



**MAURITIUS RESEARCH COUNCIL**  
INNOVATION FOR TECHNOLOGY

**THE IMPACT OF THE TAX  
REFORM FOR THE  
INDIVIDUAL INCOME TAX  
SYSTEM IN MAURITIUS.**

**Final Report**

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**MAURITIUS RESEARCH COUNCIL**

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## **1.0 Introduction**

Tax is a financial charge or a levy imposed on individual or an entity by a government. A tax may be defined as a pecuniary burden laid upon individuals or property to support the government, or a payment exacted by legislative authority. A tax is not a voluntary payment or donation, but an enforced contribution imposed by government whether in the name of toll, tribute, tallage, duty, custom, subsidy, aid or any other name. Funds collected by taxation have been used by governments to cater for public expenditure. Some of these include expenditure on war, enforcement of law and public order, economic infrastructure and operation of government itself. Most modern governments also use taxes to fund welfare and public services such as education and health systems, pension for elderly, unemployment benefits among others. Governments use different kinds of taxes and vary tax rates in order to distribute the tax burden among individuals or classes of population. A country's tax system is often a reflection of its communal values or the values of those in power. A government must decide on a taxation system taking into consideration the choices regarding the distribution of the tax burden – who will pay taxes, how much to pay, how taxes collected will be spent.

Taxation has four main purposes or effects: Revenue, Redistribution, Repricing and Representation. The main purpose for any government is revenue as taxation is one of the major sources of revenue. However, redistribution must also be taken into consideration as it is a means of transferring wealth from the richer sections of society to poorer sections, which is a function widely accepted in most democracies. In economics terms, taxation transfers wealth from households or businesses to the government of a nation. The side-effects of taxation and theories about how best to tax are an important subject in microeconomics. Taxation is never a simple transfer of wealth. Economic theories of taxation approach the question of how to minimize the loss of economic welfare through taxation and also discuss how a nation can perform redistribution of wealth in the most efficient manner.

As a measure to enhance tax revenue, the government has as from the 1st July 1999 changed the authority governing fiscal issues whereby the

Unified Revenue Board Act 1983 was amended for the establishment of the Revenue Authority. Under the amended act, the Revenue Authority has the responsibility to oversee, coordinate, monitor and supervise the activities of various public revenue departments (Appendix I) and to ensure a fair, efficient and effective administration of the taxes and duties imposed by the Revenue Acts. The major aim of the Revenue Authority is to take such measures to improve effectiveness of the revenue departments and maximise revenue collection and to determine steps to be taken to counteract fraud and other forms of fiscal evasion.

As at 30 June 2002, taxes and duties falling under the overall supervision of the Revenue Authority can be shown in the Figure 1.0 on page 3. The total revenue from the taxes and duties falling under the overall administration of the Authority amounted to Rs 26,445 million in 2003/04 and increased to Rs 34,115 million in 2006/07 with only 8.25 % of tax collected from personal income tax as a percentage of total direct and indirect taxes raised by central government for the year, and the evolution of the revenue collected according to different types of taxes as shown in Table 1.0

**Table 1.0: Trends in Tax Collections (Rs m) – 2003/04 to 2006/07**

Main duties & taxes	2003/04	2004/05	2005/06	2006/07
Corporate tax	2,404	3,275	4,704	4,922
Personal Income Tax	2,265	2,554	2,768	2815*
Value Added Tax	11,189	12,524	13,710	15,492
Customs Duties	4,037	3,899	3,046	2,157
Excise Duties	5,756	6,670	6,618	7,440
Gambling tax	794	897	993	1,133
Solidarity Levy	n/a	n/a	n/a	156
<b>Total Collections</b>	<b>26,445</b>	<b>29,819</b>	<b>31,839</b>	<b>34,115</b>

\* Collections under TDS included

(Source: Annual Report: MRA 2006/07)

**Figure 1.0: Organisational structure of the MRA**

## **1.1 Research Objectives**

Since the Government has moved from a progressive tax to a Single Rate of tax, the research will be based on the comparison of the Flat tax regime, already present in Worldwide Economies, and the Progressive Tax system.

The present research is based on the following objectives:

- To ascertain the existing income tax system and income structure for Mauritius.
- To identify through a computation of the Gini-Coefficient the progressivity pattern of the income tax system in Mauritius.
- Contrast between a Progressive tax (previous tax system) and a Flat tax regime. (Proposed changed)
- To calculate the effective tax rate for typical categories of emoluments earners (single/married/married with two kids).
- Trace the perceptions of individuals regarding the new tax regime
- To provide recommendation to policy makers to make the tax system fair and socially acceptable.

## **2.0 History and evolution of tax in Mauritius**

Income tax emerged in Mauritius as from 1950 when the Income Tax Ordinance of 1950 was enacted. There was no change brought to the legislation for almost twenty years until it was consolidated into the Income Tax Act 1974. In 1995 with major amendments in the Income tax systems with the introduction of self-assessment system, a new Income Tax act 1995 was proclaimed. All new governments in the Republic of Mauritius have always been amending the income tax bands, income tax rates and the total personal relief and deductions continuously targeting a more progressive Income Tax System. Prior to 2004/2005 Budget there were only two band rates of 15% for the first Rs 25,000 of chargeable income and the remainder was taxed at 25%. In this way most of the taxpayers were taxed at the same rate of 25% irrespective of their level of income. This was considered to be inequitable and unfair thus leading to significant reforms brought into the tax system as follows:

- The tax rate of 15% for the first Rs 25,000 of chargeable income was reduced to 10%
- A new band rate of 20% was created for the next Rs 25,000
- A third tax band of 25% was introduced for the next Rs 450,000 of chargeable income
- And finally the remainder was taxed at a rate of 30%

In Budget 2006-2007, innovative and bold reforms have been announced and one of such reforms includes the reshaping of the whole personal income tax system. The reform measures mentioned in the budget include the following:

- Overhauling the complex system of exemptions;
- Consolidating the numerous relief, allowances and deductions into new income exemption thresholds;
- Reducing the number of tax bands; and
- Bringing down the tax rates.

All items of income exemptions have been removed from the exemption schedule of the Income Tax Act except for those relating to dividends, the global business sector and non-profit institutions. In order to achieve simplicity and transparency, a general exemption threshold including relief, allowances and deductions linked with different sources of income or types of expenditure, except those relating to the family situation, has been consolidated. Henceforth, there will be four categories of taxpayers, each with a different threshold, namely

Categories of Taxpayers	Number of Dependents	Threshold amount (Rs)
A	Zero	215,000
B	One	325,000
C	Two	385,000
D	Three	415,000

Moreover, the number of tax bands has been reduced from 4 to 2. The aim is to have, within three years, a flat rate of 15 per cent applicable on all chargeable income. The proposed tax bands for the forthcoming income years commencing 1 July are as follows:

	2006	2007	2008	2009
First Rs 500,000	15 %	15 %	15 %	15 %
Remainder	22.5 %	20 %	17.5 %	15 %

The tax revenue in Mauritius was first administered by the Unified Revenue Board and in 19 it was government by the Revenue Authority which operates under the responsibility of the Ministry of Finance. Each type of tax was administered separately until the Mauritius Revenue Authority (MRA) was

established as an agency of the State in 2004 under the MRA Act 2004. The MRA is a body corporate with its own board under the supervision of the Ministry of Finance and Economic Development.

## **2.1 The Mauritius Revenue Authority**

Following the re-engineering of its public sector, the government has created the Mauritius Revenue Authority (MRA), which is governed by the MRA Act 2004. The MRA is a body corporate established as an agent of the state for the purpose of managing and operating an effective and efficient revenue raising organisation and enforcement of the revenue laws - all under the same roof. The key driver for its establishment is to provide a facilitating environment for improved organisational performance thus enhancing revenue collection. The overall strategic objectives of the MRA include:

- To improve compliance and taxpayer services
- To raise additional revenue
- To improve efficiency of tax administration
- For improving trade efficiency and
- To tackle corruption and tax evasion

That organisational structure of the MRA has undergone a major change as can be seen in Appendix I as compared to the previous structure Figure 1.0 (Pg 9), where each category of tax was assigned to different departments distinct from each other. The MRA has now its own Board, which works under the aegis of the Ministry of Finance. The Director General is the Chief Executive Officer (CEO) charged with the responsibilities for implementing the policy of the Authority. In order to achieve one of its main objectives of increasing revenue and efficiency, the MRA has introduced a rigorous performance management system for all staff. This should create a stimulating and challenging environment for all MRA staff. Besides this, to enhance ethics and transparency and try and deal

with the perceived and actual problems of corruption and fraudulent activity of tax officials, all MRA staff must make a “declaration of assets” prior to joining the MRA.

### **2.1.1 MRA Core Values**

#### *Integrity*

The MRA must uphold the highest standards of integrity and honesty to gain the respect and confidence of the taxpayer and public at large. It will manage integrity through specially constituted Internal Affairs Division and will enforce strict internal control procedures in systems and procedures throughout the Internal Audit Division.

#### *Responsiveness*

MRA endeavours to provide a prompt, efficient, effective, and quality service to taxpayers and public at large in an effort to exceed their expectations.

#### *Fairness*

MRA is committed to apply the revenue laws impartially and objectively and the treatment of each taxpayer will be equitable.

#### *Transparency and Accountability*

MRA efforts are geared towards the development of the Authority in a manner, which promotes a transparent and accountability administration whilst they also reduced the administrative costs.

The Mauritius Revenue Authority (MRA) was created by an Act of Parliament in September 2004 and officially fully proclaimed with effect from 01 July 2006. It is a corporate body administered and managed by a Board. The MRA, an agent of Government, is responsible for the administration of the following taxes:

- Customs Duty
- Excise duty
- Value Added Tax (VAT)

- Income Tax: Personal, Corporate, Pay As You Earn (PAYE), Tax
- Deduction at Source (TDS)
- National Residential Property Tax
- Solidarity Levy
- Tax on gaming, betting and lotteries

Tax liability is assessed and revenue is collected through a number of departments namely:

- Large Taxpayer Department
- Medium and Small Taxpayer Department
- Customs Department
- Operational Services Department

Taxes are collected at the counter and through electronic means.

### **2.1.2 Taxpayer Services**

The Taxpayer Services Department is a support and facilitation department within the MRA and provides the following services:

- Educating and assisting all taxpayers in understanding the current rules and processes of revenue collection.
- Giving information and advice on the rights and obligations of all taxpayers.
- Communication with taxpayers on:
- Collection and filing of tax returns and payments and use of information systems on all transactions.
- Handling of complaints and grievances from the taxpayers and other originations.
- Implementation of bilateral, regional and multilateral trade agreements.

- Facilitation as regards movement of goods and persons to achieve international competitiveness.
- Protection of society against illicit movements of restricted and prohibited goods.
- Prevention of commercial fraud, smuggling and drug trafficking.
- Security for the global distribution chain.

### **2.1.3 Taxpayer Charter**

The Mauritius Revenue Authority was formed to serve YOU (taxpayer). It has set a number of standards that are referred to as the Tax Payer Charter. Every taxpayer has the right to expect the MRA to abide by these. In order to deliver **QUALITY & EFFICIENT SERVICE** the MRA will:

- Settle your tax affairs promptly and accurately
- Keep your affairs confidential
- Provide the basis for decisions taken
- Encourage compliance
- Be consistent and impartial in our dealing
- You should expect the MRA staff to be **HONEST, FAIR AND JUST** and to provide services of high standards
- Encourage “whistle-blowing” of suspect dealings
- Provide same service level to all stakeholders
- Allow taxpayers to exercise their rights for re-examination of tax affairs and resort to objection and appeal procedures
- The MRA is obliged to **ASSIST AND COMMUNICATE CLEARLY**
- Provide forms, returns and brochures
- Be courteous in our dealings
- Give relevant information and assistance at our enquiry offices

- Listen to suggestions and improve service where possible

## **2.2 The Income Tax structure**

Income tax is payable in Mauritius on income derived in the preceding year. The fiscal year commences on 1st July. Individuals are required to submit their returns of income by 30th September. Under the progressive tax system individuals were taxed 10% on the first Rs 25,000 of chargeable income and 15% on the next Rs 25 000 of Chargeable income and 25% on the remainder.

Non-cumulative PAYE (pay as you earn) and CPS (current payment system) were introduced on 1st July 1993. The Pay As You Earn (PAYE) is a system whereby employers are required to withhold tax from the emoluments of employees chargeable to tax at the time the emoluments are received by or made available to the employees. The tax withheld is then remitted to the Mauritius Revenue Authority (MRA) every month (in the present context). Under the PAYE, in order to calculate the amount of tax to be withheld from the emoluments of an employee, the employer had to take into account the reliefs and deductions claimed by the employee in his PAYE Employee Declaration Form (under the progressive tax system). The employer has to remit tax withheld to the Income Tax Department within 20 days from the end of the month in which the tax is withheld. Employers with 50 or more employees are required to submit their PAYE returns and remit tax withheld electronically. As an incentive to those employers who decide to join the system, the time-limit for payment of tax has been extended to the end of the month instead of 20th of the month immediately following the month in which the tax is withheld. In 2003/04, there were 4,421 registered employers withholding tax under PAYE, compared to 4,301 in 2002/03.

A new cumulative PAYE System has been introduced as from 1st July 2006 to replace the non-cumulative system. This new system aims at ensuring that the amount of tax withheld under PAYE corresponds exactly to the amount of tax payable in accordance with the annual return of income at the end of the income year. All personal reliefs and deductions have now been consolidated into a single deduction termed as Income Exemption Threshold. The number of tax brackets has been reduced and the tax rates have also been lowered.

*Table 4.2: Income Tax Collected under PAYE, 2002/03 and 2003/04*

	2002/03		2003/04	
	Number of Employees	Amount (Rs m)	Number of Employees	Amount (Rs m)
Tax collected under PAYE	76,511 *	782.1	114,839	1,033.6
Tax collected on returns		115.4		110.8
Total tax collected		<b>897.5</b>		<b>1,144.4</b>
Tax refunded	81,555	236.3	85,698	259.1**
<b>Net tax collected</b>		<b>661.2</b>		<b>885.3</b>

\* Figure does not include number of employees from whose emoluments tax was withheld and remitted to Large Taxpayer Department

\*\* The refunds made in 2003/04 relate to tax collected in the year 2002/03.

### **2.2.1 Main characteristics of the Cumulative PAYE system**

The main characteristics of the cumulative PAYE system are-

Employees drawing monthly emoluments not exceeding Rs 16,500 are not affected by PAYE. Workers receiving their pay daily after each day's work are excluded from the operation of the PAYE system.

The PAYE system operates on the pay for the current period at the time the emoluments are received by or made available to the employee.

The amount of tax to be withheld from the emoluments of each pay period is calculated on a cumulative basis by cumulating both the emoluments and the Income Exemption Threshold pertaining to the current and previous pay periods in the income year concerned.

Employees have to furnish every year to their employer a PAYE Employee Declaration Form (EDF) claiming the Income Exemption Threshold to which they are entitled in an income year. An individual is entitled to the Income Exemption Threshold which corresponds to the category he falls in as hereunder indicated :-

Category A - employee with no dependent

Category B - employee with 1 dependent

Category C - employee with 2 dependents

Category D - employee with 3 dependents

“Dependent” means either: -

- (a) a spouse;
- (b) a child under the age of 18; or
- (c) a child over the age of 18 and who is pursuing full-time education or training or who cannot earn a living because of a physical or mental disability.

The employer shall take into account the amount of Income Exemption Threshold claimed by an employee in his EDF to calculate the amount of tax to be withheld under the system.

### **2.2.2 What are “emoluments”?**

“Emoluments” mean any advantage in money or in money’s worth and include: -

salary, wages, leave pay, fee, overtime pay, perquisite, allowance, bonus, gratuity, commission or other reward or remuneration in respect of or in relation to the office or employment of an individual AND any fringe benefits;

superannuation, compensation for loss of office, pension (including a pension to a former employee or to the surviving spouse of that employee), retiring allowance, annuity or other reward in respect of or in relation to past employment or loss or reduction of future income of an individual, whether receivable by that individual or by any person who is or has been the spouse or dependent of that individual.

Emoluments also include -

1. a remuneration to the holder of any office and fees payable to the director of a company,
2. an allowance under the National Assembly Allowances Act or a pension under the National Assembly (Retiring Allowances) Act,
3. a remuneration payable to a Mayor, Chairman of a District Council or Chairman of a Village Council under the Local Government Act 1989,

4. an allowance under the Rodrigues Regional Assembly (Allowances & Privileges) Act, and
5. an allowance payable to an apprentice.

### **2.2.3 Requirements to join the Electronic System**

Employers having 50 employees or more are required by law to remit tax withheld under PAYE electronically. On having 50 employees, an employer should:

forthwith notify the Director-General of the number of employees in his employ; and after proper arrangements are made, remit tax withheld electronically through a computer system approved by the Director-General as from such date as may be specified in a notification issued to him.

Most of the exemptions available as at 30 June 2006 have been abolished. Some of those still available are -

Exemption on overseas passages provided by an employer. It will be limited to 6% of the monthly basic salary as from 1 October 2006.

50% exemption to expatriate employees. This will be available only to those employees already benefiting from it as at 30 June 2006.

Lump sums, retiring allowances and severance allowances. Exemption is now limited to Rs 1,000,000 in the aggregate. Previously full exemption was available on lump sums and up to Rs 1,400,000 on either retiring or severance allowance.

Exemption on advantages received upon factory closure pursuant to the Cane Planters and Millers Arbitration and Control Board Act or under the Voluntary Retirement Scheme, SIE Act 2001.

Exemption on benefits arising to an employee from contributions by an employer to funds or schemes for the provision of a pension or retiring allowance or for the provision of medical expenses to the employee.

Interest income, irrespective of the amount and whether or not on long term deposits, will henceforth be subject to tax.

Taxable fringe benefits, including car benefit, will be prescribed in the regulations.

Old age pension will be subject to tax as from 1 October 2006.

Expenses incurred after 30 June 2006 in attending seminars, etc. and fees paid to a recognised professional body will no longer be deductible by employees.

Deduction in respect of interest paid, life insurance premiums, etc. will also no longer be deductible.

All personal reliefs and deductions are replaced by exemption thresholds of Rs 215,000

for an individual who has no dependent (category A), Rs 325,000 for an individual who has one dependent (category B), Rs 385,000 for an individual who has 2 dependents (category C) and Rs 425,000 for an individual who has 3 dependents (category D). If one spouse has claimed the exemption threshold in respect of Category B, Category C or Category D, the other spouse will be entitled to claim the exemption threshold of Rs 215,000 only.

