliance should be the ultimate goal of the tax administration. For this, the cost of non-compliance should be substantially increased and the cost of compliance should be reduced. In this regard, delinquent taxpayers should be penalized and such events should be publicized properly so that it may have sufficient deterrent effects among probable defaulters. On the other, the cost of compliance should be lowered, inter alias, by simplifying procedures, helping taxpayers in meeting their obligations and educating them in various aspects of tax administration.

l)As the modern tax administration demands professionals who are highly qualified in the tax system, accounting, auditing, law, economics, and IT, it is necessary to create

an appropriate working environment that should include among other things, higher salaries, so that competent professional can be attracted and retained in the tax administration

➢ Raise the Income Level

The major source of income tax is the income itself. Government should take initiative towards this. If the sufficient employment is generated by creating investment friendly environment the income level of people can be raised. Thus, the sufficient amount of revenue through income tax can be generated.

➢ Establishment of the standardized Accounting System

Nepalese tax account system has been criticized for non-meeting the international standard. To regulate accounting system a separate body should be established.

➢ Others

The entry of personnel from another group into revenue group should be hard taking into consideration of carrier development of the personnel inside the revenue group.

The property investigation commission should act effectively to find out the illegal income and property of the revenue personnel and seize such assets without any legal source. The punishment for corrupt and irresponsible officials should be publicized so that others would be deterred from involving in malpractices. It would be a warning for others. The decision about the appeal of the taxpayer should be made timely. Tax officials who are responsible for such delay should be compensating for the loss.

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APPENDIX – I

Master Table: Total Revenue, Revenue from Direct Taxes, Indirect Taxes and Individual Taxes

Rs. in Millions

Fiscal Year	Total GDP	Total Revenue	Tax Revenue	Non Tax Revenue	Direct Tax	Indirect Tax	Custom Duties	Export Duties	Import Duties	Sales Tax/ VAT	Land Revenue & Reg.	Income Tax
1974/75	16571	1008.4	841.7	166.7	184.5	657.2	328.5	30.9	182.3	190.5	126.9	47.0
1975/76	17394	1115.6	911.2	204.9	236.0	675.2	358.5	37.7	204.5	161.9	135.5	87.2
1976/77	17280	1322.9	1100.1	222.8	295.7	804.4	386.2	47.6	215.7	222.0	139.7	133.3
1977/78	19732	1582.0	1243.9	338.2	306.2	937.7	458.8	38.7	334.1	273.1	141.1	136.8
1978/79	22215	1811.9	1476.8	334.9	253.1	1223.7	626.7	54.4	535.8	356.8	110.3	103.0
1979/80	23351	1880.0	1528.8	351.2	253.8	1275.0	608.0	62.6	504.8	401.2	121.2	101.2
1980/81	27307	2419.2	2035.7	383.5	353.2	1682.5	815.8	69.5	658.1	537.7	178.5	144.0
1981/82	30988	2679.5	2211.3	468.2	379.9	1831.4	825.1	42.2	739.5	597.4	170.0	189.8
1982/83	33761	2841.6	2421.1	420.5	445.1	1976.0	760.9	25.1	714.8	709.3	171.5	240.2
1983/84	39390	3409.3	2737.0	672.3	541.8	2195.2	825.9	30.4	746.2	770.7	212.4	290.9
1984/85	44441	3916.6	3151.2	765.5	559.7	2591.5	1064.4	55.7	907.6	845.8	218.6	307.3
1985/86	53215	4644.5	3659.3	985.2	661.8	2997.5	1231.0	73.3	1081.1	985.9	244.3	364.4
1986/87	61140	5975.1	4372.4	1602.7	768.7	3603.7	1505.7	79.9	1285.3	1143.8	284.0	437.5
1987/88	73170	7350.4	5752.8	1597.6	1010.2	4742.6	2214.6	107.9	1984.2	1300.5	366.9	579.0
1988/89	85831	7776.9	6287.2	1489.6	1331.4	4955.8	2289.9	62.7	2133.9	1379.7	401.0	861.2
1989/90	99702	9287.5	7283.9	2003.6	1435.1	5848.8	2684.9	32.6	2646.0	1650.1	451.7	919.0
1990/91	116127	10729.9	8176.3	2553.5	1369.7	6806.6	3044.3	78.5	2752.6	2026.1	538.7	745.9
1991/92	144933	13512.7	9875.6	3637.1	1595.2	8280.4	3358.9	114.7	2795.2	2840.7	636.1	855.4
1992/93	165350	15148.4	11662.5	3485.9	2036.2	9626.3	3945.0	140.7	3178.0	3438.2	754.9	1124.8
1993/94	191596	19580.8	15371.5	4209.4	2855.3	12516.2	5255.0	427.0	4356.0	4693.1	833.2	1824.5
1994/95	209974	24575.2	19660.0	4945.1	3849.3	15810.7	7018.1	332.5	5840.1	6031.7	937.7	2823.5
1995/96	239388	27893.1	21668.0	6225.1	4655.5	17012.5	7327.4	149.9	6246.5	6431.3	1066.6	3431.4
1996/97	269570	30373.5	24424.3	5949.2	5340.0	19084.3	8309.1	167.8	7093.2	7126.5	1015.4	4123.3

