

DISTRIBUTIONAL INCIDENCE OF INDIRECT TAXATION: AN EMPIRICAL REVIEW

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ABSTRACT

In this article, we reviewed the published Research works on indirect tax incidence, which describes the way of distributing indirect tax burden among households, and the purpose of this review is to identify the distributional impact of the burden of indirect tax on different groups, such as income groups, expenditure groups, commodity groups, and demographic groups, etc. The process of systematic review has been implemented in order to search, select, appraise, synthesize, and report the findings of previous studies. A government's revenue depends on several sources. Among them, indirect taxes are used as a major form of collecting government revenue, especially in developing countries. We observed major findings that there is a regressive type picture of the overall indirect tax system, which mainly impacts the vulnerable groups in a country. Indirect taxes will be paid by every household irrespective of income level. Even though the incidence theory of taxation describes the burden of indirect tax distributed among producers and consumers as per the elasticity of demand and supply, that would not happen practically. The imposition of indirect taxes leads to an increase in raw materials, then increase the cost of production and ultimately increases the price level of the country, which creates cost-push inflation. The entire portion of the indirect tax will be shifted to the end consumer. The increase in indirect taxes will be led to a rise in the tax burden on households. The burden of indirect taxation highly damages the living standards of the low-income groups in a country, especially due to the consumption tax. Households that are earning low incomes will be paid a relatively higher portion of indirect taxes than the households that have higher incomes. Past researchers have emphasized the importance of eliminating the consumption taxes on essential and most sensitive commodities, which are mostly consumed by the poor income groups.

Keywords: Indirect Taxation, Tax Burden, Households, Income, Expenditure

1. INTRODUCTION

Taxation is much important and critical part of a country and is also a sensitive topic. Studies relating to taxation might be quite uncommon in the literature. Studies on the distributional incidence of indirect taxation are also relatively difficult to find. Thus the researchers in the same area will be faced with the

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problem of finding suitable and adequate works of literature for their studies. In this article, we are expected to evaluate the previous studies on the distributional incidence of indirect taxation and present the major findings and implications in a single article. A systematic review was used for the reviewing process.

Government income is an important factor for a country. The government's current and capital expenditures will be determined based on the national income. When government income is enriched, the government can spend more on public goods. Then ultimately, the well-being of the general public is increased because the government can provide more facilities for education, health, infrastructure, etc. Government should have a proper income mechanism. Tax income is the most significant portion of government income. The government should have a proper tax system while achieving tax principles and also without harming the living standards of the public. Highly imposition of the indirect tax would be affected each and every party in the country. The imposition of direct tax has the principle of equity. This means persons who have the ability to pay will be paid more income tax. But in the case of indirect tax, irrespective of income level, every person has to pay. Poor and middle-income people will be highly affected by indirect taxes (Amirthalingam, 2010).

While further staying by Amirthalingam (2010) emphasized direct taxes, which include taxes on income, earnings, and capital gains, have generated less revenue in developing countries like Sri Lanka. Countries those were had a lower economic foundation in history have dramatically increased their direct tax revenue proportionally over a period of time. And the social and economic effects of indirect taxation are very regressive. Musgrave (1969) split the time of economic development into two parts: the early phase, during which a country's economy is relatively underdeveloped, and the later period, during which a developed economy exists. Because the majority of the population lives in rural areas and practices subsistence agriculture, there is little room for the application of direct taxes during the early period, and it is challenging to assess their incomes. As a result, indirect taxes are crucial in the early stages of economic growth. According to Kaplanoglo (2014), with respect to the impact of inequality and its unfavorable targeting of distributionally more sensitive products, the indirect tax system appears to be the most regressive. Households with children (in particular, the poorest) and unemployed were the two vulnerable population groups that were particularly negatively impacted by indirect taxes. Austerity must be prepared more carefully for policy actions to prevent further harm to social cohesion.