The obligation to file a tax return is being extended to individuals meeting any of the following conditions:

- has more than one residence or has properties acquired for an aggregate amount of more than Rs 2 million or has financed the construction of a building in excess of Rs 2 million
- owns a car with an engine capacity of more than 2000 c.c
- owns a pleasure craft as defined in the Tourism Act 2004
- owns a residential property and derives income in excess of Rs 215,000

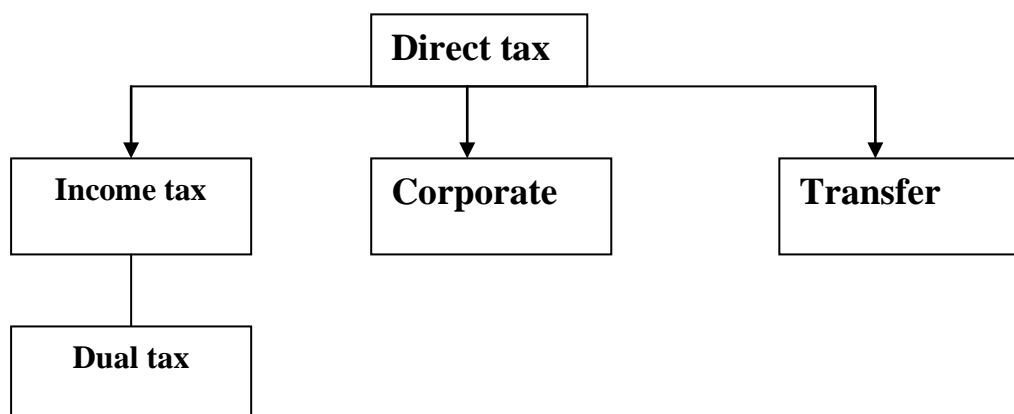
The system will now operate on a cumulative basis and the mode of operation will be laid down in the regulations. When no EDF is submitted, tax should be withheld at the rate of 20%. Tax at 20% will be withheld from any fees payable by a company to its directors and by a statutory body to member of its Board, Council, Commission, Committee.

### 3.0 Literature Review

The main instrument for transferring resources from private to public use is known as the tax system. Tax system can include: (1) direct and (2) Indirect taxes. A direct tax is directly imposed on the income of an individual (income tax) whereas an indirect tax is imposed on the consumption of the individual (VAT). For the sake of this project, the direct tax system will be considered and analysed.

#### 3.1 Direct taxes

A direct tax is paid directly to the government by the person on whom it is imposed. Examples include income taxes, corporate taxes (for companies), and transfer taxes such as estate (inheritance) tax and gift tax. An income tax is a tax levied on the financial income of persons, corporations, or other legal entities. Furthermore, there is also what is called as the Dual income tax which separate out the taxation of earned and unearned income (in terms of corporate and capital income). While Corporate tax also known as profit tax refers to a tax levied by various jurisdictions on the profits made by companies or associations. However, a transfer tax is a tax levied on the passing of title of property from one person (or entity) to another. The diagram summarises the different forms of direct taxes.



### **3.2 The Fundamental aspects of a good tax system**

According to Adam Smith (1776) there are four canons of taxation, these are:

**Equality:** When ability to pay is taken into consideration, a good tax should distribute the burden of supporting government more or less equally among all those who benefit from government;

**Convenience:** The time and manner of payment of a tax should be as convenient as possible for the taxpayer;

**Certainty:** The amount of tax that is due, the method of payment, and the deadline for payment should be clear so that each taxpayer can be certain about his or her obligations;

**Efficiency:** The cost of administering the tax should be as low as possible so that a large fraction of what is taken from the taxpayer's pocket is not used up in collecting the tax.

Furthermore, Steuben, N (2000) stated that the fundamental of a good tax system are:

- to raise revenue for the government;
- neutrality;
- a tax system must be broadly based;
- a tax system must be fair;
- a tax system taken as its whole should be somewhat progressive;
- neither preference nor discrimination should be present;
- a tax system should be investment oriented and encourage growth, competitiveness and employment;
- a tax system should be stable and predictable;
- the various laws in the tax system must be consistent;
- a tax system should be as simple and understandable as possible;

- the administration of the tax system must be fair and just.

Alm (1996) suggested that a good taxation system involved deciding on the trade off between three criteria, namely, equity, efficiency and adequacy. As regards the equity, efficiency and adequacy criteria, the following questions should be asked respectively: “how does the choice of tax affect the burden of taxation among individuals?” (equity); “how does the choice of taxation affect the decision of firms, individuals and collecting agents in terms of their response to the entire tax, compliance and enforcement parameters?”(efficiency); how does the choice of taxation affect the yield of tax collection, where yield is defined as gross collection in excess of administrative and enforcement costs? (adequacy).

Alm and Wallace (2004) also suggest that the tax burdens should be analysed to see whether the distribution of tax burden is progressive, proportional or regressive and briefly revisited the criteria of equity, efficiency and adequacy. As regards equity, the authors put forward two notions of a “fair” distribution of taxes which are based on two distinct principles, the **ability-to-pay** principle and the **benefit** principle: The Ability-to pay principle states that “*Taxes are fair if people pay taxes in accordance with their ability to pay, with those people having equal ability paying the same taxes (or “Horizontal Equity”) and those having greater ability paying more taxes (or “Vertical Equity”)*”. The Benefit principle states that “*taxes are fair if people pay taxes in accordance with the benefits they receive from government expenditures.*” As regards efficiency Alm and Wallace state that when a tax is imposed agents respond by changing their behaviour to avoid paying the tax and suggest that “*keeping marginal tax rates low, and taxes simple*” help reduces distortions. As far as adequacy is concerned, the authors suggest that for government to collect more revenues “*taxes should be imposed on agents or activities where responses are low*” and make use of tax bases which are “*easily identified and monitored*”. In this regard, reducing administrative and compliance costs requires, among other things, using withholding at source, imposing taxes on a broad base, imposing taxes at a low rate, keeping taxes simple and exempting low-income households.

### **3.3 Tax Incidence or Tax Burden**

It is important to observe that people perceived tax as a burden because it somehow affects (decreases) their capacity to spend more. Tax incidence or tax burden refers to the analysis of the effect of a particular tax on the distribution of economic welfare. Tax incidence is said to “fall” upon the group that, at the end of the day, bears the burden of the tax. The key concept is that the tax incidence or tax burden does not depend on where the revenue is collected, but on the price elasticity of demand (which measures the nature and degree of the relationship between changes in quantity demanded of a good and changes in its price) and price elasticity of supply (measure of the responsiveness of the quantity supplied of product(A) to a change in price of product (A) alone). For example, a tax on apple farmers might actually be paid by owners of agricultural land or consumers of apples. The theory of tax incidence has a number of practical results. For example, the United States Social Security payroll taxes are paid half by the employee and half by the employer. However, it is considered that the worker is bearing almost the entire burden of the tax because the employer passes the tax on in the form of lower wages. Therefore, at the end of the day, the tax incidence falls on the employee.

### **3.4 Tax rates**

In a tax system the tax rate is described as the burden ratio (usually expressed as a percentage) at which a business or person is taxed. There are several methods used to present a tax rate: statutory, average, marginal, effective, effective average, and effective marginal tax rates. For the sake of this project the effective tax rate will be considered.

#### **3.4.1 Effective tax rate**

The effective tax rate is the amount of tax an individual or firm pays when all other government tax offsets or payments are applied, divided by the tax base (total income or spending). If certain groups have high degrees of tax offsets compared to other groups, then their effective tax rate will be lower. An effective average tax rate (or average effective tax rate) may differ from an average tax rate because some measure of income other than taxable income is used.

Petska and Strudler (1998) examined trends in the distribution of individual incomes based on a consistent measure of taxable income. Average tax rates by income class for each of the year 1979 to 1996 were compiled to gauge the progressivity of the individual income tax system. The income size classes were converted in percentiles and classified into the following categories: top 1%, next 1 to 10%, next 10 to 50% and the bottom 50%. In 1996, the effective tax rate (ETR) for the four categories were respectively 27%, 16.5%, 11% and 4%.

A relatively recent study by Piketty and Saez (2007) examined the progressivity of the federal taxation system by computing effective federal tax rates for different income size classes ranging from the middle quintile to not only the top 1 percent but also including ETRs corresponding to the top tenth and top hundredth of 1 percent. The overall conclusion from the study was that the progressivity of the U.S. federal tax system at the top of the income distribution declined dramatically since the 1960s. In particular, the ETR for high income households have undergone significant drops, the more so for the very highest income households. On the other hand average federal tax rates for middle-income households have increased and then declined modestly. Piketty and Saez point out that economists generally assess whether a tax system is progressive based on whether the distribution of *after-tax* income is more equal than the distribution of pre-tax income. They assess whether a tax cut is progressive based on whether it makes the distribution of after tax income more or less equal. The authors also state that in 1970, the top 1 per cent of households paid an average of 47% of their income in federal taxes. However with the tax cuts of 2001 and 2003, Piketty and Saez estimate that the top 1 per cent would face an average tax rate of just 30%, a drop of 17 percentage points.

### **3.5 Tax structure**

The tax systems of an economy can adopt some forms of tax structures for the collection of revenues by the government. These are progressive, regressive, proportional or flat. The different structures of a tax system reflect the distributional effect and can be applied to any tax system (direct or indirect taxes).

There are two types of classifications, which can be used to characterize an income tax system. The first focuses on *how* income is taxed and the second

focuses on the *distributional* effect of the income tax system. As regards the “how” classification, Goode (1984) broadly classifies individual income tax systems (IIT) into three types: global, schedular or a mix of both. A “global” income tax combines incomes from all sources into a single aggregate measure of income, adjusts this aggregate measure for such items as personal exemptions and deductions, and then applies a single rate or a graduated rate structure to determine the tax liability. Sam and Wallace (2004) state that the Global systems of individual income tax systems tend to be more prevalent in developed countries whereas schedular systems tend to be more common in developing countries, especially those driven by colonial history. One possible reason which could explain this state of affairs is that developed countries tend to have a higher education level and can therefore resort to more tax planning techniques which reduce the tax liability. Consequently, since a global tax usually entails a broad “comprehensive” income base which will be subject to tax, the possibilities for income shifting activities is considerably reduced. It is often claimed that a global system reflects the ability-to-pay principle since the income chargeable to tax is net of deductions and exemptions resulting from individual *choices* and *circumstances*. However, this benefit is somewhat dampened by the fact that the broadness of the income definition makes it more complex to administer and therefore, government adopting global income tax system often resort to withholding at source which to a large extent eliminates the necessity of submitting individual year end returns. However, this administrative convenience comes at the expense of equity.

On the other hand, a “schedular” system usually subjects *each* of the main sources of income to a *separate* ungraduated or flat tax where personal exemptions and deductions are typically not allowed. A schedular tax system is often justified on the basis of ease of administration, especially where countries are not equipped with efficient tax collection machinery.

### **3.5.1 Progressive tax**

A progressive tax structure is one in which an individual or family tax to be paid as a fraction of income rises. It is a tax imposed so that the effective tax rate increases as the economic well-being increases. Economic well-being can be

measured by the single year income, lifetime income, expenditure or wealth. However, the variations depend on the tax base imposed by the government. The term “progressive tax” describes a distribution effect and often applied in reference to personal income taxes, individuals with more disposable income pays a higher percentage of that income in tax compared to those with lower disposable income. The extent of the progressivity depends if the average tax rate rises more rapidly than income. Models such as Gini coefficient, Robin Hood Index or Atkinson Index are sometimes used to factor progressivity through the measurement of inequality of income distribution. This present study will use the Gini Coefficient to measure the inequality of income distribution using the CSO data on household income.

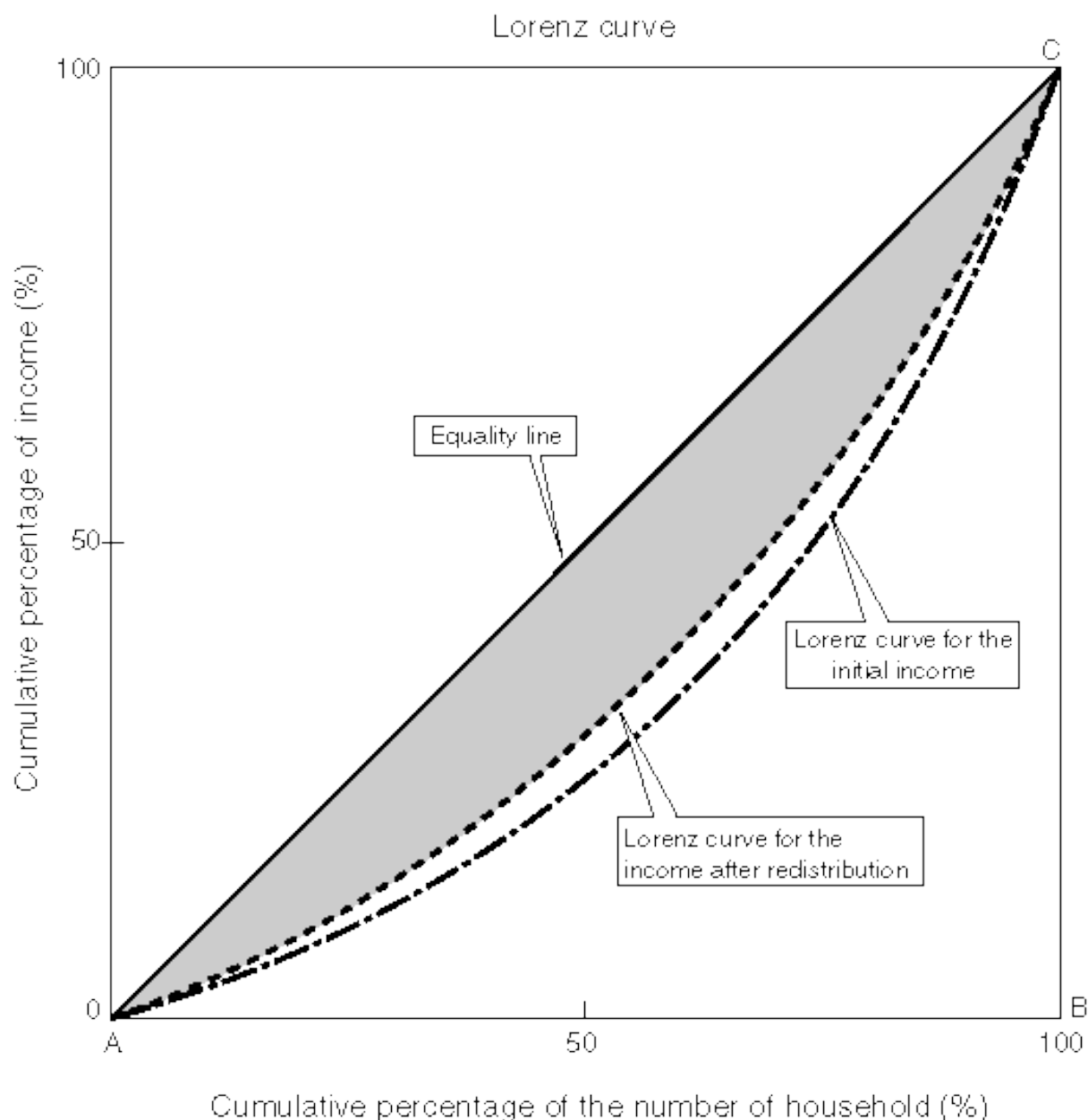
### **3.5.1.1 Measurement of Inequality**

Given a set of income levels for the households in an economy, the question is how equally income is distributed in that economy? Income inequality interests a huge number of researchers because of its perceived consequences. In this case, in order to meaningfully discuss inequality, it must first be necessary to measure it. Measures of inequality are defined in terms of discrete or continuous distributions of income. Discrete distributions are correct in an observational sense and continuous distributions are helpful in terms of simpler derivation of results and are valid approximation for large populations. Some examples of statistical measures are shown in the sections that followed.

#### **3.5.1.1.1 Lorenz curve**

The Lorenz curve has played an important role in the measurement of inequality. Since its introduction by Lorenz (1905) and constitute a helpful graphical device for presenting a summary of data on income distribution, plotting the cumulative proportion of income (ranked from lowest to highest) against the proportion of total income received. The further the curve lies below the 45-degree line, the greater is the inequality of the income distribution. In the tax analysis, the Lorenz curve can be used to compare the pre- and the post-tax income distribution, where one Lorenz dominates the other. As one can observed in the figure the application

of tax a particular income level decreases the inequality, which tends to increase the inequality gap at the beginning.



### 3.5.1.1.2 The Gini coefficient

The Gini coefficient, attributed to Gini (1912) has constantly been in the limelight in the literature on inequality measurement. It is one of the most commonly used indicators of income inequality. The Gini is derived from the Lorenz curve, which plots the cumulative share of total income earned by households ranked from bottom to top. If income were equally distributed, the Lorenz curve would follow

the 45° diagonal. As the degree of inequality increases, so does the curvature of the Lorenz curve, and thus the area between the curve and the 45° line becomes larger. The Gini index,  $G$ , can be expressed in several alternatives, but equivalent ways.  $G$  can firstly be expressed as a function of a weighted sum of relative incomes. Secondly,  $G$  considers all possible pairs of incomes and out of each pair selects the minimum income level. The final and most used way of expressing the Gini coefficient exploits its relationship to the Lorenz curve (as mentioned before). This Gini coefficient is equal to the area between the Lorenz curve and the line of equality as a proportion of the area of the triangle beneath the line of equality. Gini coefficient can take values lying between 0 and 1. This definition of the Gini index makes it clear that the Gini can be used to rank distributions when the Lorenz curves cross since the relevant areas are always well defined.

### **3.5.1.2 Does Growing Inequality Reduce Tax Progressivity?**

A research on the above subject was carried out by J. Slemrod and J. Bakija. (March 2000). In this paper the authors explores the links between two phenomena of the past two decades:-

- 1) Striking increase in the inequality of pre-tax incomes; and
- 2) The failure of tax-and-transfer progressivity to increase.

They lay emphasis on the causal links going from inequality to progressivity, noting that optimal taxation theory envisages that growing inequality should increase progressivity. They also discuss public choice alternatives to the optimal progressivity framework and deal with the opposite fundamental direction, that is, changes in taxation that have caused a clear increase in inequality. Finally, they investigate the “non-event-study” offered by the large changes in the distribution of income with no major tax changes since 1995, and discuss its implication for the relation between progressivity and inequality.

According to the authors, there is a considerable body of evidence which supports the belief that the changes in the pattern of MTRs did encourage behavioural responses which would make the distribution of reported taxable incomes more unequal. To the degree that this is true, the increase in inequality of taxable incomes overstates the growth in inequality of welfare, because much of it is a substitution away from untaxed and generally unmeasured welfare producing

activities by those who formerly had much higher MTRs. However, the extent of these induced behavioural responses remains controversial.

Particularly, it is highly doubtful that tax changes are responsible for all or most of the observed increased inequality of income. Most of the recent evidence concerning how taxes affect taxpayer choices as reflected in taxable income comes from analyses of the 1981, 1986, 1990, and 1993 tax changes. The first two lowered the top MTR, and the latter two increased it. Because one of the most difficult empirical tasks is to separate out the effect of the tax changes from non tax-related trends in income inequality, the fact that the latter two tax changes increased rather than decreased rates is helpful.

It is also useful to analyse trends in income inequality over periods when there is no important tax change. One fascinating period began in 1996, immediately after the tax bill of 1995, which did not change the tax rate structure. This non-event was soon followed by some unusual developments.

The first sign that something extraordinary was happening was the unexpected rise in federal individual income tax revenues. Individual income tax receipts for fiscal year 1997 turned out to be \$61 billion, or about 9%, higher than the Congressional Budget Office (CBO) had estimated in January 1997. About half of this increase was due to capital gains realisations. Roughly \$20 billion was due to an unexpectedly high level of capital gains reported on returns for tax year 1996. Another \$14 billion represented unexpectedly high estimated tax payments for 1997, much of which also probably was due to capital gains. Total capital gains realisations increased by 45% between 1995 and 1996, and preliminary estimates suggested another 45% increase in 1997.