1997/98	289798	32937.9	25939.8	6998.1	6187.9	19751.9	8502.2	217.1	7019.4	7122.6	1004.2	4898.1
1998/99	330018	37251.0	28752.9	8494.4	7516.1	21236.8	9517.7	378.0	7698.3	8765.9	1003.1	6170.0
1999/00	366251	42893.8	33152.1	9741.6	8951.5	24200.6	10813.3	432.5	8959.9	10259.7	1015.9	7420.6
2000/01	441519	48893.6	38865.1	10028.8	10159.4	28705.7	12552.1	492.6	10391.9	12382.4	612.9	9114.0
2001/02	459443	50445.5	39330.6	11115.0	10597.5	28733.1	12658.8	917.4	9678.4	12267.3	1131.8	8903.7
2002/03	492231	56229.8	42587.0	13642.7	10105.8	32481.2	14236.4	855.6	10567.7	13459.7	1414.3	8131.9
2003/04	536749	62331.0	48173.0	14158.0	11912.6	36260.4	15554.8	527.1	10666.9	14478.9	1697.5	9514.5
2004/05	589412	70122.7	54104.7	14770.3	12265.4	41839.3	15701.6	697.7	12299.1	18885.4	1799.2	10466.2
2005/06	654055	72282.1	57427.0	13341.5	13961.5	43465.5	15343.7	625.2	11744.5	21613.0	2180.3	10933.5
2006/07	727089	87712.0	71126.7	15559.3	18980.3	52146.4	16707.6	698.6	13626.1	26095.6	2253.5	15731.8
2007/08	820814	107546.5	85025.3	19840.0	23006.5	62018.8	21034.6	417.3	17120.4	29742.6	2919.8	19026.2

Source: i) Budget Speech of Various Years, MoF, GoN

ii) Economic Survey of Various Years, MoF, GoN.