Plathick (1982) was concerned that one of the fundamental tenets of taxation is equity. In fact, equity is a major concern in taxation practically everywhere. According to the concept of "equity in taxation," taxes should be imposed based on a person's capacity to pay. The two dimensions of equity are typically horizontal and vertical. According to the principle of horizontal equity, taxpayers with equal income should pay the same amount of tax regardless of the source or type of their income. Vertical equity states that those with greater financial means should contribute more. According to the idea of horizontal fairness, tax rates should be the

same for persons with equal incomes. Decoster et al. (2009) emphasized that lower-income groups bear a higher indirect tax burden than high-income groups. They further stated that the indirect tax system is more regressive on poor (low-income) groups of people. Out of the income of low-income groups, a significant portion represents the indirect tax. Such people do not know whether they are paying taxes. But when they are purchasing commodities from the market, obviously, they pay taxes.

Kaplanoglo (2014) made a conclusion based on his study mentioning that the distribution of the indirect tax burden is unequal. The especially indirect tax burden is very regressive in terms of sensitive goods (essential products). Every group of people, including the poor and rich, is consuming essential products. When imposing indirect taxes on those kinds of essential products, low-income people have to ensure hire portion of the amount as a burden with respect to their income than high-income people. Kaplanoglo (2014) also found that this kind of regressive effect will be highly affected the vulnerable populations in the country, such as those who have children, particularly the poor and the unemployed. McKee (1990) and Adachi (2018) also found that there is a regressive effect of indirect taxation. That means lower-income people have to bear a higher portion of the burden of indirect tax relative to their income than higher-income people. Ranasinghe (2018) expressed his idea while publishing a newspaper article that the richest 10 % of the population pay less than 1% in indirect taxes, while the poorest 20% pay up to 13 % and the poorest 10% up to 23% of their income as indirect taxes.

2. THEORETICAL ASPECTS OF INDIRECT TAXATION

Seligman (1982) claims that the process of transferring a tax is known as shifting the tax, while the process of allocating the burden to the final taxpayer is known as the incidence of the tax. Seligman (1982) goes on to explain the difference between a tax's "incidence" and "pressure," as well as how "the weight hanging on the customer" may be bigger than the tax itself. However, the incidence cannot be more than the tax's amount because the incidence is impossible without generating a matching amount of money for the Treasury. Seligman (1892) justified that the amount of tax added to the price is mostly determined by how high the tax is in relation to how much is produced and how elastic the demand is. Fullerton and Metcalf (2002) stated that the burden of a tax is demonstrated to rely on the supply elasticity in relation to the demand elasticity in a partial equilibrium model. The partial equilibrium model in economics can be defined as the analysis of only a single market. According to the theory of incidence of taxation says, how indirect tax burden goes among producers and consumers based on the low of elasticity (elasticity of demand and supply). The theory says some part of the tax will be borne by the producer, and the balance part of the tax will be borne by the consumers.

But practically, the entire tax imposition will be shifted to the consumer by the producers or suppliers. That is the practical aspect of indirect taxation. Practically no indirect tax portion will be borne by the producers (Kaplanoglo, 2014). The

authors of a recent assessment of studies on the distributional effects of consumption taxes in OECD (Organization for Economic Co-operation and Development) nations confirmed the said argument while claiming that all tax-shifting assumptions are contentious. In the end, simplistic assumptions are made about tax shifting. For example, in the case of consumption taxes, the typical assumption is that they are fully sent to the final consumer of the commodity or service (Warren, 2008).

3. THE DISTRIBUTIONAL ASPECTS OF INDIRECT TAX

Decoster et al. (2009) study focused on the distributional picture of indirect taxes while investigating the incident of indirect tax for five European countries, namely Belgium (BE), Greece (GR), Hungary (HU), Ireland (IE), and the United Kingdom (UK) belong to the OECD. They further mentioned the indirect tax instrument plays a significant role, which contrasts sharply with the scant attention it received from the microsimulation community. Instead of indirect taxes, the majority of Microsimulation Models (MSMs) have concentrated on the micro-mathematical modeling of social security contributions, personal income taxes, and other benefits. According to Decoster et al. (2009), the reason for that is not because there isn't enough theoretical groundwork to study indirect taxation. The direct-indirect tax mix and indirect taxes have both been studied extensively in theoretical public finance research. It also cannot be brought on by the legislation's complexity regarding indirect taxes. Indirect taxes have more straightforward systems than direct taxes. The study held by Decoster et al. (2009) found indirect tax liability as a percentage of the disposable income of poor people is relatively higher than that of rich people. Indirect taxation is clearly regressive in all nations when compared to disposable income. Across the equivalised income spectrum, the tax rate is monotonically declining. In all nations, the bottom 10% of taxpayers pay at least twice as much in indirect taxes as the top 10%. The picture shows that the burden of indirect taxes is highly impacting low-income people. The unequal distribution of the indirect tax burden can be presented in the following table 01.