Another factor was the increasing share of income reported by higher-income, and therefore higher MTR, individuals. The CBO calculates that the effective income tax rate (total income taxes paid divided by total adjusted gross income (AGI)) increased from 13.7% to 14.0% from 1994 to 1995, and 14.6% in 1996. Taxpayers with income of \$200,000 or more (in 1996 dollars) accounted for 17% of total AGI in 1996, up from 16% in 1995 and 14% in 1994. In a July, 1998 report, the CBO discusses that actual revenues for 1998 were also running higher

than anticipated, but did not yet have enough information to discuss what its sources were.

In the 1998 report, the CBO speculated that another component of the stream of incomes at the top is bonuses and stock options. Rapid growths in both stock prices and grants of employee stock options have caused the taxable value of exercised options to increase dramatically. The CBO refers to data, which suggest that the taxable value of exercised options doubled in 1995, doubled again in 1996, and continued to grow rapidly in 1997.

The share of total income reported by taxpayers with over \$200,000 (in 1989 dollars) in total income jumped from 14.0% in 1995 to 16.0% in 1996. Even more strikingly, the share received by those with over \$1 million jumped from 5.1% to 6.4%, or by more than one quarter.

The share of total income received by those returns with over \$200,000 (1991 dollars) of income increased from 11.47% to 14.32%, or over one-fourth, between 1994 and 1997. Even more striking, the share received by those with income over \$1 million increased from 3.37% to 4.92%, or nearly 50%. Some of this increase is certainly due to a larger number of returns in this category, but certainly not all.

The increase between 1994 and 1997 in the share of income received by high income taxpayers is of at least the same order of magnitude as the increase between 1985 and 1988 which convinced nearly all observers, that, because this flow could not be explained by non-tax factors, the Tax Reform Act 1986 must have been a major influence.

The sources of income growth between 1995 and 1996 are explored. Taxpayers are ranked by AGI, which includes capital gains. In just one year, the number of returns with incomes over \$1 million increased by 27.5%, while AGI going to millionaires increased by 38.1%. Although in this case, capital gains was the fastest-growing source of income (71.2%) for this group, there was also tremendous one year growth in all other forms of income, such as 29.9% increase in wages and salaries. By contrast, there was only a 1.6% increase in the total

number of returns for people at all income levels, and a 5.1% increase in overall AGI.

The analysis above indicates an extraordinary increase in the income, both realised and unrealised, of the already prosperous beginning around 1996.

The outcome of the research is that it casts some doubt on the hypothesis that the top tax rate cuts of 1981 and 1986 were the key factor in generating the increases in measured inequality of the last two decades.

A decade passed between 1986 and 1996, with two top tax rate increase episodes in between, so it is difficult to link the recent flow of incomes at the top to tax policy. If the 1996 flow is not tax related, it makes more credible the case that the surge of 1986, of a similarly large magnitude, was not primarily tax driven.

More significantly, the recent evidence suggests that the increase in inequality that began in the 1980's has not reduced. If anything, the rate of increase dramatically accelerated in the mid-1990. Standard models suggest that the appropriate response to this development is an increase in the progressivity of the tax-and-transfer system.

### **3.5.2 Regressive tax**

A regressive tax is the opposite of progressive tax as it is a tax imposed so that the effective tax rate decreases as the amount of disposable income on which the rate is calculated increases. This type of tax is frequently used for fixed taxes, where each individual pays exactly the same amount of tax but the effective rate of taxes on the income level will decrease as income rises. Therefore regressive taxes reduce the tax incidence of people with higher income, as they shift the income disproportionately to the lower income earner.

Moreover, the regressivity of a particular tax depends on the propensity of the taxpayers to engage in the taxed activity relative to their income. A regressive tax does not mean that the low income earner pays more taxes than the wealthy,

only the effective tax rate relative to income or consumption would be a larger tax burden to the lower income earners.

Many economists have questioned the capability of a regressive tax structure to solve the problem of stagflation, which is a period of inflation combined with stagnation (that is, slow economic growth and rising unemployment, possibly including recession) in a given country.

### **3.5.3 Proportional tax**

A proportional tax is a tax imposed so that the effective tax rate is fixed as the level of income to which the rate is applied increases. The term “proportional” refers to the way the rate remains consistent and does not progress from high to low or vice-versa as income or consumption changes. Proportional taxes maintain equal tax incidence regardless of income level and no shift of the tax incidence to high or low income earners emerged.

Proportional taxes are not familiar in advanced economies; normally they will have a graduated (progressive) tax on household income or profits such that the marginal tax rate rises as the income or profits of that entity rises. As a result such a flat marginal tax rate is consistent with a progressive average tax rate. Proportional taxes on consumption are normally considered by some economists to be somewhat regressive; as the low income earner spent a greater proportion of their income in taxable sales than higher income earner.

### **3.5.4 Flat Tax**

A flat tax is a tax structure where there is a constant rate or a single rate of tax imposed on all income or profits, but the effective tax rate will decrease as income or profits rises. Flat taxes are sometimes introduced by countries in a view of boosting the economic growth. Proponents of flat tax claimed that it is fairer than progressive tax since every taxpayer pays the same rate of tax. It also suggested that a flat tax would remove economic disincentive and encourage economic growth leading to higher incomes and, as such more tax revenues will be

available. However, for most flat tax there is a sizeable exemptions that restore effective progressivity. Flat tax is also said to be:

Simple:

Flat tax contains no tax credits, deductions, or exemptions except for the personal, spousal, and child exemptions. In other words, complicated and time-consuming paperwork are eliminated.

Equitable:

Flat tax is an integrated approach to taxation wherein both business income and personal income are taxed once and only once. This type of integrated approach to taxation achieves horizontal equity, the principle that people with similar incomes should bear similar tax burdens. The personal exemption ensures vertical equity is achieved; that is, as people earn more, they pay more. Thus, a flat tax achieves both measures of equity, the second criteria of tax policy.

Efficient:

Another benefit of the flat tax is that it effectively moves the income-tax system away from taxation of income towards taxation of consumption. A consumption tax is levied on any income that is consumed, i.e., spent rather than saved. Economists generally agree that the taxation of consumption is one of the most efficient manners in which to raise tax revenue.

Fair:

Proponents of the flat tax claim it is fairer than progressive taxation, since "everybody pays the same." However, for the government to raise the same amount of money under a flat rate tax requires that the rich pay less and the poor pay more than they would under a progressive tax system. It depends on how "fair" is defined. It is claimed that since everybody pays the same rate, it treats everyone equally and thus is "fair" to everyone. On the other hand, it is also claimed that since the marginal value of income declines with the amount of income (the last Rs 100 of income of a family living near poverty being obviously considerably more valuable than the last Rs 100 of income of a millionaire),

taxing that last Rs 100 of income the same amount despite vast differences in the marginal value of money is "unfair".

Compliant:

Under a progressive tax regime, the incentives for the rich to avoid high taxes are enormous. In a flat tax system, the rich usually end up paying the same amount of tax as they do under a progressive system.

An elimination of double taxation:

A flat tax can eliminate the double taxation. Under the flat tax, dividends and interest paid by businesses would be taxed once, at the business level.

A means to increase tax revenues:

It is claimed that the flat tax will increase tax revenues, by simplifying the tax code and removing the many loopholes corporations (and of course reducing the tax rates). This is because the low tax rates will encourage less tax evasion on behalf of high-income earners.

A means for other gains:

There are a number of other important economic improvements to be gained by implementing a Flat tax. The net economic effect of the reform includes improved incentives for work, increased entrepreneurial activity, and greater capital formation, all leading to a higher level of national output and standard of living.

Viewing such reform over a period of years instead of a single year shows that nearly all taxpayers would gain from such a reform. In short, a flat-tax system of taxation presents enormous economic benefits with very few economic costs.

#### **3.5.4.1 Types of flat tax**

- Single rate, no allowance: All income is taxed at a flat rate.

- Single rate, basic allowance: All income above a basic allowance or tax credit is taxed at a flat rate. Russia and Slovakia have this second option.
- Single rate, refundable (non-wastable) allowance: All income is taxed at a flat rate, but there is a refundable tax allowance or tax credit. This credit is of equal value to all individuals, regardless of their income levels. This is often called the “basic income flat tax,” where the basic income is supposed to replace all social security benefits in addition to introducing a flat tax rate on personal income.
- Flat rate consumption tax (this is the so-called Hall-Rabushka’s flat tax proposal). In this system, all income that is not saved is taxed at a single rate. Income from savings is only taxed at the corporate level at the same flat rate.

### **3.6 Arguments against implementation of a progressive tax/ for a regressive tax**

Progressive taxes lower savings rates. It is argued that progressive taxation shifts the total economic production of society away from capital investments (tools, infrastructure, training, research) and toward present consumption goods--this could happen because high-income earners tend to pay for capital goods (through investment activities) and low-income earners tend to purchase consumables. Smithian and neo-classical growth theory says that spending more on consumption goods and less on capital goods will slow the rise of the standard of living, and possibly even reduce it since capital goods increase future production possibilities.

In addition, Progressive taxes create a work disincentive. Another common argument is that progressive taxation acts as a disincentive to work. In comparing this assumption with the claim that progressive taxes work the other way, and encourage higher participation at the top end, econometric studies are inconclusive. It may be that there is no consistent aggregate effect either way, and that the incentive/disincentive argument for/against progressive taxation are weak.

Theoretically, there are two contrasting forces at work here. One is a substitution effect whereby work effort is decreased with higher tax rates as the relative gains from engaging in leisure (which is not taxed) increase. The other is

an income effect whereby work effort is increased as the worker must work more hours to attain the same wage in the face of higher taxes. It is impossible to predict which effect will dominate. The majority of econometric studies on the question suggest that, in aggregate, the two effects roughly cancel out.

### **3.7 Arguments against the implementation of a flat tax**

The introduction of a flat tax regime will force middle-class taxpayers to subsidize the wealthy. It also confuses tax reform and tax simplification in defining taxable income with the unrelated issue of whether the rate applied to that income is flat or graduated. A flat tax tends to violate the common notion of fairness that differs from economists' perception. Although it's true that a flat tax can be progressive, it is also true that moving to a flat tax means that higher-income families receive the bulk of the benefit of a given tax cut in absolute terms. Nevertheless, giving "more" in absolute terms to the wealthy seems to violate popular notions of fairness. The popular sense of fairness also seems to be trespassed by the image of a wealthy person living off of his/her savings (either through capital gains or dividend/interest payments) without personally paying any income tax.

We should also consider the fact that most people already have very simple tax returns. The benefit of "simplifying" the tax code, therefore, really only accrues to the well off – thus it will be trying to simplify a system which is already simple.

Flat tax plans are unlikely to be revenue-neutral because by design they aim to reduce the top marginal rate while providing large basic exemptions for low-income earners. This argument says that a larger tax base won't be enough to make up for the lost revenue and nor will the promised economic growth, improved efficiency and greater tax compliance. Assuming this non-neutrality then, a flat tax would likely mean reduced spending on social programs, including those targeted to low-income persons. Thus, although low-income persons may pay less in taxes (and, indeed, receive larger tax rebates), they may lose at least as much from reduced transfer payments.

A flat tax may attenuate the counter-cyclical effects of the current system. For example, during an expansion, government revenue tends to rise quickly under a formally progressive tax system, essentially “dampening” some of the excesses of the cycle. The reverse occurs during a downturn. Although no one is sure of the dynamics of a flat tax under a business cycle, it seems at least plausible to suggest that the dampening effects wouldn’t be as great.

Imposition of abrupt changes to the tax system may also destabilize an economy. A flat tax inevitably implies a greater tax cut in absolute terms for high-income individuals/families and the wealthy; this could mean a worsening of inequality, especially if the flat tax is not revenue-neutral and social programs are consequently cut. Even if the tax is revenue-neutral, a flat tax could mean worsening inequality in the long run if only because high-income earners and the wealthy are generally better able to invest their tax savings and make them grow more quickly than are low-income persons.

A flat tax has ambiguous labour market effects. Although most economists agree that a flat tax would have a positive substitution effect (i.e., people would want to work more knowing their income would be taxed at a lower rate), the income effect is less clear: because they get to keep a greater share of their income, some workers may choose to work less because they can still achieve the same level of consumption as before the tax cut. There is no way of knowing which effect will dominate.

### **3.8 Comparing progressive tax with flat tax**

A progressive tax system tends to include all of a person’s income as taxable (whether derived from income or investment) while a flat tax system excludes the investment income of the individual from the tax base. This implies that individuals under the flat tax regime characterized receipts as derived from investment and treat expenditures as related to business. However, as it is quite difficult to distinguish between business and non-business activities, this would allow aggressive taxpayers to erode the business tax base.

### **3.9 Scenarios of Tax Reforms**

Cohens (1999) identified the prevailing terrible shape of the U.S. economy with output stagnation, high unemployment rate, declining productivity and growth. During this period, Hall and Rabushka (1983) warned the U.S. economy that it would continue to perform dramatically unless a flat tax system was adopted. It was claimed that the flat tax would lead to additional economic growth, raising incomes of the middle and lower classes by more than enough to offset the increased taxes that the flat tax would impose. Additionally, Ventura (1996) explored the consequences of tax reform in the US economy for the adoption of a Flat Tax. Several key findings emerged from this study. It was found that the effects of the flat tax reform on capital accumulation appeared to be substantial, this reflection was also shared by Hall and Rabushka (1983). In addition, the potential impact on labour supply can be explained in two forms: Flat tax reduced the mean labour hours in the baseline calculations while at the top of the income distribution ladder, labour hours supplied by agents was subjected to a substantial increase. Moreover, the impact of the flat tax reform on individual welfare was positively strong and this suggested that flat tax was highly desirable in providing individualistic welfare measures.

Ivanova, Keen and Klemm (2004) studied the Flat tax reform in Russia. The authors observed that a single marginal rate at the level of 13 % has had a drastic increase of 26% in revenue from personal income tax. This 'Flat tax' experience has attracted much attention among policy makers, making it perhaps the most important tax reform of recent years. Following this radical step, the Russian tax system became much simpler, more efficient and business-friendly than it was prior to 2001. Four years after the implementation of the flat personal income tax, total real receipts from the personal income tax have more than doubled. GDP also grew at constant rates since the flat tax reform of 2001: 5.1 percent in 2001, 4.7 percent in 2002 and an impressive 7.3 in 2003. Thus, the average annual real growth rate in Russia over the last three years averaged 5.5 percent, which is much better than the growth realized by many developed countries.

According to Daniel J. Mitchell (2007) a simple and fair tax system can be witnessed in a country called as Estonia. After gaining its independence from the Soviet Union in 1991, the little Baltic country first tried its luck with a

progressive tax system. Productive people were punished with higher tax rates. In short, the lifeblood of future prosperity was subjected to double-taxation. It is not surprising; therefore, Estonia did not prosper at all. Ironically, most capitalist economies have adopted this counterproductive taxation model as well. Seeking a new approach to jump-start its economy, Estonia adopted a 26% flat tax in 1994 and never looked back again. The flat tax has helped Estonia become one of the world's fastest-growing economies. Tallinn, a town in Estonia, is now a boom town, filled with expensive cars, elegant shops, trendy restaurants and new construction. Estonia's system is not a completely pure version of the flat tax model but it is remarkably free from distortions, exemptions, loopholes and penalties. The flat rate is applied to both personal income and business income. One of the key principles of a flat tax is that income should be taxed only once, there is no death tax, no wealth tax and no double-taxation of savings or dividends. The most impressive was that the country has continuously refined the system. The tax rate has already been reduced to 22%, and it is scheduled to fall by one percentage point annually to reach 18% by 2011.

Likewise, according to Andrei Grecu (2004), the other two Baltic countries, soon followed Estonia with flat tax fiscal reforms, namely, Latvia and Lithuania. Latvia has adopted a flat income tax of 25 percent and recently, in 2003, lowered its corporate tax from 19 percent to 15 percent. Lithuania has adopted a flat income tax rate of 33 percent, while the corporate tax rate was 15 percent. It was not surprising to note that the economies of these two countries have gone through a period of sustained expansion, with real growth in GDP over the last three years averaged 5.6 percent in both Latvia and

Lithuania. Estonia, Latvia, and Lithuania were the first Eastern European countries to show how sound economic reforms can miraculously transform ex-communist economies

into free markets admired and sought after by investors around the world. The flat tax that has been implemented in all the three countries has helped create a competitive market environment, and at the same time avoiding destructive budget deficits.

Besides, Andrei Grecu (2004) stated that since the Inland Revenue Ordinance of 1947, Hong Kong maintains a dual income tax system, which allows taxpayers to choose between a progressive (graduated) and a flat system. The seven million inhabitants of Hong Kong can choose to be taxed progressively between two percent and twenty percent on income adjusted for deductions and allowances or they can choose a sixteen percent flat tax on their gross income. This dual fiscal system allows taxpayers to choose the tax that minimizes their tax burden. However, taxpayers preponderantly chose the flat tax, which offers them lower tax rates, zero preparation costs and a vastly reduced probability of being audited and interrogated by the fiscal authorities. Hong Kong does not have a general income tax, does not tax stock dividends, capital gains, wealth, or gifts, and has no value-added tax, general sales tax, or payroll tax. This combination of simplicity and low level of taxation has reduced the adverse effects of taxation on work effort, savings, and risk-taking and was a key factor in Hong Kong's remarkable economic growth and development. Notably, the flat tax has generated a high enough level of government revenue such that, between 1950 and 1981, fiscal surpluses have been recorded in not less than 27 years.

Further along, Andrei Grecu (2004) revealed that countries like Jersey and Guernsey, forming part of the Channel Islands, switched from the British income tax code to a flat tax of twenty percent, applied to both individual and corporate income. In addition to this relatively low rate, the new system provides generous allowances for both single and married individuals, as well as allowances for children and dependent relatives. According to the flat tax principles, the Channel Islands do not double tax dividends or interest payments, nor do they collect tax revenue on capital gains and VAT. Since the introduction of the flat tax, the economies of the two islands have done remarkably well. Guernsey's GDP tripled since 1965, while Jersey's GDP rose 90 percent in real terms between 1980 and 1990. Economic performance in the Channel Islands proves once again that the efficiency, simplicity, and fairness induced by a flat tax have a positive influence upon economic growth, employment, and the overall standard of living. In addition, government expenditure in 1990 accounted to 74 percent.

In addition, Andrei Greco (2004) stated that as from 2003 and onwards more countries adopted the flat tax system. First, Serbia voted in favour of a 14 percent flat tax rate on personal income and corporate profits, giving Serbia the lowest corporate profit tax rate in Europe. Then Ukraine followed Russia's footsteps by implementing a 13 percent flat tax on personal income, while also reducing the tax rate on corporate profits from 30 to 25 percent.

### **3.9.1 Difficult scenarios of Flat Tax**

Hall and Rabushka (1983) remarked that the US economy was adopting a tax reform which involved the move from a progressive tax structure to a flat tax. It was also observed by the authors that existing tax structure was not a threat to economic growth since 1983, and it was doubtful that the new flat tax could have done better than that. With the old regime, upper classes benefited disproportionately and economic inequality was high. This history of growing inequality suggested that, even in the unlikely event that the Flat Tax had generated significant extra growth, not enough of the benefits would have reached the middle and lower classes to offset the higher taxes that the Flat Tax would have required the upper classes to pay. Likewise, Ventura (1996) revealed that with the adoption of Flat Tax by the US economy, distributions of earnings, income, and in particular wealth, became concentrated in some cases only. This potential negative distributional impact of the flat tax turned out to be one key finding and a consequent objection to the introduction of this tax system.