APPENDIX – II

Share of Different Sources of Revenue as percentage of GDP

Fiscal Year	Total GDP	Total Revenue	Tax Revenue	Non Tax Revenue	Direct Tax	Indirect Tax	Custom Duties[1]	Export Duties	Import Duties	Sales Tax/ VAT	Land Revenue & Reg.	Income Tax
1974/75	100.0	6.1	5.1	1.0	1.1	4.0	2.0	0.2	1.1	1.1	0.8	0.3
1975/76	100.0	6.4	5.2	1.2	1.4	3.9	2.1	0.2	1.2	0.9	0.8	0.5
1976/77	100.0	7.7	6.4	1.3	1.7	4.7	2.2	0.3	1.2	1.3	0.8	0.8
1977/78	100.0	8.0	6.3	1.7	1.6	4.8	2.3	0.2	1.7	1.4	0.7	0.7
1978/79	100.0	8.2	6.6	1.5	1.1	5.5	2.8	0.2	2.4	1.6	0.5	0.5
1979/80	100.0	8.1	6.5	1.5	1.1	5.5	2.6	0.3	2.2	1.7	0.5	0.4
1980/81	100.0	8.9	7.5	1.4	1.3	6.2	3.0	0.3	2.4	2.0	0.7	0.5
1981/82	100.0	8.6	7.1	1.5	1.2	5.9	2.7	0.1	2.4	1.9	0.5	0.6
1982/83	100.0	8.4	7.2	1.2	1.3	5.9	2.3	0.1	2.1	2.1	0.5	0.7
1983/84	100.0	8.7	6.9	1.7	1.4	5.6	2.1	0.1	1.9	2.0	0.5	0.7
1984/85	100.0	8.8	7.1	1.7	1.3	5.8	2.4	0.1	2.0	1.9	0.5	0.7
1985/86	100.0	8.7	6.9	1.9	1.2	5.6	2.3	0.1	2.0	1.9	0.5	0.7
1986/87	100.0	9.8	7.2	2.6	1.3	5.9	2.5	0.1	2.1	1.9	0.5	0.7
1987/88	100.0	10.0	7.9	2.2	1.4	6.5	3.0	0.1	2.7	1.8	0.5	0.8
1988/89	100.0	9.1	7.3	1.7	1.6	5.8	2.7	0.1	2.5	1.6	0.5	1.0
1989/90	100.0	9.3	7.3	2.0	1.4	5.9	2.7	0.0	2.7	1.7	0.5	0.9
1990/91	100.0	9.2	7.0	2.2	1.2	5.9	2.6	0.1	2.4	1.7	0.5	0.6
1991/92	100.0	9.3	6.8	2.5	1.1	5.7	2.3	0.1	1.9	2.0	0.4	0.6
1992/93	100.0	9.2	7.1	2.1	1.2	5.8	2.4	0.1	1.9	2.1	0.5	0.7

1993/94	100.0	10.2	8.0	2.2	1.5	6.5	2.7	0.2	2.3	2.4	0.4	1.0
1994/95	100.0	11.7	9.4	2.4	1.8	7.5	3.3	0.2	2.8	2.9	0.4	1.3
1995/96	100.0	11.7	9.1	2.6	1.9	7.1	3.1	0.1	2.6	2.7	0.4	1.4
1996/97	100.0	11.3	9.1	2.2	2.0	7.1	3.1	0.1	2.6	2.6	0.4	1.5
1997/98	100.0	11.4	9.0	2.4	2.1	6.8	2.9	0.1	2.4	2.5	0.3	1.7
1998/99	100.0	11.3	8.7	2.6	2.3	6.4	2.9	0.1	2.3	2.7	0.3	1.9
1999/00	100.0	11.7	9.1	2.7	2.4	6.6	3.0	0.1	2.4	2.8	0.3	2.0
2000/01	100.0	11.1	8.8	2.3	2.3	6.5	2.8	0.1	2.4	2.8	0.1	2.1
2001/02	100.0	11.0	8.6	2.4	2.3	6.3	2.8	0.2	2.1	2.7	0.2	1.9
2002/03	100.0	11.4	8.7	2.8	2.1	6.6	2.9	0.2	2.1	2.7	0.3	1.7
2003/04	100.0	11.6	9.0	2.6	2.2	6.8	2.9	0.1	2.0	2.7	0.3	1.8
2004/05	100.0	11.9	9.2	2.5	2.1	7.1	2.7	0.1	2.1	3.2	0.3	1.8
2005/06	100.0	11.1	8.8	2.0	2.1	6.6	2.3	0.1	1.8	3.3	0.3	1.7
2006/07	100.0	12.1	9.8	2.1	2.6	7.2	2.3	0.1	1.9	3.6	0.3	2.2
2007/08	100.0	13.1	10.4	2.4	2.8	7.6	2.6	0.1	2.1	3.6	0.4	2.3

Source: Master Table Appendix I