Table 1: Indirect Tax Payment as a % of Disposable Income

Income Deciles	(BE)	(GR)	(HU)	(IE)	(UK)
One	26.80	28.60	25.70	24.80	20.60
Two	13.60	22.60	19.30	19.50	14.80
Three	13.30	19.20	17.60	16.60	13.50
Four	12.80	18.80	16.70	15.20	12.50
Five	12.40	17.70	15.80	15.50	11.80
Six	11.80	16.20	15.40	14.20	10.90
Seven	11.60	15.80	15.10	13.10	10.80
Eight	11.00	14.90	14.70	12.40	10.10
Nine	10.80	14.20	14.40	11.00	9.30
Ten	9.60	11.90	12.80	7.80	7.50

Source: Decoster et al. (2009)

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According to the findings of the study of Decoster et al. (2009), it can be clearly found that there is an unequal distribution of indirect tax burden among income groups in all five countries. Income decile one starts from the poorest, and decile ten ends with the richest group. The first four deciles represent low-income households having a higher indirect tax burden. In some countries like Greece, poor people pay more than 28% of indirect taxes to the government compared with their income. The worst case can be seen in the decile one. The poorest group pays much higher indirect tax. The ninth and tenth deciles represent the richest groups in a country. Table 01 shows that high-income groups pay a relatively low indirect tax portion than poor people. Such type of regressive impact badly impacts poor people.

Decoster et al. (2009) also presented VAT (Value Added Tax) and excise duty payments as a percentage of the income. The results showed a regressive effect of VAT over the excise duty because more essential products are liable for VAT which is highly consumed by poor-income households. Essential products have relatively inelastic type demand. Thus poor people may not be able to alter the consumption of such products. The government also knows this social scenario and imposes indirect taxes on consumption for the easy collection of income. On items like gasoline, tobacco, and other items, excise taxes are imposed with frequently high implicit rates. VAT and excise duty payment as a percentage of disposable income has been presented in table 02.