Furthermore, it was found that the flat tax system and income taxes under this system are not border-adjustable; that is, the tax component embedded into products through taxes imposed on companies (including corporate taxes and payroll taxes) can not be removed when the products are exported to a foreign country. Other taxation systems normally removed the tax component when goods are exported and apply the tax component on imports. However, it can be noticed that under a flat tax, domestic products are at a disadvantage to foreign products. Such a system greatly impacts the global competitiveness of a country. For example, the United States is the only one of 30 OECD countries with no border adjustment element in its tax system because it has adopted a flat tax. Due

to this tax structure, it is estimated that U.S. goods are at a 17% competitive disadvantage, on average, to foreign producers.

Besides, Feld (1995) discusses some areas that are likely to be troublesome under a flat tax system. He carried out a brief survey on the business tax and individual income tax portions of the flat tax points. His findings revealed that business tax tended to raise a significant part of the tax revenues under a flat tax regime.

According to Goudswaard and Caminada (2001)'s survey on the introduction of a low flat rate, it was found that a broad range of middle-income earners were the losers and from a political point of view, these losses were problematic. At the end of the day, it was the very high-income earners who were the winners. The authors deducted that a comprehensive tax base did not imply that a flat rate should be chosen. It was shown that a radical tax reform does not necessarily entail large distributional effects, not even when a flat rate is introduced

It was discovered that the main objective behind tax reform in Sweden was to simplify its tax code. This radical decision indeed brought reduction in transaction complexity of the tax system and reduced workload of tax authorities. According to Agell, Englund and Sodersten (1996) and Averbach and Slemrod (1997), tax reform in Sweden contributed to an increase in the efficiency and a reduction of excess burden of the Swedish economy.

Moreover, Malcom Gillis (1989) presented a comprehensive review of tax reform initiatives in more than 20 developing countries. The latter discovered that one of the principal criteria employed to judge the success or failure of tax reform programs are based on its revenue performance. It was found that, in terms of revenue performance, most of the developing countries were rather successful. However, most of the increased revenue of the tax reform came mainly from indirect taxes, including VAT. Evidences showed that a greater proportion of partial reforms have been successful in these developing countries.

Besides, Moore (2005) reviewed Slovakia's recent reforms to its tax systems. In efficiency terms, the reform provided several gains in the sense that there was a reduction in distortions in the economy, and the new tax system allowed for significant improvements in tax administration. The new regime resulted in the elimination of most exemptions, hence contributing to a better resource allocation. Work incentives were as well strengthened by welfare reforms, through lower marginal effective tax rates on incomes of people. Moore (2005) also highlighted that the reform would be encouraging work effort and would be aiming at long-term reductions in poverty and unemployment.

According to Agell, Englund and Sodersten (1996) and Averbach and Slemrod (1997), in Sweden, tax reform has had short run costs with long run benefits. The short run cost was of two types: firstly, a shift from savings out real assets, like housing and consumer durables into financial assets and secondly, huge capital losses in the housing sector. Despite being described as the "Tax Reform Of The Century," the Swedish economy was affected.

Furthermore, Ventura (1996), who carried out a study in tax reform of the US economy, showed that tax reforms involving high exemption levels, and therefore, high resulting tax rates, were capable of yielding welfare losses for some agents.

In addition, Moore (2005), while reviewing Slovakia's reform, pin points that the short-run costs of the reforms had been severe for some of the poorest Slovak families.

### **3.10 Taxpayers' attitudes and perceptions**

Seidl and Traub (2001) carried out an empirical investigation of taxpayers' attitudes, behavior and perception of fairness about taxation. Data was collected by means of questionnaire and by personal interviews among employees of German firms. The study was carried out during the period of June 1996 and December 1997. A minimum of 221 interviews were done. The sample consisted of 135 male and 80 females and among them 137 were married and 81 singled with 126 respondents childless and 72 having one or more children. The

interviewees were asked whether they judged the level of tax on their income as fair, and if not, to state the tax level they would feel to be fair. Subsequently, among other questions, the interviewees were also asked their opinions on the tax burden with regard to a childless married couple and with only one spouse working. It was found that 80% of the respondents considered the tax burden in Germany as either “far too high” or “ too high.” 82.6% of the respondents revealed that they were following a progressive tax scale, while others a regressive taxation. As judged from the actual expression, 86.6% of all respondents pleaded for progressive income tax scales rather than flat rate taxation.

## **4.0 Research methodology**

This chapter presents the methodology that has been used for assessing the Mauritian income tax system before the tax reform and after the tax reform. It includes the research approach required to meet the objectives of the study.

### **4.1 Problem Definition**

Taxation is a necessary evil as it represents a major source of revenue for any economy. It is usually expected that Government will develop and maintain tax structures that will meet residents' needs in a fair and equitable manner. Mauritius has moved from a progressive tax structure (whereby the low income earners pay a lower percentage on income tax and the high income earners pay a high percentage of income tax) to a single rate structure.

The Present Regime proposed in the budget 2006 has two important characteristics:

1. The income threshold
2. Number of dependents

There are four categories of taxpayers as per the new taxation system, whereby under the old regime a single person may have more than Rs 215 000 of deduction depending on his level of income and deduction whereas under the new tax regime, a single person would have only Rs 215 000 of deduction.

Under the new regime, all personal reliefs and deduction are replaced by exemption thresholds of Rs 215 000 for an individual who has no dependent (category A), Rs 325 000 for an individual who has one dependent (category B), Rs 385 000 for an individual who has 2 dependents (category C) and Rs 425 000 for an individual who has 3 dependents (category D). If one spouse claims the exemption threshold in respect of category B, category C or category D, the other spouse will be entitled to claim the exemption threshold of Rs 215 000 only (Category A).

Chargeable income is being taxed (2006) as follows:

- The first Rs 500 000, other than chargeable income relating to interest - 15%, and the remainder 22.5 %.
- The rate of 22.5 % will be reduced to 20 %, 17.5 % and 15 % for the income years ended 30 June 2008, 30 June 2009 and 30 June 2008, respectively.
- Chargeable income relating to interest –15% for all the above years and thereafter.

It may be argued that with a proportional or a progressive taxation system, high-income individuals pay more income tax. Although, this may generally be true, the crucial question is how significant is the incremental tax paid by the wealthier person compared to the low-income earner.

As such, this study aims at evaluating the existing income system and income structure in Mauritius as well as comparing and contrasting between a progressive tax and a flat tax regime. In addition, this study attempts to establish the characteristics of a socially fair and equitable income tax system under both the previous regime and the new tax reform brought by the Finance Bill 2006 by analysing the various effective tax rates (ETRs) for various income groups under the different tax regimes. The information obtained will then be helpful to policy makers in future reform to the income tax system. Recently, there has been a reform in the overall Mauritian tax structure. The present study focuses on the income tax only.

The study aims to analyze the ETR of each category of individual:

- (1) taxpayer with no dependent,
- (2) taxpayer with 1 dependent,
- (3) taxpayer with 2 dependents and
- (4) taxpayer with 3 dependents.

Furthermore each taxpayer category will be further breakdown in four categories according to their monthly income of:

- (1) less than Rs 25 000,
- (2) Rs 25 000 – Rs 50 000,

- (3) Rs 50 000 – Rs 100 000 and
- (4) more than Rs 100 000.

The result obtained from the actual data will then be compared to that of the previous regime, to know exactly where each category of taxpayer is better off.

Under the previous regime the respondents' data will be used to calculate an average of the % of other reliefs and deductions that can be claimed by taxpayers for each category of monthly income. This percentage has been calculated using the known deductions such as personal allowance and emoluments reliefs, dependent spouse and/or dependent children and the tax payable by the taxpayer. The other reliefs which is the unknown figure has been calculated as the balancing figure and an average calculated for each category of income. The chargeable income will then be taxed at the rate of 10% for the first Rs 25,000 and 20% for the next Rs 25,000 and the remainder taxed at 25%.

#### **4.2 The Research Design**

Formulation of the research problem further leads to the development of the research design. The research design depends on the objectives of the study. For the purpose of this study, two distinct analysis will be carried out, namely analysis of secondary data and questionnaires. The secondary data was obtained from the Central Statistical Office (data on taxpayers, that is income level, size of household, number of dependents etc, for the year 2001) – the latest Household Budget Survey. However, due to outdated data, there was the need to collect fresh data. The questionnaire was designed in such a way so as to be able to compare the actual system with the previous one. In fact, data collected via the questionnaire will help in calculating the ETRs for the different income group as well as gauge the perception of Mauritian taxpayers as regards the new tax regime. The ETRs will enable to identify whether the tax system is more progressive or not. In addition, several hypothesis will be formulated in order to verify the statistical validity of certain relationships.

In addition, the questionnaire survey was considered out to be the most effective tool to collect primary data. The survey is based on a random sample of a targeted population – those who are taxed under the Pay As You Earn (PAYE). The questionnaire encompasses a range of questions glossing over the individuals' demographic, income level, household size, number of dependents, etc as well as the taxpayers' attitudes towards the tax systems and their ethics concerning tax evasion.

Tax issues, generally being sensitive issues where individuals are reluctant to answer a face-to-face interview, resulted in declining the use of personal interviews. Instead the questionnaires were distributed randomly and collected afterwards. Batches of 10 questionnaires were also sent to top hundred companies.

#### **4.2.1 Household Budget Survey 2001/02**

The data obtained from CSO consists mainly of Gross Employee income (Income before taxes), disposable income (income net of taxes) and compulsory deductions. The data is then aggregated by household serial number, such that we get the total employee income by household (note that there are households where all members work while there are also cases where the sole earner relies entirely on transfer income – pensions). After aggregating the households, we then obtain “income before tax” by adding “disposable income” and “compulsory deductions” which consists of elements such as PAYE (pay as you earn) and other pension and security schemes such as NPF,a etc. The Gini coefficient is then computed for both Income before tax and Disposable income. A comparison is then made between the two and a conclusion is drawn on the progressivity of the tax system.

One of the main objectives of the HBS is to provide data on the distribution of household Gross Income and Disposable Income (thus the tax payment). The HBS 2001/02 report presents the results of the analysis of the survey data in terms of household characteristics, income and expenditure. And this report has been of assistance to in our study. Consequently, the secondary data were further compared to the primary data obtain from questionnaire.

The HBS 2001/02 was the seventh Household Budget Survey conducted by the Central Statistics Office (CSO). Previous surveys were conducted in 1961/62, 1975, 1980/81, 1986/87, 1991/92, and 1996/97. The 2001/2002 HBS was conducted among a sample of 6,720 private households representative of all households in the islands of Mauritius and Rodrigues. Data collection spread over a one-year period from 1 July 2001 to 30 June 2002, with 560 households surveyed each month with a view to obtain information on their daily consumption expenditure and the various characteristics likely to influence their consumption behavior.

The HBS 2001/02 obtained from the CSO was refined to obtain different measure of inequality such as:

- The Gini Coefficient
- The Average Effective Tax Rate<sup>1</sup>

#### **4.2.2 Gini Coefficient from secondary data**

In order to facilitate comparisons of income inequality, we have devised a single index number, the Gini coefficient, which provides a summary measure of the degree of economic inequality; the Gini coefficient measures the degree to which the actual distribution of income deviates from the perfect income equality. The higher the Gini coefficient, the greater the deviation from perfect equality, therefore the more unequal the actual distribution of income.

The main variables that have been used are the households (denoted by  $i$ ), Disposable income ( $Y_d$ ), Income before tax ( $Y_b$ ) and number of households ( $n$  – which is 6720). The formulas used to obtain the Gini Coefficient are:

$$\text{Gini Coefficient for Disposable Income: } \frac{\sum Y_d (2i - n - 1)}{n \sum Y_d}$$

$$\text{Gini Coefficient for Income Before tax: } \frac{\sum Y_b (2i - n - 1)}{n \sum Y_b}$$

### **4.3 Questionnaire Design**

The questionnaire was designed based on the review of the literature. The questionnaire encompasses all the information required to match that of the secondary data of the CSO, like gross income level, monthly tax payment, household size, number of dependents, other income earners in the household, monthly gross income of other earners, demographics, the attitudes of the taxpayer vis-à-vis the current and the previous tax regime as well as the taxpayers' ethics. The survey participants were requested to answer 30 questions, out of which 26 are multiple choices questions and the rest being open-ended and scaling ones. As soon as the questionnaire was designed, a pilot testing was carried out. Below is the rationale behind the areas covered in the design of the questionnaire.

We should highlight the fact that the questionnaire has been designed in such a way that data from the Household Budget Survey 2001 could easily be compared.

### **4.4 Sampling Design**

After designing the questionnaire, it is imperative to identify the sample and target population. Each target population and sample automatically varies as per the objectives and field of the research. In our context the target population is all people that are taxed under the Pay As You Earn. And the sample is simply random.

#### **4.4.1 The Target Population**

The target group for study consists of individuals residing in Mauritius earning emoluments which includes part time earnings, rent, transfer income, etc and other registered income who are taxed under Pay As You Earn (PAYE), therefore above 18 years. This implies non-residents will be excluded from the sample. We should note that we also have feedback and views of individuals who earn rather high income from self-employment, thus not taxed under PAYE. An average of 13.5 % were non-tax paying individuals.

#### **4.4.2 The Sample**

The survey has been conducted on a non-probability sampling technique. A sample is chosen because conducting the survey on the whole population will be very expensive both in terms of money and time and because it is more convenient. However, this method is not void of disadvantages.

The sample size was 1,500 individuals taxed under the PAYE. Questionnaires were sent to HR Managers of the 100 top companies in Mauritius and requested for the questionnaire to be distributed to the taxpayers under PAYE on a random basis.

Using information from the survey, we carry out a mean test in order to categorize the income bracket of the individuals based on tax payable and emoluments earned. This information will be used to establish whether there is any correlation between tax payable by an individuals and the emoluments income/chargeable income. The study will also attempt to establish the effective rate of tax for different categories of individuals (small, medium, large).

#### **4.5 Pilot testing**

Pilot testing was carried out in to refine the questionnaire in order to avoid respondents having any difficulty while answering the questions. Pilot testing also smoothes recording of data and enables assessment of questions' validity and reliability of data collected. Pilot testing was carried out among 25 individuals and the questionnaire was amended accordingly.

## **4.6 Data Collection**

A total of 1500 questionnaires were distributed randomly, half to individuals who were taxed under the PAYE and half were sent to the top hundred companies in batches of 10. A covering letter was attached to the questionnaires and distributed. Face-to-face interviews were carried out in individuals' case whereas for the Top 100 companies, ten questionnaires were sent along with a reply stamped envelope.

### **4.6.1 Editing**

While filling in a questionnaire, it often happens that some questions are skipped. Editing implies reviewing each questionnaire, checking for valid questions and other missing data. In our case, the editing was done as soon as the questionnaires were collected.

### **4.6.2 Coding**

The software used to input data is the SPSS 13.0. In order to smooth the data input, the questions were coded accordingly. The questions were numbered accordingly and the answered were coded in chronological order to facilitate data input. The maximum answers obtained were 8, thus any missing data was coded by the number 9.

## **4.7 Hypothesis Testing**

The positive perception of respondents towards the tax reform is expected to differ among the various groups, namely status, income, number of dependents and education. Several hypotheses have been formulated to test whether any difference in positive perception is statistically significant.

### **Positive perception of the tax reform classified by age group**

*Ho: Positive perception of the tax reform is independent on the age group of respondents*

*H1: Positive perception of the tax reform is dependent on the age group of respondents*

**Positive perception of the tax reform classified by Status**

*Ho: Positive perception of the tax reform is independent on the status of respondents*

*H1: Positive perception of the tax reform is dependent on the status of respondents*

**Positive perception of the tax reform classified by Education**

*Ho: Positive perception of the tax reform is independent on the education of respondents*

*H1: Positive perception of the tax reform is dependent on the education of respondents*

**Positive perception of the tax reform classified by Income**

*Ho: Positive perception of the tax reform is independent on the income of respondents*

*H1: Positive perception of the tax reform is dependent on the income of respondents*

**Positive perception of the tax reform classified by Number of dependent**

*Ho: Positive perception of the tax reform is independent on the number of dependent of the respondents*

*H1: Positive perception of the tax reform is dependent on the number of dependent of the respondents*

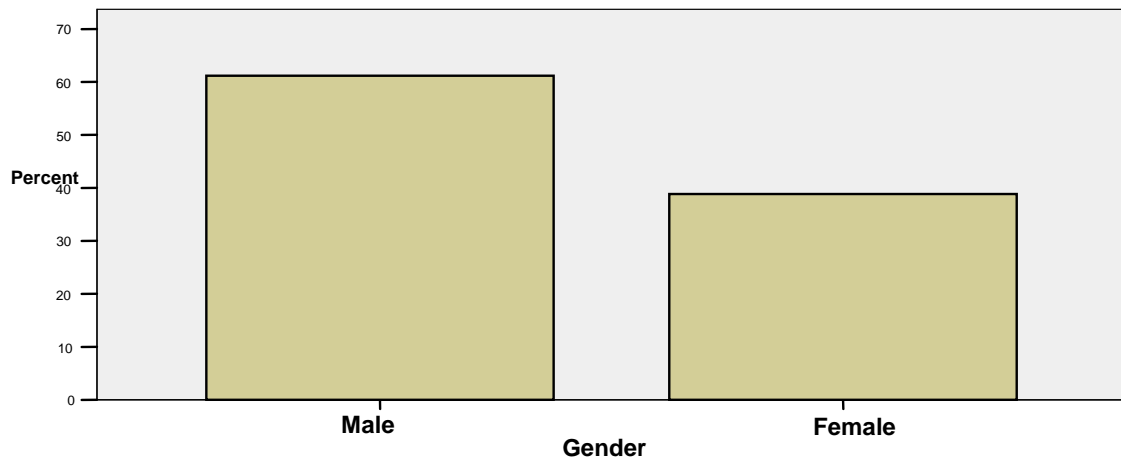
## 5.0 Analysis

The analysis will first be carried out using the data from the CSO whereby household income of individuals have been used to calculate the Gini-coefficient in order to find out if the imposition of the tax system has resulted in a greater disparity between the income of individuals. The data collected from the questionnaire was organized and summarized using the descriptive statistics and quantitative as well as qualitative data is reported using tables including cross-tabulation, charts. Qualitative data was content analysed and presented as emerging themes, then some hypothesis were formulated for analyzing purposes.

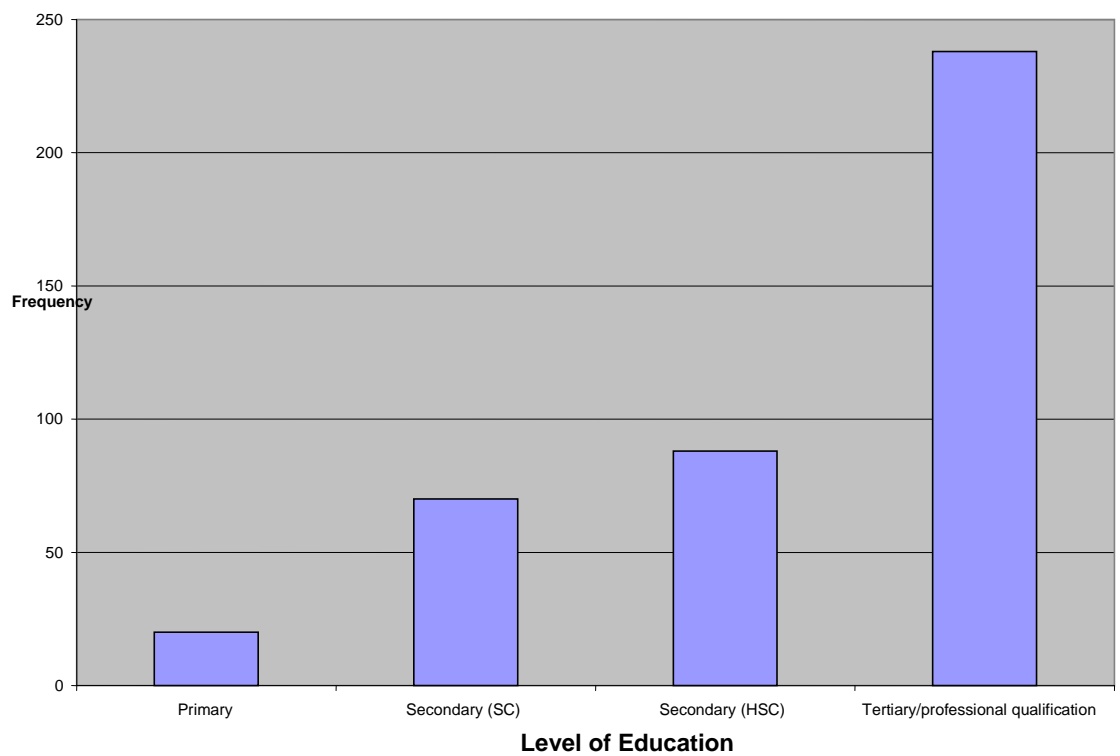
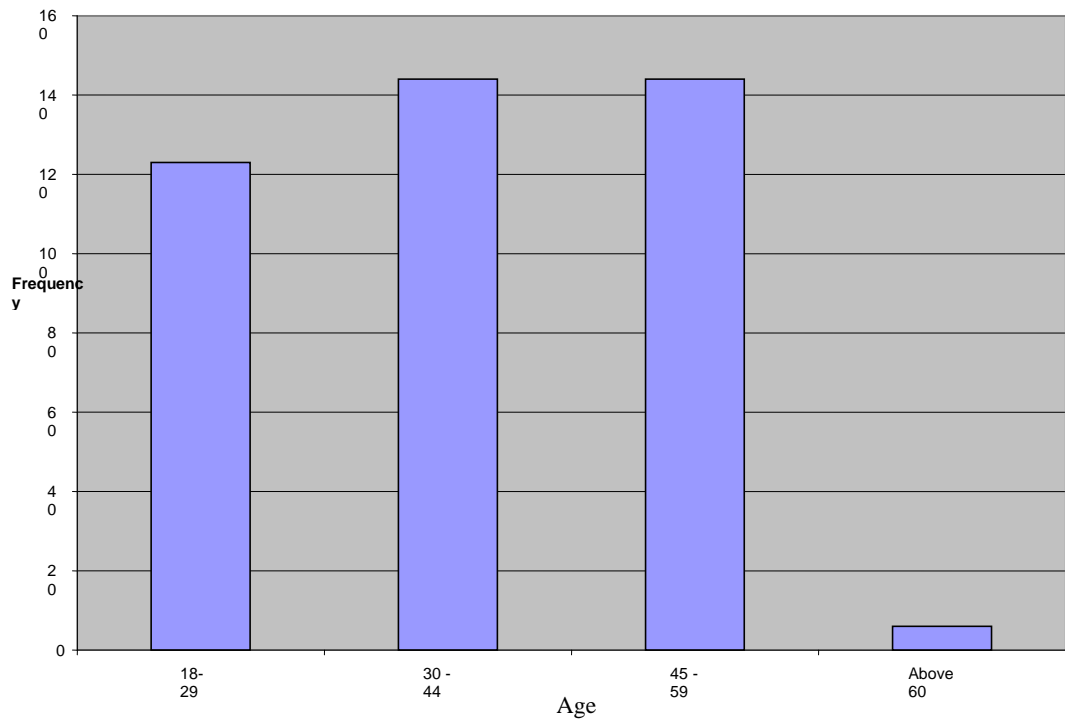
The following sections lays out the findings of the survey along lines of conceptual framework (research questions). The analysis is either of a descriptive or comparative nature. Conclusions are drawn and indications provided of any future policy decisions on the future of the tax systems in Mauritius.

### 5.1 Personal Characteristics of Respondents

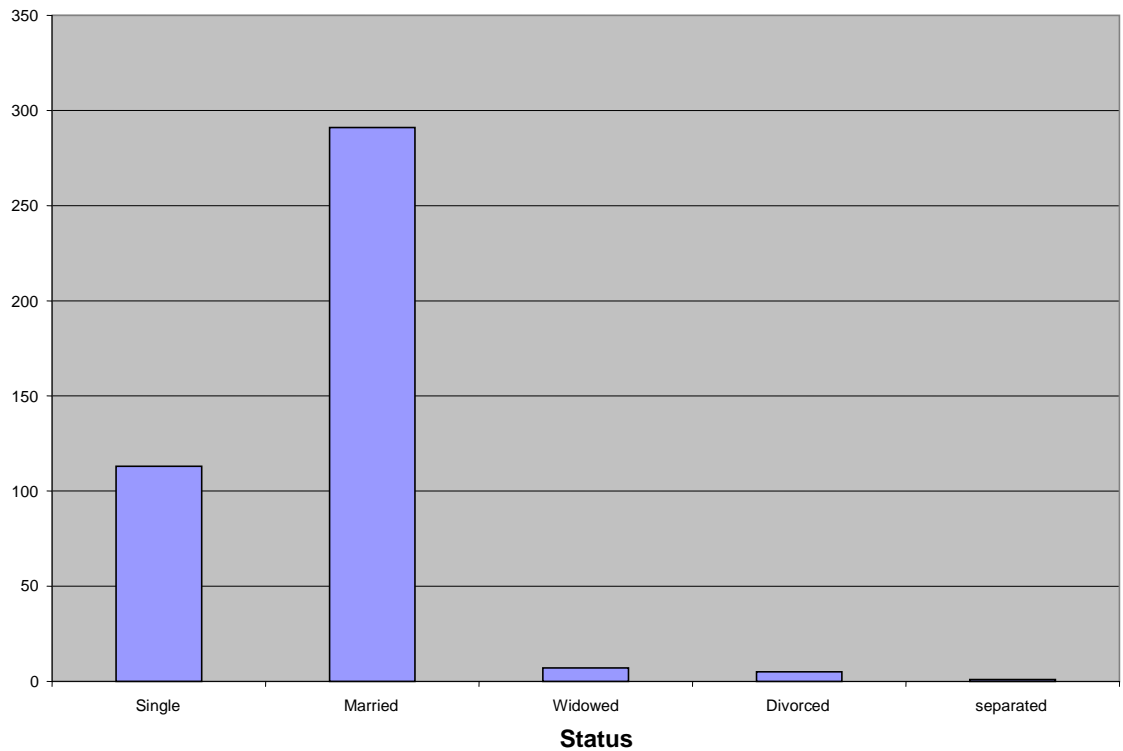
The bar charts below provide an overview on the personal details of respondents who participated in our survey.



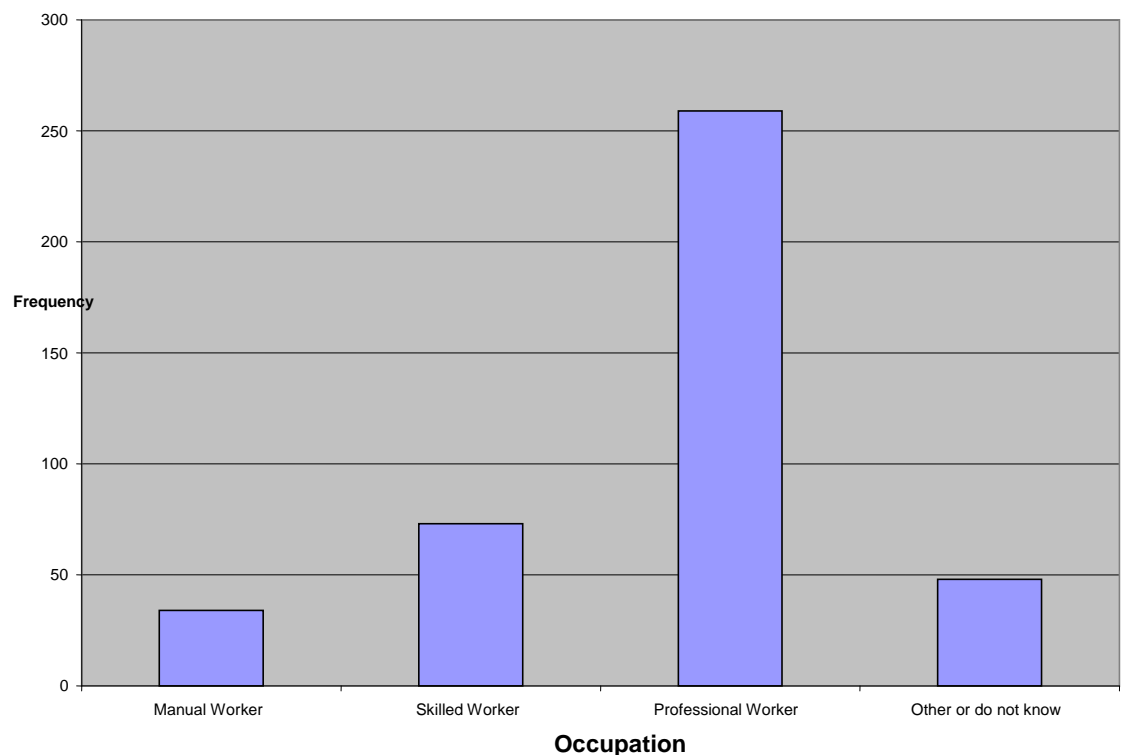
**Figure 1.1 Respondents according to gender**



**Figure 1.3: Respondents according to level of education**



**Figure 1.4: Respondents according to status**



**Figure 1.5: Respondents according to occupation**

In general, more men than women participated in our survey. Respondents are fairly distributed across the different age groups, except for those above 60. Also, the majority of the respondents seem to have completed their tertiary or professional

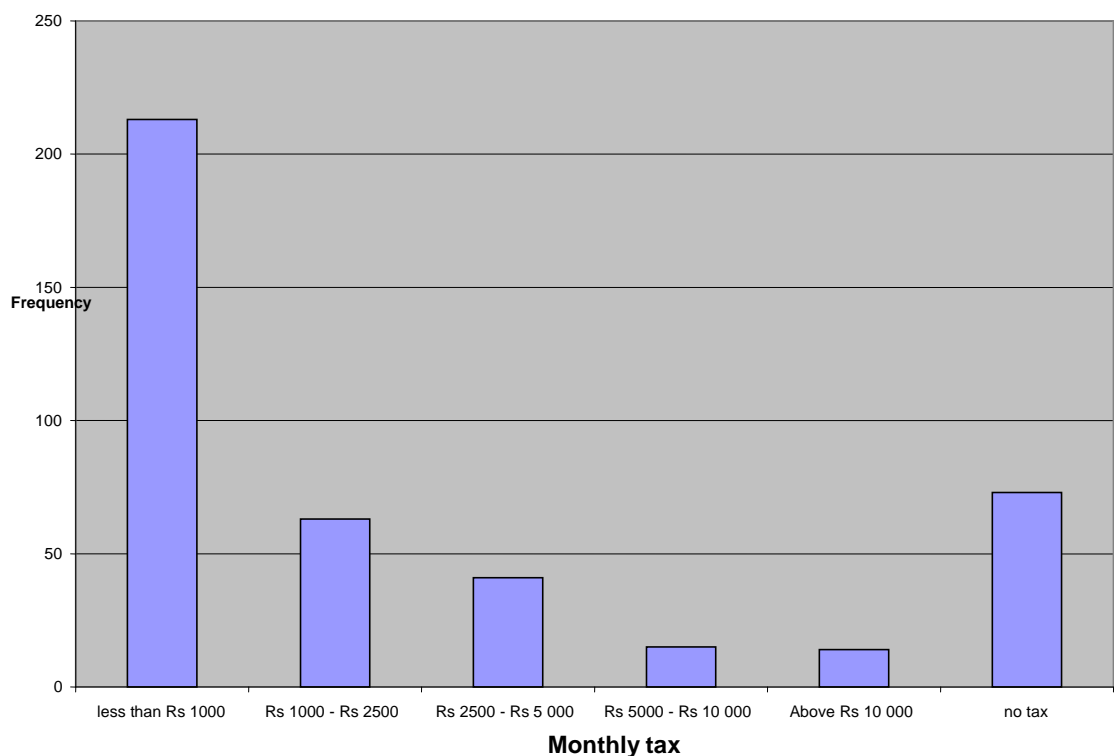
education and as such, occupied mostly white-collar jobs. Finally, most respondents are married such that it is more likely that they have at least one dependent.

## 5.2 Income Component of Respondent

Our sample includes mainly those below the threshold of Rs 25,000. There is approximately one third of the participants earning between Rs25,000 and Rs 50,000 with fewer individuals earning above Rs 50,000.

### 5.2.1 Income and Taxes

This section examines the relationship between income and monthly tax. The figure below shows the monthly tax paid by individuals within the sample.



**Figure 1.6: Respondent according to monthly income**

It is suggested that most people tend to pay tax below Rs 1,000. This is consistent with our sample, which consists mainly of individuals earning below Rs 25,000. This is further supported when examining the cross-tabs between monthly income and tax from the table below. The cross tab shows that most individuals earning less than Rs 25,000 either pay no tax at all or pay less than Rs 1000. Also, individuals in the higher income group tend to pay higher taxes.

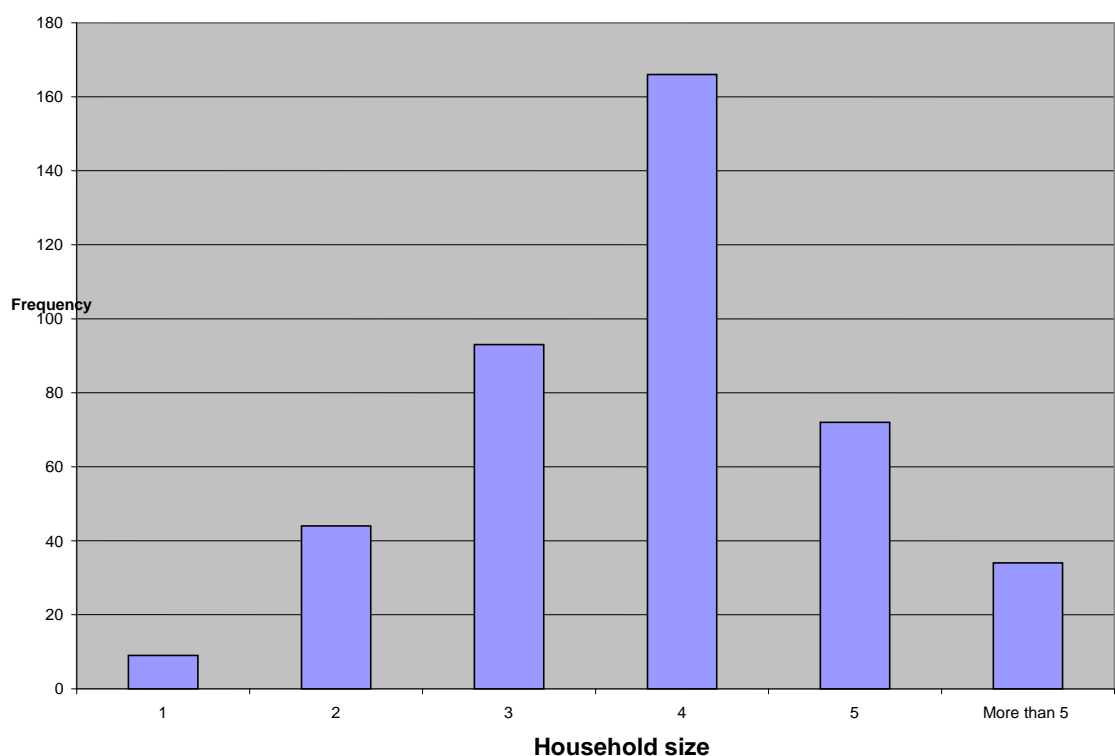
**Table 1.1:****Monthly salary \* Monthly tax payment Crosstabulation**

Count		Monthly tax payment						Total
		less than Rs 1000	Rs 1000 - Rs 2500	Rs 2500 - Rs 5000	Rs 5000 - Rs 10 000	Above Rs 10 000	no tax	
Monthly salary	0 - Rs 25 000	174	33	4	3	0	71	285
	Rs 25 000 - Rs 50 000	33	29	32	6	4	1	105
	Rs 50 000 - Rs 100 000	2	0	4	3	3	0	12
	Above Rs 100 000	3	0	1	3	7	1	15
Total		212	62	41	15	14	73	417

### 5.2.2 Income and Household size

This section examines the relationship between income and household size. The figure below shows the household size within the sample.

The figure below suggests that the average household size is between 3 and 5. Considering the level of income, the average household seems likely to earn around Rs 25,000.

**Figure 1.6 Household size**

From above, the average household size is four. This represents the average size of a normal working family in Mauritius. Considering the income level, it is observed that most household size have a monthly income of less than Rs 25,000.

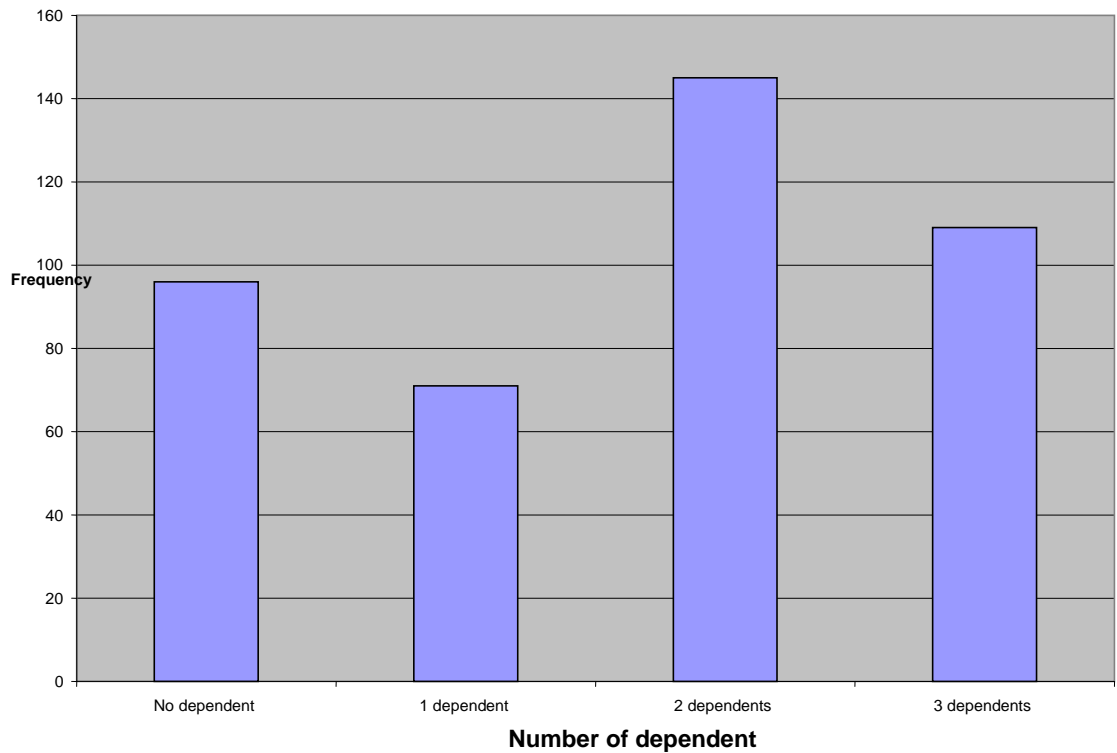
**Table 1.2**

Monthly salary * Household size Crosstabulation								
Count		Household size						Total
		1	2	3	4	5	More than 5	
Monthly salary	0 - Rs 25 000	5	24	67	111	50	26	283
	Rs 25 000 - Rs 50 000	3	14	21	46	15	5	104
	Rs 50 000 - Rs 100 000	1	0	2	6	2	2	13
	Above Rs 100 000	0	5	3	2	4	1	15
Total		9	43	93	165	71	34	415

### 5.2.3 Income and Number of dependent

This section examines the relationship between income and the number of dependent. The figure below shows the number of dependent within the sample. Most households seem to have 2 dependents. Also, more households with 2 dependents seem to have higher income level than those with less two or no dependent.