Table 2: VAT & Excise Duty as a % of Disposable Income

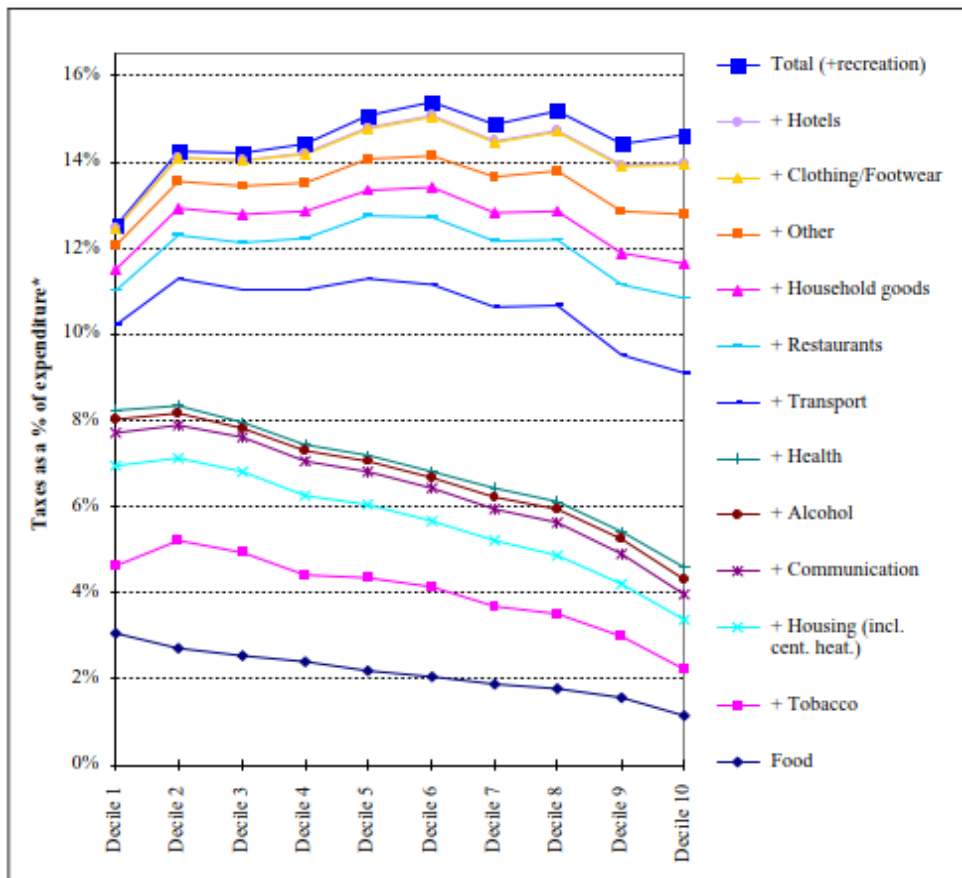
Income Deciles	(BE)		(GR)		(HU)		(IE)		(UK)	
	VAT	Excise	VAT	Excise	VAT	Excise	VAT	Excise	VAT	Excise
One	21.1	2.7	22.0	3.7	13.9	6.7	24.9	4.7	31.7	9.6
Two	11.8	1.8	16.8	2.5	10.1	4.7	17.1	3.6	14.2	5.5
Three	11.5	1.8	15.3	2.3	9.3	4.2	16.4	3.6	12.0	4.6
Four	11.0	1.8	14.6	2.1	8.6	3.9	15.6	3.3	10.4	4.1
Five	10.7	1.7	13.8	2.0	8.1	3.6	15.6	3.3	10.9	4.6
Six	10.1	1.7	13.5	1.9	7.6	3.3	14.3	3.0	10.2	4.6
Seven	9.9	1.7	13.2	1.9	7.6	3.2	13.3	2.9	9.3	4.1
Eight	9.3	1.7	12.8	1.9	7.0	3.0	13.1	2.8	8.7	3.9
Nine	9.2	1.7	12.5	1.9	6.6	2.7	11.8	2.5	7.8	3.3
Ten	8.1	1.5	11.1	1.7	5.5	2.0	10.4	2.1	5.9	2.5

Source: Decoster et al. (2009)

Kaplanoglu (2014) conducted a study to investigate the distributional impact of indirect taxation using a household expenditure survey in Greece (1899 – 2011). The study found that, in terms of its impact on inequality and its unfavorable burden on sensitive products, the indirect tax system appears to be the most regressive over the time under study. Families, including children (particularly the poorest ones) and the unemployed, were two vulnerable population groups that were particularly negatively impacted by the measures.

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In addition, Kaplanoglo (2014) presented another aspect of the indirect tax burden. The researcher found a pattern of indirect tax payment by the commodity groups. These graphs display the cumulative distribution of tax payments taken into account at the level of a particular good or service, with taxes classified according to their regressivity. Regressive taxes, including those on food, cigarettes, housing, health, and communication, are clearly grouped together. According to the findings of the study, food, cigarettes, and housing taxes expenses affected badly on poor households in terms of the indirect tax burden. Food-related indirect taxes ranked as the most regressive taxes overall. Particular findings will be presented in figure 01.



Source: Kaplanoglo (2014)

Figure 1: Cumulative Indirect Tax by Decile By Commodity Group

Kaplanoglo (2014) found that most families with children, for whom such expenses are more inelastic, appear to have been impacted by the significant increase in transportation taxes. They focus on serving the poorest 10% of this population group, spending the majority of their income on basic needs like food and housing. It is important to note that for this particular population group, the increase in taxes on food and housing as a proportion of total spending is nearly two times higher than the average of the country.

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Savage and Tim (2015) made attention to finding the distributional effect of indirect taxation. They discovered that, based on Ireland's 2009 and 2010 VAT systems, the lowest equivalized income decile of families paid roughly 16% in VAT out of their discretionary income, whereas the wealthiest families paid only about 6%. The biggest percentage would be paid by the poorest households as VAT from the disposable income.