**Figure 1.8: Income according to number of dependents**



The average number of dependent within the sample is two. This represents a typical working individual with two children as dependents. Considering monthly wages, most individuals with 2 or 3 dependents, earn approximately below the Rs 25,000 threshold.

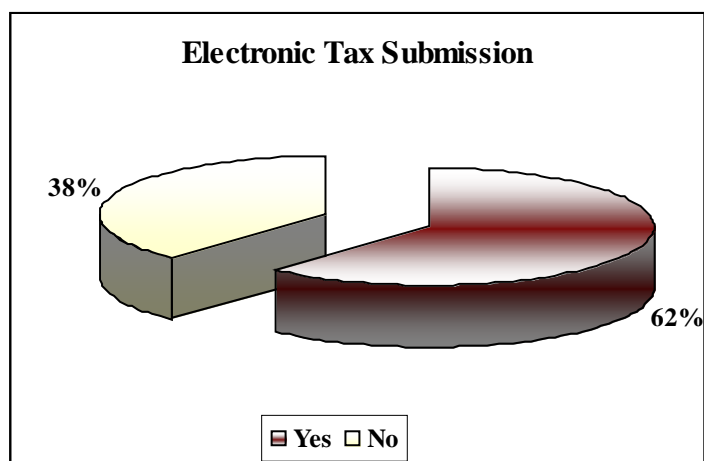
**Table 1.4**

**Monthly salary\*Number of Dependents Crosstab**

Count		Number of dependents				Total
		No dependent	1 dependent	2 dependents	3 dependents	
Monthly salary	0 - Rs 25 000	78	46	87	75	286
	Rs 25 000 - Rs 50 000	16	17	45	26	104
	Rs 50 000 - Rs 100 000	1	2	6	4	13
	Above Rs 100 000	0	6	6	3	15
Total		95	71	144	108	418

## 5.3 Electronic Tax Submission

**Figure 1.9:**



Majority of respondents (61.9 %) answered in favour of the electronic submission whereas 38.1 % are against. There are several reasons outlined why tax should not be electronically submitted.

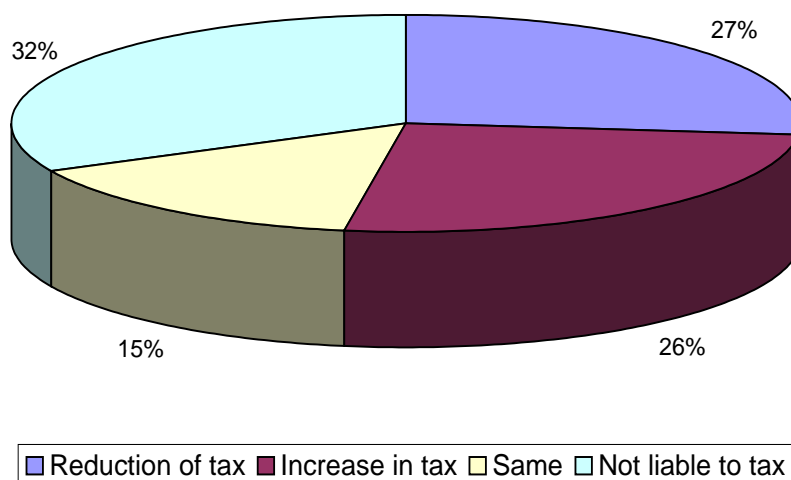
Furthermore, the following statements were observed among respondents:

**Table 1.4: respondents observations**

Statements	% responses
Security purposes	45.7
Do not want to make payment of tax electronically	18.3
Do not trust electronic systems	19.3
Audit trail	11.7
Other reasons	5.0

(45.7 %) of the respondents believe that security purposes are the main reasons to avoid electronic tax submission. The Mauritius Revenue Authority needs to embark in campaign to encourage electronic payments as this will reduce the compliance cost of the taxpayer. 36 (%) simply do not want to make payment of tax electronically. 38 (%) do not trust electronic systems. 23 (%) blame audit trail and 10 (%) have other reasons.

### Changes in the tax payment after reform



**Figure 1.10**

It can be clearly seen that 27% of the respondents had a reduction in the tax payment following the introduction of the new tax, as opposed to a similar amount (26%) faces an increase in the tax payment and 15% had their tax payment unchanged following the new tax regime. However, 32% of respondents are now not liable to tax following the tax reform.

#### 5.4 Attitudes towards the new tax regime

Respondents were asked various statements in relation to the new tax regime and they had to rate these statements with 1 ‘strongly agree’ and 5 ‘strongly disagree’, an attitude index was computed to reflect the attitudes in relation to the various statements as shown in the Table 1.5 below:

**Table 1.5: Attitudes towards new tax regime**

The amount of tax paid in the current tax regime is lower than the previous tax regime	3.14
A single rate of tax with no relief and deduction help to reduce tax evasion	3.07
Individual Income tax reduces the gap between the rich and the poor	2.96
A single rate of tax is more efficient means of collecting revenue for the Government	2.91
Individual Income Tax is more equitable than any other taxes, like VAT, Corporate tax	2.71
Previous tax regime was far better than the actual one	2.69
Previous tax regime was more time consuming and complex than the actual one	2.64
Individual Income tax reduces incentives to earn higher income	2.56
The present Income Tax is a fair one, where high-income earners are paying higher taxes	2.55
Are you of opinion that ethical issues concerning taxes are important?	2.31
Income tax imposes a burden on most individuals	2.22

From the table above, it can be clearly seen that respondents did not have a favourable attitude towards the new tax regime, as they did not agree that with the current regime they pay a lower tax as has been proved with a relatively higher ETR for individuals earning more than Rs 25,000 irrespective of the number of dependents. Respondents were also not of the opinion that the single rate introduced by the new regime will help in reducing tax evasion. However, they strongly agree that income tax imposes a burden on most individuals, as tax is a necessary evil that must be imposed by any government for the maintaining of welfare.

#### **5.4.1 Multivariate Analysis**

There are a number of hypotheses which are tested to know whether the positive perception of respondents towards the tax reform are dependent on factors such as status, age, income level, education, number of dependent and amount of tax paid. Initially, a normality test is conducted on the relevant statements. The results from the Table 1.6 below reveal that all statements are non-normal and as such, non-parametric tests are applied.

Table 1.6: Test statistics

**One-Sample Kolmogorov-Smirnov Test**

		Previous tax regime was far better than the actual one	Are ethical issues important	Income Tax imposes a burden on most individuals	Previous regime was more time consuming and complex than the actual one	Tax paid in current regime is lower than previous regime	Present income tax is a fair one	Income tax is more equitable than other taxes	Income tax reduces gap between rich and poor	Income tax reduces incentives to earn higher income	Single rate of tax is more efficient means of collecting revenue for govt	Single rate of tax with no relief and deduction will help to reduce tax evasion
N		420	417	415	420	419	420	418	417	414	421	421
Normal Parameters <sup>a,b</sup>	Mean	2.6929	2.3094	2.2241	2.6452	3.0358	3.4500	2.7057	2.9616	2.5652	2.9097	3.0665
	Std. Deviation	1.29565	1.12777	1.16112	2.15959	1.20452	1.13098	1.01642	1.16992	1.18683	1.19580	1.15484
Most Extreme Differences	Absolute	.158	.210	.237	.251	.168	.208	.219	.166	.212	.185	.186
	Positive	.154	.210	.237	.251	.149	.133	.195	.166	.212	.185	.186
	Negative	-.158	-.128	-.146	-.223	-.168	-.208	-.219	-.144	-.119	-.164	-.178
Kolmogorov-Smirnov Z		3.238	4.288	4.823	5.153	3.446	4.264	4.481	3.381	4.314	3.793	3.810
Asymp. Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

a. Test distribution is Normal.

b. Calculated from data.

### **The positive perception of respondents towards the tax reform classified by age**

Using the Kruskal-Wallis Test, the following hypothesis is tested:

*Ho: The positive perception of respondents towards the tax reform is independent on the age group of respondents*

*H1: The positive perception of respondents towards the tax reform is dependent on the age group of respondents*

The results are as follows:

**Table 1.7: perceptions of respondents according to age**

Test Statistics <sup>a,b</sup>											
	Previous tax regime was far better than the actual one	Are ethical issues important	Income Tax imposes a burden on most individuals	Previous regime was more time consuming and complex than the actual one	Tax paid in current regime is lower than previous regime	Present income tax is a fair one	Income tax is more equitable than other taxes	Income tax reduces gap between rich and poor	Income tax reduces incentives to earn higher income	Single rate of tax is more efficient means of collecting revenue for govt	Single rate of tax with no relief and deduction will help to reduce tax evasion
Chi-Square	5.003	4.527	.889	2.865	2.562	2.942	.932	1.039	1.968	3.339	.157
df	3	3	3	3	3	3	3	3	3	3	3
Asymp. Sig.	.172	.210	.828	.413	.464	.401	.818	.792	.579	.342	.984

a. Kruskal Wallis Test

b. Grouping Variable: Age Group

From above, the results are insignificant at any given significance level such that the null hypothesis is accepted. In general, it seems that all respondents seem to have more or less the same attitude irrespective of age group.

### **The positive perception of respondents towards the tax reform classified by Status**

Using the Kruskal-Wallis Test, the following hypothesis is tested:

*Ho: The positive perception of respondents towards the tax reform is independent on the status of respondents*

*H1: The positive perception of respondents towards the tax reform is dependent on the status of respondents*

The results are as follows;

Test Statistics <sup>a, b</sup>											
	Previous tax regime was far better than the actual one	Are ethical issues important	Income Tax imposes a burden on most individuals	Previous regime was more time consuming and complex than the actual one	Tax paid in current regime is lower than previous regime	Present income tax is a fair one	Income tax is more equitable than other taxes	Income tax reduces gap between rich and poor	Income tax reduces incentives to earn higher income	Single rate of tax is more efficient means of collecting revenue for govt	Single rate of tax with no relief and deduction will help to reduce tax evasion
Chi-Square	4.641	7.336	5.820	4.682	6.557	4.272	7.386	2.118	3.550	4.755	3.691
df	4	4	4	4	4	4	4	4	4	4	4
Asymp. Sig.	.326	.119	.213	.321	.161	.370	.117	.714	.470	.313	.449

a. Kruskal Wallis Test

b. Grouping Variable: Status

**Table 1.8: Perceptions of respondents according to status**

From above, the results are insignificant at any given significance level such that the null hypothesis is accepted. In general, it seems that all respondents seem to have more or less the same attitude irrespective of whether they are single or married.

**The positive perception of respondents towards the tax reform classified by Education**

Using the Kruskal-Wallis Test, the following hypothesis is tested:

*Ho: The positive perception of respondents towards the tax reform is independent on the education of respondents*

*H1: The positive perception of respondents towards the tax reform is dependent on the education of respondents*

The results are as follows;

**Table 1.9: Perceptions of respondents according to level of education**

**Test Statistics<sup>a,b</sup>**

	Previous tax regime was far better than the actual one	Are ethical issues important	Income Tax imposes a burden on most individuals	Previous regime was more time consuming and complex than the actual one	Tax paid in current regime is lower than previous regime	Present income tax is a fair one	Income tax is more equitable than other taxes	Income tax reduces gap between rich and poor	Income tax reduces incentives to earn higher income	Single rate of tax is more efficient means of collecting revenue for govt	Single rate of tax with no relief and deduction will help to reduce tax evasion
Chi-Square	4.988	5.550	1.144	.307	8.556	5.280	5.648	3.357	.712	1.789	11.289
df	3	3	3	3	3	3	3	3	3	3	3
Asymp. Sig.	.173	.136	.767	.959	.036	.152	.130	.340	.870	.617	.010

a. Kruskal Wallis Test

b. Grouping Variable: Level Of Education

The results indicate that attitudes are independent on the level of education for all except for the statements that the tax paid in the current regime is lower and the fact that a single tax rate is better. A closer investigation on those two statements is undertaken and the cross-tabs are presented below.

**Table 1.10: Level Of Education \* Tax paid in current regime is lower than previous regime Cross tabulation**

		Tax paid in current regime is lower than previous regime					Total
		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	
Level Of Education	Primary	0	3	10	4	3	20
	Secondary (SC)	7	12	16	25	10	70
	Secondary (HSC)	6	20	27	20	14	87
	Tertiary/professional qualification	41	42	79	49	24	235
Total		54	77	132	98	51	412

From the above cross-tab, there seems to be a disagreement between those individuals having tertiary education and those having secondary or primary education. Those having secondary qualification are more likely to argue that tax paid is higher in the current regime while those with higher level of education seem to favour the contrary.

**Table 1.11: Level Of Education \* Single rate of tax with no relief and deduction will help to reduce tax evasion Cross tabulation**

		Single rate of tax with no relief and deduction will help to reduce tax evasion					Total
		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	
Level Of Education	Primary	4	3	8	1	4	20
	Secondary (SC)	10	17	21	11	11	70
	Secondary (HSC)	11	19	40	17	1	88
	Tertiary/professional qualification	18	43	83	56	37	237
Total		43	82	152	85	53	415

Those in the tertiary or professional group seem, in general, to be slightly against a single tax rate while those in lower level of education seem to favour single rate as proposed by the new regime.

## The positive perception of respondents towards the tax reform classified by Income

Using the Kruskal-Wallis Test, the following hypothesis is tested:

*H<sub>0</sub>: The positive perception of respondents towards the tax reform is independent on the income of respondents*

*H<sub>1</sub>: The positive perception of respondents towards the tax reform is dependent on the income of respondents*

The results are as follows:

**Table 1.12: perceptions of respondents according to income level**

Test Statistics <sup>a, b</sup>											
	Previous tax regime was far better than the actual one	Are ethical issues important	Income Tax imposes a burden on most individuals	Previous regime was more time consuming and complex than the actual one	Tax paid in current regime is lower than previous regime	Present income tax is a fair one	Income tax is more equitable than other taxes	Income tax reduces gap between rich and poor	Income tax reduces incentives to earn higher income	Single rate of tax is more efficient means of collecting revenue for govt	Single rate of tax with no relief and deduction will help to reduce tax evasion
Chi-Square	10.101	3.203	9.160	2.874	.210	2.813	.708	1.954	1.996	6.938	3.192
df	3	3	3	3	3	3	3	3	3	3	3
Asymp. Sig.	.018	.361	.027	.411	.976	.421	.871	.582	.573	.074	.363

a. Kruskal Wallis Test

b. Grouping Variable: Monthly salary

The results indicate that attitudes are independent on the level of income for all except for the statements that the previous tax regime is better and the single tax rate is more efficient in terms of revenue collection. A closer investigation on those two statements is undertaken and the cross-tabs are presented below.

**Table 1.12: Monthly salary \* Previous tax regime was far better than the actual one**  
**Cross tabulation**

		Previous tax regime was far better than the actual one					Total
		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	
Monthly salary	0 - Rs 25 000	55	56	93	49	32	285
	Rs 25 000 - Rs 50 000	37	17	19	20	11	104
	Rs 50 000 - Rs 100 000	6	1	3	3	0	13
	Above Rs 100 000	6	4	4	1	0	15
Total		104	78	119	73	43	417

In general, there seems to be wider disagreements for those in lower income group bracket on the issue that the previous tax system is better. However, for those in higher income group, there is an overall tendency to favour the previous tax regime. This may be explained by the suggestion that those with higher income did enjoy higher tax deductions under the pervious system.

**Table 1.13:Monthly salary \* Single rate of tax is more efficient means of collecting revenue for govt Cross tabulation**

		Single rate of tax is more efficient means of collecting revenue for govt					Total
		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	
Monthly salary	0 - Rs 25 000	37	59	105	44	41	286
	Rs 25 000 - Rs 50 000	14	30	34	16	10	104
	Rs 50 000 - Rs 100 000	4	4	3	2	0	13
	Above Rs 100 000	1	4	3	5	2	15
Total		56	97	145	67	53	418

From the above table, those in the lower income group seem to agree that single tax rate is more efficient in terms of revenue collection while those with income greater than Rs 100,000 do not primarily agree with this view.

#### **The positive perception of respondents towards the tax reform classified by Number of dependent**

Using the Kruskal-Wallis Test, the following hypothesis is tested:

*Ho: The positive perception of respondents towards the tax reform is independent on the number of dependent of the respondents*

*H1: The positive perception of respondents towards the tax reform is dependent on the number of dependent of the respondents*

The results are as follows;

**Table 1.13: Perceptions of respondents according to no. of dependents**

Test Statistics <sup>a, b</sup>											
	Previous tax regime was far better than the actual one	Are ethical issues important	Income Tax imposes a burden on most individuals	Previous regime was more time consuming and complex than the actual one	Tax paid in current regime is lower than previous regime	Present income tax is a fair one	Income tax is more equitable than other taxes	Income tax reduces gap between rich and poor	Income tax reduces incentives to earn higher income	Single rate of tax is more efficient means of collecting revenue for govt	Single rate of tax with no relief and deduction will help to reduce tax evasion
Chi-Square	8.560	5.599	2.305	4.401	2.893	3.060	4.628	1.268	2.788	7.506	3.826
df	3	3	3	3	3	3	3	3	3	3	3
Asymp. Sig.	.036	.133	.512	.221	.408	.383	.201	.737	.425	.057	.281

a. Kruskal Wallis Test

b. Grouping Variable: Number of dependents

The results indicate that attitudes are independent on the number of dependent for all except for the statement that the previous tax regime is better than the actual one. A closer investigation on this statement is undertaken and the cross-tab is presented below.

**Table 1.15: Number of dependents \* Previous tax regime was far better than the actual one Cross tabulation**

		Previous tax regime was far better than the actual one					Total
		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	
Number of dependents	No dependent	22	18	27	16	12	95
	1 dependent	22	15	22	9	3	71
	2 dependents	29	24	44	30	18	145
	3 dependents	32	20	28	18	10	108
Total		105	77	121	73	43	419

Most individuals having 2 dependents seem to have no opinion on whether the previous tax regime is better or not. Those having no dependent, one or 3 dependents seem to favour the previous tax regime.

## 5.5 Minimisation of tax liability

Individuals were asked as to the means they used to minimize tax liability. 64.5% believes that they need to submit their respective tax return by the due date to escape penalty, while 56% agreed that it was 'very important' to abide by the law, so nearly one out of two individuals did not consider it important to abide by the rules. However, this has been improved with the intensive campaign launch by the MRA to encourage individuals to pay their taxes in time.

Further, 42% of individuals were of opinion that there is a need to participate actively in tax avoidance schemes to reduce taxes. With the new regime tax avoidance schemes have been eliminated, as no active tax planning is possible under PAYE.

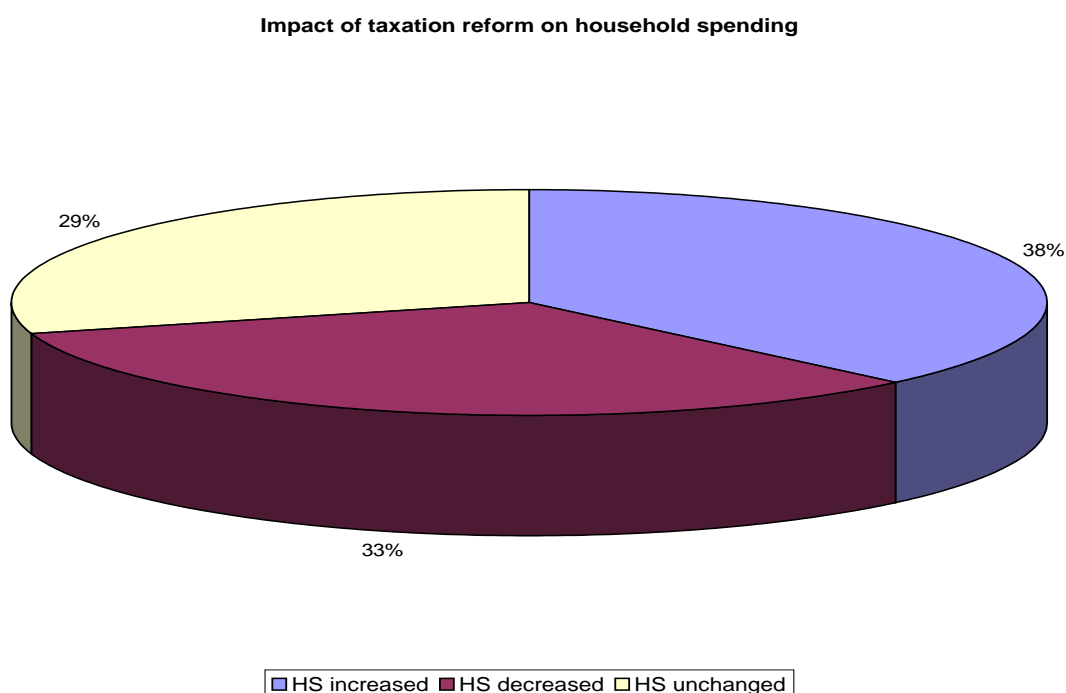
### 5.5.1 Perceptions between new and old tax system

Questions were asked as to the perceptions of individuals of the new tax system relative to the previous tax regime. The results are summarized below.

	Previous tax regime was far better than the actual one		Previous regime was more time consuming and complex than the actual one		Tax paid in current regime is lower than previous regime		Present income tax is a fair one		Govt argues that the new tax policy is going to restore more equality	
	Count	%	Count	%	Count	%	Count	%	Count	%
Strongly Agree	105	25.0%	76	18.1%	55	13.1%	27	6.4%	29	7.0%
Agree	78	18.6%	129	30.8%	79	18.9%	55	13.1%	114	27.4%
Neutral	121	28.8%	138	32.9%	133	31.7%	119	28.4%	149	35.8%
Disagree	73	17.4%	58	13.8%	100	23.9%	141	33.7%	91	21.9%
Strongly Disagree	43	10.2%	18	4.3%	52	12.4%	77	18.4%	33	7.9%

From the above table, some individuals seem to agree that previous tax system was better on overall. However, more than 50% seem to have no opinion and favour the new system. In similar vein, they mostly argue that the old tax regime was time-consuming, incur higher taxes and bring in more inequality.

### 5.6 Impact of tax reform on household spending



From the chart above it can be clearly seen that the impact of the new tax regime has been equally shared among the respondents as basically only 38% of them has found their household spending increased, while another 33% of the households revealed that their spending were decreased and for 29% it remained unchanged.

So, the new tax regime has not been beneficial to the respondents in terms of household spending this may be due to the decrease in the purchasing power of individuals through several price increases on many necessity goods.

### 5.7 Taxation help in increasing Government revenue

Individuals were asked as to whether they agree with the statement, “*Taxation helps to increase Government revenue. It is argued that higher Government revenue often leads to higher economic growth*” the responses are revealed in the bar chart below:

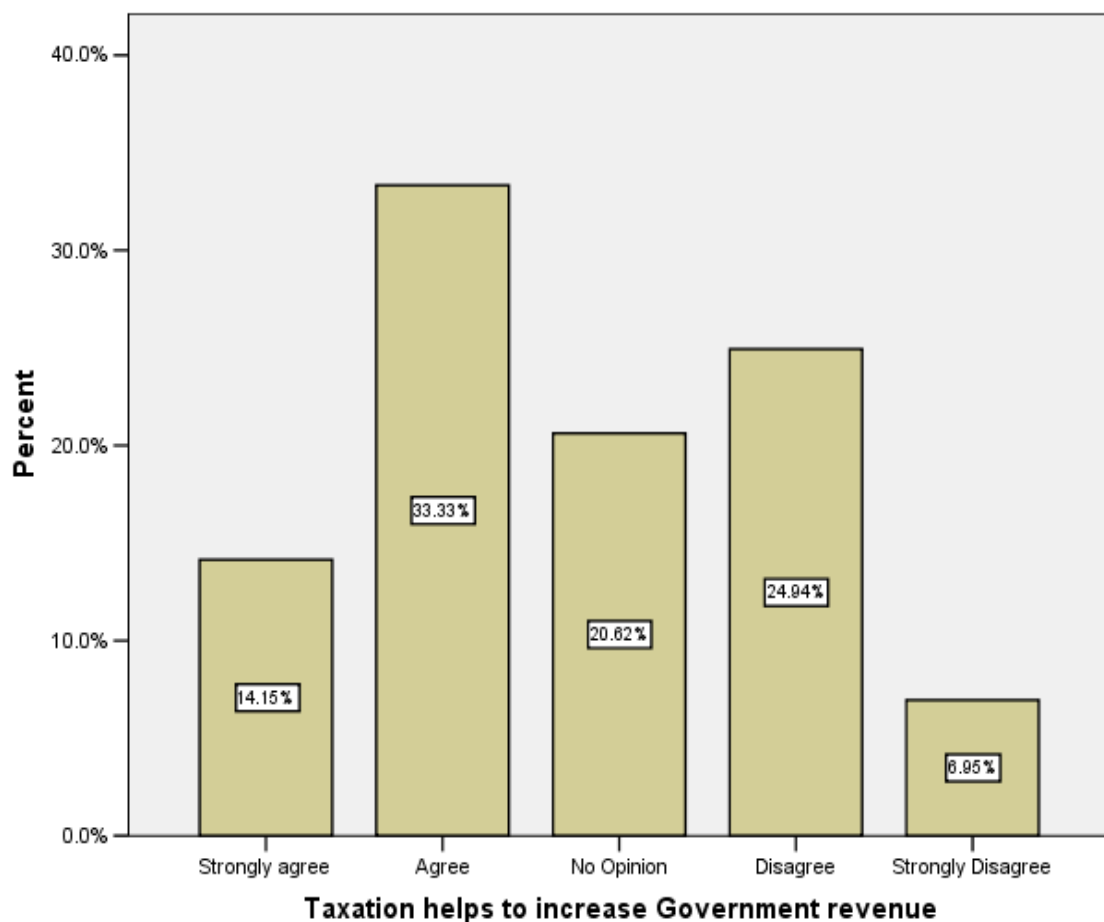


Figure 1.11

It can be found that only 14% 'Strongly Agree' with the above statement while another 33% 'Agree' with the statement. This was explained by the fact that most taxpayers are not too conversant with the impact of taxation on economic growth.

### 5.8 New tax policy to restore equality

Respondents were requested to indicate if they believe that the new tax regime will restore equality. The chart below can indicate the opinion of the individuals and it clearly shows that only a cumulative total of 33.9% 'Agree' or 'Strongly Agree' with that the new tax regime has restore inequality. Some respondents stated that the new tax policy would create greater social imbalance.

**Table 1.15:**

Govt argues that the new tax policy is going to restore more equality					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	29	6.9	6.9	6.9
	Agree	114	27.0	27.0	33.9
	No Opinion	151	35.7	35.8	69.7
	Disagree	94	22.2	22.3	91.9
	Strongly Disagree	34	8.0	8.1	100.0
	Total	422	99.8	100.0	
Missing	9.00	1	.2		
Total		423	100.0		

### 5.9 Gini-coefficient

This chapter will firstly analyse the data using the household income and tax payment obtained from the CSO to show if there is a case of inequality in the tax system from the previous regime and has the new regime of tax introduced alleviate the inequality of income. From here we now start interpreting our results of Gini coefficients obtained:

○Gini coefficient for Income before tax: 0.3818

○Gini coefficient for Disposable income: 0.3737

The Gini coefficient is a measure of inequality of income distribution. The coefficient lies strictly between the values of 0 and 1. In this context, 0 corresponds to the perfect income equality (that is everyone has the same income, in other words, no concentration), and 1 corresponds to perfect income inequality (that is one person-or one

particular group- has all the income and everybody else has zero income, in other words the case of total concentration). The Gini coefficient tells us how widely the income “altitude” varies in a given country.

Form our data set, we derived Gini coefficient for both “Income before tax” and “Disposable income”. The Gini coefficient for Income before tax is 0.3818 whereas that of Disposable income is 0.3737. The difference between the 2 Gini coefficients shows signs of progressivity. We declare the existence of progressivity based on the grounds of Disposable income having a Gini coefficient closer to the line of equality than that of Income before tax. This implies that with income tax, the government is taking away greater share from the high-income earners and a smaller share from low-income earners, thus making income distribution more equal (than it was before imposition of tax).

**Table 1.17: Gini coefficient – Disposable income**

	<b>No Dependent</b>	<b>1 Dependents</b>	<b>2 Dependents</b>	<b>3 or more dependents</b>
<b>Monthly Gross Income</b>	0.234	0.412	0.371	0.355
<b>Monthly Disposable Income</b>	0.242	0.415	0.378	0.352

### **5.9.1 Statistical basis of the Gini coefficient**

G is a measure of inequality, defined as the mean of absolute differences between all pairs of individuals for some measure. The minimum value is 0 when all measurements are equal and the theoretical maximum is 1 for an infinitely large set of observations where all measurements but one has a value of 0, which is the ultimate inequality (Stuart and Ord, 1994).

Closer to zero- closer to equality

Closer to 1- closer to inequality

From above, inequality increases for all groups after taxes are imposed except for 3 or more dependents. This implies that those falling under 3 or more dependents group, with higher income, are more likely to be penalized by the tax system. It can be suggested that

more individuals who have higher income can sustain more dependents. On the other hand, individuals who are young are likely to have lesser income and lower dependent. This disparity in the average profile of the tax payer suggests that more people with higher income tend to fall under 3 or more dependent group. Indeed, the higher the income level, the higher the possibility of tax penalty. As such, it can be suggested that more individuals are more likely penalized by the tax system, contributing to lower Gini coefficient.

### 5.10 Other reliefs

Upon the change in the tax regime, whereby the reliefs and deductions have been replaced by an all inclusive income deduction threshold based only on the number of dependents ranging from zero to three.

From the responses obtained, besides the personal allowances (Rs 85,000), deduction for Dependent children/spouse and a 15% emolument's reliefs with a maximum of Rs 135,000, an average percentage of other reliefs were calculated as shown in the table below.

**Table 1.17: Percentage of 'Other reliefs under the old tax regime**

		1 dependent		2 dependents		3 dependents	
Income level	No Dependent	Spouse	Child	spouse +child	2 children	3 children	Spouse + 2 children
0-25,000	21	19.8	23.5	13.7	18.6	27.3	18.1
25,000-50,000	53.5	44.5	49.1	39.1	43.7	39.9	35.3
50,000-100,000	55.8	56.3	60.6	54.9	57.2	56.1	53.6
Above 100,000	47.2	40.1	41.2	39.8	41.4	40.1	42.2

The 'Other reliefs' includes:

- Insurance premium – This was for premium payable on your life, that of dependent spouse or children under the age of 18, with a maximum of Rs 80,000
- Loan interest relief – this is for interest payable secured loan taken exclusively for the purchase of land to be used for construction of residence, or for the

construction, purchase or improvement of your residence or to finance the tertiary education of your dependent child. The couple were eligible to deduction of Rs 250,000 maximum and shared as agreed by the couple, and for individual the deduction was Rs 125,000.

- Investment reliefs – 40% of the amount paid as subscriptions to share capital of a company invested on the Stock exchange or mutual fund with a maximum amount of Rs 50,000. Note that the excess of Rs 50,000 could be carried forward for two succeeding years.
- Savings reliefs – represent the aggregate deductions that an individual can obtained on the premium payable under a Personal Pension Scheme, Retirement Annuity and Contribution to Medical Scheme and Ambulances services. Note: Aggregate deduction is limited to 20% of net emoluments income.

From the table it can be clearly noticed that the percentage of ‘other reliefs’ changes according to the number of dependents and the type of dependents (spouse or children) that an individual has during an income year. It ranges from 13% to 61%. However, it should be noted that for the category of monthly income more than Rs 100,000, the percentage of other reliefs falls due to the maximum ceiling for the deductions. The percentage of ‘other reliefs’ has been used to calculate the Effective Tax Rate (ETR) under the old and the new regime of tax, where the number of dependents irrespective of whether it is a spouse or a child only governs the income deduction threshold.

This chapter is based on the way data collected has been processed and the results have been analysed. The analysis will be done in the following ways:

- The yearly income will be taken and its tax liability effect will be analysed:
  - Both at the old and new tax regime
  - At the level of no dependent, one dependent, two dependents and three dependents.
- The tax liability obtained both for the old and new tax regime will be compared and the Effective Tax Rate (ETR) will be calculated
- Recommendations will be made, as at with which tax system an individual is better off.
- The ‘Other Relief’ percentage used for the calculation of the chargeable income under the old tax regime has been calculated from the responses obtained from the questionnaire.

**Illustration 1: Monthly income of Rs 25,000 with no dependent or Dependent Children**

Details	No Dependent		Dependent child		2 Dependent Children		3 Dependent children	
	old	new	old	new	old	new	old	new
	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs
emoluments	325,000	325,000	325,000	325,000	325,000	325,000	325,000	325,000
personal allowance	(85,000)		(85,000)		(85,000)		(85,000)	
dependent Child			(30,000)		(60,000)		(90,000)	
dependent spouse								
emoluments reliefs	(48,750)		(48,750)		(48,750)		(48,750)	
other reliefs	(68,250)		(76,375)		(60,450)		(88,725)	
income deduction		(215,000)		(325,000)		(385,000)		(415,000)
Chargeable Income	123,000	110,000	84,875	0	70,800	(60,000)	12,525	(90,000)
tax liability								
10%	2,500		2,500		2,500		1,253	
15%		16,500						0
20%	5,000		5,000		5,000			
25%	18,250		8,719		5,200			
Total tax payable	25,750	16,500	16,219	0	12,700	0	1,253	0
<b>ETR</b>	<b>7.9</b>	<b>5.1</b>	<b>5.0</b>	<b>0.0</b>	<b>3.9</b>	<b>0.0</b>	<b>0.4</b>	<b>0</b>



From the illustration 1, it can be clearly seen that the effective tax rate under the old regime was 7.9% for no dependent and reduced to 5.1% under the new regime. However, we note that the ETR decreases to 5%, 3.9% and 0.4% under the old regime when the number of dependent children is respectively 1, 2, and 3. However, under the new regime the ETR is zero as soon as the taxpayer has at least one dependent. Clearly the new regime is beneficial to taxpayers with a monthly income of Rs 25,000.

**Illustrations 2: Monthly income Rs 25,000 with dependent spouse as deduction**

Details	Dependent Spouse		1 Dep. Child + Spouse		Spouse + 2 Dep. Children	
	old	new	old	new	old	new
	Rs	Rs	Rs	Rs	Rs	Rs
emoluments	325,000	325,000	325,000	325,000	325,000	325,000
personal allowance	(85,000)		(85,000)		(85,000)	
dependent Child			(30,000)		(60,000)	
dependent spouse	(60,000)		(60,000)		(60,000)	
emoluments reliefs	(48,750)		(48,750)		(48,750)	
other reliefs	(64,350)		(44,525)		(58,825)	
income deduction		(325,000)		(385,000)		(325,000)
Chargeable Income	66,900	0	56,725	(60,000)	12,425	0
tax liability						
10%	2,500		2,500		1,243	
15%						0
20%	5,000		5,000			
25%	4,225		1,681			
Total tax payable	11,725	0	9,181	0	1,243	0
<b>ETR</b>	<b>3.6</b>	<b>0.0</b>	<b>2.8</b>	<b>0.0</b>	<b>0.4</b>	<b>0</b>

From illustration 2, it can be clearly seen that under the old tax regime when an individual has a dependent spouse as the only dependent, the ETR is valued at 3.6% but this reduces to an insignificant value of 0.38% when the individual has three dependents (two children plus dependent spouse). Under the new tax regime an individual earning Rs 25,000 monthly and having one dependent (irrespective of it being a dependent spouse or children) is not liable to tax.



**Illustration 3: Monthly income between Rs 25,000 and Rs 50,000 with no dependent and at least one dependent children**

Details	No Dependent		Dependent Child		2 Dependent Children		3 Dependent Children	
	old		old	new	old	new	old	new
	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs
emoluments	487,500	487,500	487,500	487,500	487,500	487,500	487,500	487,500
personal allowance	(85,000)		(85,000)		(85,000)		(85,000)	
dependent Child			(30,000)		(60,000)		(90,000)	
dependent spouse								
emoluments reliefs	(73,125)		(73,125)		(73,125)		(73,125)	
other reliefs	(260,813)		(239,363)		(213,038)		(194,513)	
income deduction		(215,000)		(325,000)		(385,000)		(415,000)
Chargeable Income	68,563	272,500	60,013	162,500	56,338	102,500	44,863	72,500
tax liability								
10%	2,500		2,500		2,500		2,500	
15%		40,875		24,375		15,375		10,875
20%	5,000		5,000		5,000		5,000	
25%	4,641		2,503		1,584		(1,284)	
Total tax payable	12,141	40,875	10,003	24,375	9,084	15,375	6,216	10,875
ETR	2.5	8.4	2.1	5.0	1.9	3.2	1.3	2.2

From illustration 3, it can be seen that the individuals earning between Rs 25,000 and Rs 50,000 (mid point taken) monthly are now worse off with the new tax regime as the ETR ranges from 2.2 % for an individual with three dependents increasing to 8.4 % for an individual with no dependent. Under the old regime the ETR is basically fairer and more equitable as it is in the range of 1.3 to 2.5 % irrespective of the number of dependents.