According to Savage and Tim (2015), the indirect tax system in 2010, table 03 shows the amount of disposable income that is spent on indirect taxes across the income spectrum. The outcomes demonstrate how Ireland's indirect tax structure is regressive. The bottom decile (poorest 10%) is estimated to have paid over one-fourth of their disposable income as indirect taxes. On average indirect taxes are in regressive manner for poor households.

Table 3: Indirect Taxation by Income Decile - 2010 as a % of Disposable Income

Income Decile	Actual %	Estimated %	Imputed %
1	24.6	17.6	20.5
2	15.3	14.4	15.2
3	14.6	12.6	12.7
4	12.6	11.7	11.4
5	12.1	14.4	11.6
6	11.7	10.9	10.7
7	10.0	10.1	9.7
8	9.7	9.0	9.8
9	9.0	8.2	8.6
10	6.4	6.5	6.6

Source: Savage and Tim (2015)

A study was conducted by Husain & Ayesh (2021) in the Iraq context regarding the impact of indirect taxation. He argued that indirect taxes are a significant source of funding, but as they rise, the burden is transferred from the taxpayer to another expense where it is produced, exported, or imported in some way, and the burden is on the final consumer indirectly through the high prices of goods produced, exported, or imported.

Amirthalingam (2010) has presented a quite different idea than previously said researchers. He mentioned that high direct taxes might cause discourage entrepreneurs. So a lower direct tax rate should be implemented in order to better economic growth. The particular researcher further emphasized that indirect taxes and direct taxes are played different roles in developing countries. The governments of developing countries are trending to impose more indirect tax than direct due to the easiness of administration and collection of tax. Further, he argued that indirect taxes acts as more regressive on poor people since indirect taxes are affected regardless of their income or ability to pay.

While conducting a study in Japan, Adachi (2018) stated that, as a result of indirect tax, the cost of households would increase, especially due to the consumption tax. The burden will fall disproportionately on low-income groups. The consumption tax's regressivity has become problematic because it affects Japan's lower-income groups more severely.

4. INDIRECT TAXES AND THE POOR

Richard (1987) reviewed that according to the studies of the incidence of taxation, all indirect taxes are in regressive form. This study covered 22 developing countries. DeWulf (1975) Supported that argument while presenting that a large proportion of the income of poor people is sacrificed as indirect tax. So there can be seen a regressive effect at the bottom of the income deciles (poor income groups). That means poor people are highly vulnerable in front of indirect taxation. McLure (1977) found that the incomes of the urban poor were taxed at an average rate of 10%, whereas the incomes of the rural poor were taxed at a somewhat lower rate. McLure (1977) also conducted a study in Jamaica and found that indirect taxes make up the majority of the taxes paid by the island's lower half of the population, which account for close to 20% of total income taxes. Tobacco is also hardly taxed, and that would be the most regressive tax in Jamaica. Since tobacco products are highly consumed by the poor population, the regressive effect of the tobacco tax will be affected poor households. Wasylenko (1986) found that food is hardly taxed in Jamaica, which caused the welfare of the poor population. Omodero (2020) mentioned that while introducing a new finance act in Nigeria, necessary and essential items that are highly consumed by poor households have been exempted from the VAT. A few items of VAT-exempted products in Nigeria can be listed as milk, nuts, seasoning oil, infant food, books, learning resources, medicine, pharmaceutical products, and nourishments.

5. THE EFFECT OF INDIRECT TAXATION ON INEQUALITY

Researchers have used different inequality measures in order to measure the inequality of the distribution of indirect tax burden. As the study conducted by Kaplanoglo (2014), in Greece, it has been used different inequality indices represent various value judgments regarding the importance of people's welfare in various distributional segments. He has used the Gini index, Atkinson index, and Theil Index to measure inequality measurements. Table 04 represents how inequality changes (increase or decrease) with the indirect tax system in 1988, 2002, 2005, 2008, and 2011. It can be seen a minor distributional effect in 1988 since a uniform tax was implemented. After 1988, the indirect tax system appeared to have an adverse distributional effect. Table 04 shows 2011 was the most regressive period after 1988 (Kaplanoglo, 2014).