**Illustration 4: Monthly income of Rs 25,000 and Rs 50,000 with dependent spouse as deduction**

Details	Dependent Spouse		1 Dep. Child + Spouse		2 Dep. Children + Spouse	
	old	new	old	new	old	new
	Rs	Rs	Rs	Rs	Rs	Rs
emoluments	487,500	487,500	487,500	487,500	487,500	487,500
personal allowance	(85,000)		(85,000)		(85,000)	
dependent Child			(30,000)		(60,000)	
dependent spouse	(60,000)		(60,000)		(60,000)	
emoluments reliefs	(73,125)		(73,125)		(73,125)	
other reliefs	(216,938)		(190,613)		(172,088)	
income deduction		(215,000)		(325,000)		(385,000)
Chargeable Income	52,438	272,500	48,763	162,500	37,288	102,500
tax liability						
10%	2,500		2,500		2,500	
15%		40,875		24,375		15,375
20%	5,000		5,000		5,000	
25%	609		(309)		(3,178)	
Total tax payable	8,109	40,875	7,191	24,375	4,322	15,375
<b>ETR</b>	<b>1.7</b>	<b>8.4</b>	<b>1.5</b>	<b>5.0</b>	<b>0.9</b>	<b>3.2</b>

From illustration 4, it can be found that the old tax regime the ETR is lower as compared to illustration 3 where the individual has dependent children. This can be explained that the deduction per child was Rs 30,000 as compared to dependent spouse was Rs 60,000. However, it can be noted that the new regime is far worse off for the individuals as their ETR is higher at 5 % for an individual with dependent spouse as compared to the old regime where the ETR was 1.5 % only for an individual claiming dependent spouse.

**Illustration 5: Monthly income between Rs 50,000 and Rs 100,000 with no dependents and dependent children as deduction**

Details		No dependent		one dependent		Two Dependents		Three Dependents	
		old	new	child	new	2 children	New	3 children	New
emoluments 15% reliefs (Max) PA child spouse other reliefs income ded Ch income  tax liability  10% 15% 20% 25%  Total ETR		975,000	975,000	975,000	975,000	975,000	975,000	975,000	975,000
		(135,000)		(146,250)		(146,250)		(146,250)	
		(85,000)		(85,000)		(85,000)		(85,000)	
				(30,000)		(60,000)		(90,000)	
		(544,050)		(548,925)		(557,700)		(546,975)	
			(215,000)		(325,000)		(385,000)		(415,000)
		210,950	760,000	164,825	650,000	126,050	590,000	106,775	560,000
		2,500		2,500		2,500		2,500	
			114,000		97,500		88,500		84,000
		5,000		5,000		5,000		5,000	
		40,238		28,706		19,013		14,194	
		47,738	114,000	36,206	97,500	26,513	88,500	21,694	84,000
		4.90	11.69	3.71	10	2.72	9.08	2.23	8.62

**Illustration 6: Monthly emoluments between Rs 50,000 and Rs 100,000 with dependent spouse as deduction**

Details	one dependent		two dependents		Two dependents	
	Spouse	new	spouse + Dep Child	new	Spouse + 2 Dep. Children	New
emoluments	975,000	975,000	975,000	975,000	975,000	975,000
emoluments 15% reliefs (Max)	(135,000)		(135,000)		(135,000)	
personal Allowance	(85,000)		(85,000)		(85,000)	
dependent children			(30,000)		(60,000)	
dependent spouse	(60,000)		(60,000)		(60,000)	
other reliefs	(548,925)		(541,028)		(522,600)	
income deduction		(325,000)		(385,000)		(415,000)
Chargeable income	146,075	650,000	123,973	590,000	112,400	560,000
tax liability						
10%	2,500		2,500		2,500	
15%		97,500		88,500		84,000
20%	5,000		5,000		5,000	
25%	24,019		18,493		15,600	
Total tax payable	31,519	97,500	25,993	88,500	23,100	84,000
<b>ETR</b>	<b>3.23</b>	<b>10.00</b>	<b>2.67</b>	<b>9.08</b>	<b>2.37</b>	<b>8.62</b>

Based on illustration 5 & 6, it can be seen that individuals with emoluments ranging from Rs 50,000 and Rs 100,000 (for calculation purpose the mid point was taken) are better off with the old tax regime as they were able to practice some element of tax planning to be able to avoid tax liability. The ETR under the old tax regime is only 4% without any dependents and it reduces to 2.23% with three dependent children. Further, an individual earning emoluments between Rs 50,000 to Rs 100,000 and claiming dependent spouse as deduction under the old system ends up facing an ETR of approximately 3% irrespective of the number of dependents.

As for the new tax regime the ETR is 11.69% for no dependent and reduced to 8.62% with three dependents, so it can be concluded that the number of dependents is not contributing significantly to a reduction in tax liability as these individuals hold an ability to embark on tax planning mechanism which the new regime has eliminated.

**Illustration 7: Monthly emoluments at least Rs 100,000 with no dependent and dependent children as deductions**

Details		No dependent		One dependent		Two dependents		Three dependents	
		old	new	child	new	New	2 children	3 children	New
emoluments		1,300,000	1,300,000	1,300,000	1,300,000	1,300,000	1,300,000	1,300,000	1,300,000
15% reliefs		(135,000)		(135,000)			(135,000)	(135,000)	
PA		(85,000)		(85,000)			(85,000)	(85,000)	
child				(30,000)			(60,000)	(90,000)	
spouse									
other reliefs		(613,600)		(535,600)			(538,200)	(521,300)	
income deduction			(215,000)		(325,000)	(385,000)			(415,000)
Ch income		466,400	1,085,000	514,400	975,000	915,000	481,800	468,700	885,000
tax liability									
	10%	2,500		2,500			2,500	2,500	
	15%		162,750		146,250	137,250			132,750
	20%	5,000		5,000			5,000	5,000	
	25%	104,100		116,100			107,950	104,675	
		111,600	162,750	123,600	146,250	137,250	115,450	112,175	132,750
<b>ETR (%)</b>		<b>8.6</b>	<b>12.5</b>	<b>9.5</b>	<b>11.3</b>	<b>10.6</b>	<b>8.9</b>	<b>8.6</b>	<b>10.2</b>



**Illustration 8: Monthly emoluments above Rs 100,000 with dependent spouse as deductions**

Details	one Dependent		Two dependents		Three dependents	
	spouse	new	1 spouse + child	New	2 children + spouse	New
emoluments	1,300,000	1,300,000	1,300,000	1,300,000	1,300,000	1,300,000
emoluments reliefs (Max)	(135,000)		(135,000)		(135,000)	
personal allowance	(85,000)		(85,000)		(85,000)	
Dependent children			(30,000)		(60,000)	
Dependent spouse	(60,000)		(60,000)		(60,000)	
other reliefs	(521,300)		(517,400)		(548,600)	
income deduction		(325,000)		(385,000)		(415,000)
Chargeable income	498,700	975,000	472,600	915,000	411,400	885,000
tax liability						
10%	2,500		2,500		2,500	
15%		146,250		137,250		132,750
20%	5,000		5,000		5,000	
25%	112,175		105,650		90,350	
Total tax payable	119,675	146,250	113,150	137,250	97,850	132,750
<b>ETR (%)</b>	<b>9.2</b>	<b>11.3</b>	<b>8.7</b>	<b>10.6</b>	<b>7.5</b>	<b>10.2</b>

Based on illustration 7 & 8, it can be found that individuals with emoluments at least Rs 100,000 and having no dependent are better off under the old tax regime as the ETR is 8.6% as compared to the new tax regime where it is 12.5%. However, with two or three dependent children the ETR is still at the rate of 8 to 9 % as there is a maximum limit of tax planning that was possible under the old tax regime and as such the individuals were not able to further decrease their ETR. However, under the new tax regime the ETR is in the range of 10 to 12%, which is relatively not significantly changed with the increase in the number of dependents.

### 5.11 Criticism of the Scenarios

The report will now analysed two different scenarios for a couple that were published following the introduction of the tax regime where it was concluded that the new tax regime was far better off for those individuals.

#### Scenario 1

Mr and Mrs C are employed earning a monthly salary of Rs.25, 000 and Rs.15, 000 respectively. They have 3 children and 1 is studying in a university abroad and the 2 children are attending college. Mr. C claims allowance for the child studying abroad while Mrs C claims for the two others. They have taken a loan to build a house on a piece of land of 125 acres. They pay interest of Rs.25, 000 per year on the loan.

	Old		New	
	Self	Wife	Self	Wife
Emoluments	325,000	195,000	325,000	195,000
Emoluments relief 15%	(48,750)	(29,250)		
Personal allowance	(85,000)	(85,000)		
interest	(25,000)			
Dependent children	(30,000)	(60,000)		
Income deduction threshold			(425,000)	(215,000)
Chargeable income	136,250	20,750	0	0
Tax liability:				
10%	2,500	2,075		
20%	5,000			
25%	21,563			
	<b>29,063</b>	<b>2,075</b>	<b>0</b>	<b>0</b>

It seems somewhat unrealistic that the total interest paid per annum amounted to only Rs 25,000 resulting to a loan of Rs 250,000 (interest rate

10%) only taken for the purchase of land. If the same information for Mr & Mrs C is applied to the % 23.7 other relief as calculated by the survey (assuming that the other reliefs represent only interest payable) then the tax liability payable by Mr C will be Rs 16,056 or Rs 8,556 depending of whether Mr C takes one or two of the children. From a couple point of view they will pay less tax if the number of children can be shared, that is,

	Old		Old	
	Self	Wife	Self	Wife
Emoluments	325,000	195,000	325,000	195,000
Emoluments relief 15%	(48,750)	(29,250)	(48,750)	(48,750)
Personal allowance	(85,000)	(85,000)	(85,000)	(85,000)
interest	(77,025)		(77,025)	0
Dependent children	(60,000)	(30,000)	(30,000)	(60,000)
Income deduction threshold				
Chargeable income	54,225	50,750	84,225	1,250
Tax liability:				
10%	2,500	5,075	2,500	125
20%	5,000		5,000	
25%	1,056		8,556	
	<b>8,556</b>	<b>5,075</b>	<b>16,056</b>	<b>125</b>

Rs 13, 631 as compared to Rs 16, 181. As a result the new tax regime the number of dependents cannot be shared between the spouses to enable the couple to benefit from the tax as shown below. Thus, the new tax regime is far better off as individuals below Rs 25,000 having three dependents are not liable to tax at all.

## Scenario 2

Mr D is as medical practitioner earning Rs 75,000 monthly and his wife works as a secretary earning Rs 20,000 monthly with three children attending school. Assuming the % of ‘other relief’ to be 40%, under the old tax regime the couple were able to share the number of dependents and benefit from a lower tax liability as shown in scenario 2. So, one of the main disadvantage of the new tax regime is that the number of dependents cannot be shared between the couple and this can caused a disbenefit to the couple especially if both spouse are liable to tax as is the case nowadays in Mauritius.

	Old		Old		New	
	Self	Wife	Self	Wife	Self	Wife
Emoluments	975,000	260,000	975,000	260,000	975,000	260,000
Emoluments relief 15%	(135,000)	(39,000)	(135,000)	(97,500)		
Personal allowance	(85,000)	(85,000)	(85,000)	(85,000)		
interest	(390,000)		(390,000)	0		
Dependent children	(60,000)	(30,000)	(30,000)	(60,000)		
Income deduction threshold					(425,000)	(215,000)
Chargeable income	305,000	106,000	335,000	17,500	550,000	45,000
Tax liability: 15%					82,500	6,750
10%	2,500	2,500	2,500	1,750		
20%	5,000	5,000	5,000			
25%	63,750	14,000	71,250			
	71,250	21,500	78,750	1,750	82,500	6,750
Total tax couple	<b>92,750</b>		<b>80,500</b>		<b>89,250</b>	

Based on scenario 2, it can be clearly seen that by having the option to share the number of dependents the tax liability for the couple can be changed from Rs 92,750, if Mr C that takes only two of the children as opposed to Mrs C, when the tax liability for the couple can be reduced to Rs 80,500. This tax liability for the couple is even lower than under the new tax regime when the total tax liability paid by the couple is Rs 89,250.

### 5.12 Impact of ETR following PRB 2008 Report

Following PRB 2008 publication an individual earning Rs 25,600 monthly which was better off with the new tax regime will now be facing a situation as shown below. The individual will now be entitled to a monthly salary of Rs 37,500 and paying a monthly contribution of pension amounting to Rs 2,087 (according to conversion table 1). However, the income deduction

	No dependent	One dependent	Two Dependents	Three Dependents
Emoluments	487,500	487,500	487,500	487,500
Income deduction threshold	(240,000)	(350,000)	(410,000)	(440,000)
Chargeable income	247,500	137,500	77,500	47,500
Tax liability (15%)	37,125	20,625	11,625	7,125
ETR	<b>7.62</b>	<b>4.23</b>	<b>2.38</b>	<b>1.46</b>
Pension contribution	25,044	25,044	25,044	25,044
Total contribution to Govt.	<b>12.75</b>	<b>9.37</b>	<b>7.52</b>	<b>6.60</b>

threshold has been increased by Rs 25,000 only with the Budget 2008.

From the table above it can be seen that Category A taxpayers who were better off with the new regime, given that they were liable to an ETR of only 5.1% are now, following the PRB 2008 Report, worse off since their ETR has risen to 7.62%. Similarly Category B, C, and D for the same income bracket (i.e Rs 25,000) are also worse off since their ETR has shifted from zero to 4.23%, 2.38% and 1.46% respectively. So, individuals previously better off from a tax viewpoint for a monthly income level of Rs 25,000 are now worse off following the increase in salary. This is because the readjustment in the income deduction threshold has not matched the increase in salary level. It can also be noticed that individuals are now liable to a contribution to pension amounting to 6% of the basic salary, which increases the total % contribution to Government to a figure ranging from 6.6% to 12.75%. Prior to the PRB 2008 Report these total contribution equaled the ETR.

### **5.13 Effect of Tax on GDP**

In recent years tax reform has been promoted by the International Financial Institutions (IFIs) as an important component of policy reforms in many developing countries (LDCs). This normally explains from a drastic shift from trade taxes to consumption taxes, the rationalization of income taxes, and necessary measures to attempt to reduce budget deficits. Mauritius has attempted through the Budgets 2006 to make the economy more 'open' to improve macroeconomic stability, and to improve the efficiency of the tax system (by minimizing distortions) or of collection (discouraging avoidance or evasion).

Although developed and developing countries impose basically the same taxes, tax systems in the two groups of countries normally are very different. Pre-reform tax systems in LDCs have normally been described as 'inefficient, inequitable, beset with complications and anomalies and unable to cope with rising expenditure requirements or external shocks (Coady, 1997). Normally the Tax/GDP ratio is used to compare tax systems of different countries. In Mauritius the Tax/GDP ratio was 20.05% in 2000 prior to the reforms and this has increased to in 2007 (post tax reforms).

According to the Organisation for Economic Cooperation and Development (OECD), Tax revenue as a percentage of GDP in developed countries ranges from 30 to 50%, with an average of 38%, while the average for the developing countries is about 18%.

Nonetheless, there is a considerable diversity of experience in tax revenue collection among African countries. The ratio of tax revenue to GDP ranged from less than 10% (Chad, Niger and Sudan) to as high as 38% (Angola & Algeria) in 2002, (UNCTAD, 2007a).

Furthermore in recent years some countries have been able to improve the tax to GDP ratio considerably, on average by about four points or more. Ghana has improved its tax-GDP ratio from 12 to 14 %, between 1990 and 2004 (McKinley, 2007). In Zambia recent reforms to tax policy and administration have increased the share of income tax from about 35 to 50

%, and that of trade taxes declined from more than 50 % to well below 30% for the same period. These suggest that countries could improve their current level of tax revenue, however, this require concerted efforts directed at reforming and strengthening the tax system and tax administration.

#### **5.14 Distributional impact of Taxes**

Few studies have highlighted the impact of taxes on the distribution of income, from which some reference have been drawn on the impact of the poor. Numerous studies have used the average tax rates by income level or across income groups to check for evidence of ‘progressivity’ or ‘regressivity’ or it may simply related to ‘departures from proportionality’ of the taxes. In Mauritius table below show a summary of the Effective Tax Rate (ETR) over different incomes level in order to relate the distributional impact of the taxes.

Income level	No Dependent	One Dependent	Two Dependents	Three Dependents
At Least Rs 25,000	5.1	0	0	0
Rs 25,000 - Rs 50,000	8.4	5	3.2	2.2
Rs 50,000 - Rs 100,000	11.7	10	9.1	8.6
Above Rs 100,000	12.5	11.3	10.6	10.2

Table : ETR across income levels under new tax regime

It can be that the ETR rises with the level of income but not in the same proportion as the income level. The ETR ranges between zero and 12.5% only showing a high concentrating in the tax imposition due to the all inclusive Income Deduction threshold that is imposed according to the number of dependents and it is irrespective of the income level. It can be concluded that the distribution pattern of the income taxes in Mauritius shows an evidence of progressivity in our tax system.

## 6.0 Conclusion & Recommendations

### Recommendations

- Number of dependents must be shared between the couple especially that in the world of work now both parties work and earn equal pay and are liable to tax liability.
- Need to introduce some new savings scheme as this enable an economy to grow and encourage better quality of life for the future.
- With the publication of the PRB 2008 Report, the income deduction threshold have not been readjusted accordingly as some individuals are worse off with the new salary scale as they will become chargeable person as the increase in the threshold is not as equal or more than the increase in the salary scale. These individuals can be relieved if the contribution to pension (6%) which has become compulsory in the PRB Report may be tax deductible and the tax calculated on the net emoluments as shown below.

	No dependent	One dependent	Two Dependents	Three Dependents
Emoluments	487,500	487,500	487,500	487,500
Pension contribution	(25,044)	(25,044)	(25,044)	(25,044)
Net emoluments	462,456	462,456	462,456	462,456
Income deduction threshold	(240,000)	(350,000)	(410,000)	(440,000)
Chargeable income	222,456	112,456	52,456	22,456
Tax liability (15%)	33,368	16,868	7,868	3,368
ETR	<b>6.84</b>	<b>3.46</b>	<b>1.61</b>	<b>0.69</b>

Based on the above computation where the pension is tax deductible, the ETR for Category A,B,C and D has been reduced to 6.84%, 3.46%, 1.61% and 0.69% respectively.

- The new tax regime has eliminated the deduction for donations to charity and as such many of those NGOs are facing financial crisis as they were heavily dependent on such donations.

Based on the illustrations above it can be concluded that individuals with income less than Rs 25,000 are the one who have benefited significantly from the introduction of the new tax regime irrespective of the number of dependents. As for the other individuals earning more than Rs 25,000 the new tax regime is not beneficial and the tax planning has been eliminated and this do not encourage individuals to embark on any savings scheme. Besides a couple earning equal pay or are both liable to tax have a disbenefit as the number of dependents cannot be shared between them and they cannot do any tax planning as their ETR is much higher under the new tax regime.

Government need to introduce some elements of deduction to help boost up the economy and encourage for a better quality of life with more planning for the future.