Table 4: Change in Inequality with Indirect Tax System

Inequality Measure	1988	2002	2005	2008	2011
Gini Coefficient	-1.8%	0.3%	-0.8%	0.0%	0.7%
Atkinson ($\varepsilon = 0.5$) $A_{0.5}$	-3.5%	0.0%	-1.8%	-0.1	2.1%
Atkinson ($\varepsilon = 1$) A_1	-3.7%	0.6%	-1.8%	-1.1%	1.2%
Atkinson ($\varepsilon = 2$) A_2	-3.3%	-0.3%	-1.9%	-0.2%	0.3%
Theil Index (T)	-3.8%	1.0%	-1.8%	-0.2%	0.4%
Theil Index (N)	-3.9%	0.3%	-1.9%	-0.1%	2.0%

Source: Kaplanoglo (2014)

Decoster et al. (2009) Also used Suits Index to measure the regressive effect of indirect taxation. Decoster et al. (2009) conducted a study in 5 Europe countries to investigate the unequal distribution of the indirect tax burden. As per the findings, the Suits Index was negative for all countries, reflecting the regressive effect demonstrating that people with lower incomes pay an amount of indirect taxes that is a greater portion of disposable income. In Greece, this rate of regressivity is the highest. Out of the five countries, the UK is the country that has the lowest regressive rate. Decoster et al. (2009) Further stated that in all nations, the bottom 10% of taxpayers pay indirect taxes two times more than the top 10%. Suits index lies between -1 to +1. Index value positive for a progressive tax, which means higher tax will be paid by the higher income people. The index value is negative for a regressive tax system in which lower-income people or households pay a higher portion of indirect tax. The index value is zero for proportional tax, which represents each people paying equal taxes. The index value gets a positive one (+1) when the richest people pay all the taxes, and the index value gets the negative one (-1) when the poorest people pay all taxes.

According to Decoster et al. (2009) study, overall indirect tax payment as a percentage of disposable income for all countries is regressive, as presented in table 05. The regressive effect is reflected by negative suits index values. As well the Gini coefficient is also used to present the inequality distribution.

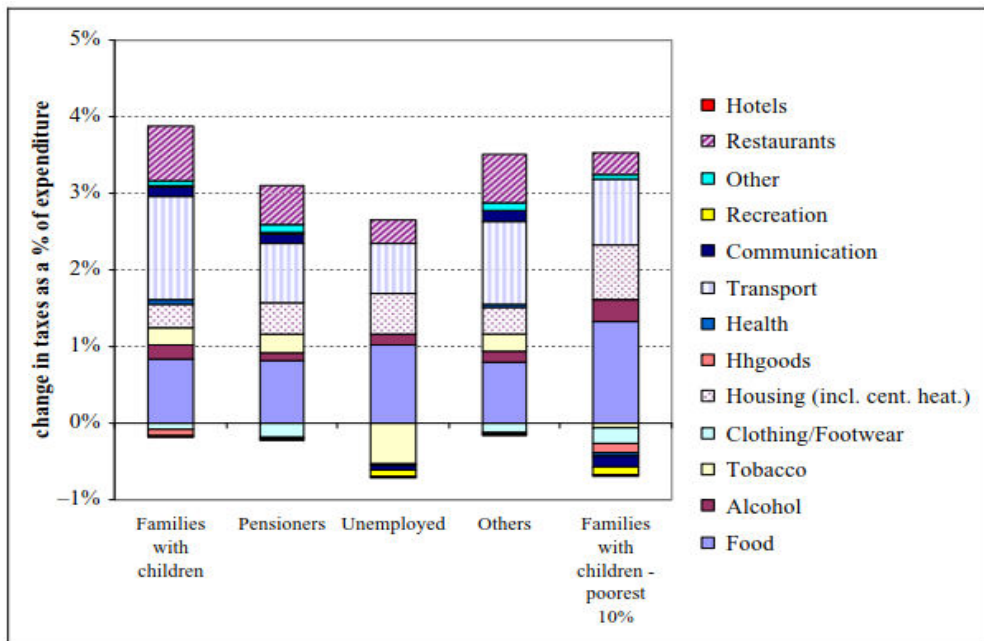
Table 5: Regressive Effect of Indirect Taxation

	Country				
	BE	GR	HU	IE	UK
Average Income Tax	11.8	15.7	15.3	13.2	10.3
Suits Index	-0.079	-0.101	-0.086	-0.143	-0.120
Gini Coefficient	0.319	0.324	0.318	0.331	0.368

Source: Decoster et al. (2009)

6. INDIRECT TAX BURDEN BY DEMOGRAPHIC GROUPS

Researchers have made their attention on the indirect tax burden among different groups. Kaplanoglo (2014) found that poor people have more burden of indirect tax than the non-poor. Although households' indirect tax burden has increased significantly, there have been notable differences among commodities and demographic groups. Not all commodity groupings were equally impacted by tax increases. Families with children, particularly those in the lower half of the benefit distribution, were the most impacted. Figure 02 describes the situation.



Source: Kaplanoglo (2014)

Figure 2: Change in Indirect Tax Burden by Demographic Groups

Decoster et al. (2009) Found a regressive image of several groups (poor vs. non-poor) in five countries. Some groups in some countries have to pay more than 25% of their income as an indirect tax. In Belgium, on income support group paid 36% of income as indirect tax. And the same group in Hungary and the United kingdom paid 25.8% and 26.1%, respectively, which is almost a quarter of their disposable income. This reflects a significant regressive effect on low-income households. Non-poor households paid a lesser portion of disposable income as indirect taxes. The scenario is presented in table 06.

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Table 6: Indirect Tax Payment as a % of Disposable Income by Category

	Country				
	(BE)	(GR)	(HU)	(IE)	(UK)
Poor Income Group	21.10	20.50	23.00	20.90	16.70
Non-poor Income Group	11.30	15.10	14.80	15.50	9.30
Income Support Group	36.00	14.10	25.80	17.50	26.10
Retired Group	12.10	13.10	13.20	20.20	10.00
Unemployed Group	12.20	17.60	16.10	18.90	13.60

Source: Decoster et al. (2009)

7. THE RELATIONSHIP BETWEEN INDIRECT TAXES AND ELASTICITY

Decoster et al. (2009) His study showed how indirect tax burden is associated with expenditure elasticity. He considers nondurable commodity baskets, and respective elasticities were taken into account. The finding showed that lower expenditure elasticity (elastic demand products) has lower indirect tax rates, and relatively higher elastic products (inelastic products) have higher rate of indirect tax rates. When imposing indirect taxes on commodities, a government considers the respective elasticities of demand. Also the correlation between elasticity and tax rates is also measured by weighting the average budget share. Values of the correlation between tax rates and the elasticity lie between -1 and +1, representing an equity-centered policy. All correlation values were close to zero. The results suggested the independence between tax rates and elasticities. Results are presented in table 07.

Table 7: Expenditure Elasticities and Average Tax Rates

Commodity Groups	BE		HU		IE		UK	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
1. Food, non-alcoholic beverages	0.42	8.10	0.66	15.50	0.55	4.20	0.51	2.10
2. Alcoholic beverages	0.94	43.90	1.19	64.30	1.15	26.60	1.13	89.70
3. Tobacco	0.54	162.90	0.42	273.00	0.44	299.30	0.60	414.70
4. Clothing and footwear	1.25	20.80	1.25	25.00	2.14	16.30	1.58	14.10
5. Home fuels and electricity	0.53	23.50	0.44	15.00	0.33	14.40	0.21	5.00
6. Rents	0.34	0.00	0.46	0.00	0.43	0.00	0.35	0.00
7. Household services	1.25	16.40	1.19	20.90	1.27	16.30	1.03	12.20
8. Health	1.00	2.80	1.01	5.50	2.46	1.00	1.51	0.00
9. Private transport	1.72	34.70	2.25	79.00	1.24	75.40	1.11	58.80
10. Public Transport	0.30	6.00	0.35	25.00	0.42	0.00	0.34	0.00
11. Communication	0.68	20.20	1.06	24.90	0.67	19.10	0.51	16.50
12. Recreation and Culture	1.08	11.90	1.30	11.90	1.04	12.40	1.12	13.60
13. Education	0.15	1.80	0.28	0.00	0.23	1.90	0.18	0.00

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14. Restaurants	1.63	12.80	2.23	14.00	1.40	14.40	1.46	17.50
15. Other goods and services	1.48	8.50	1.59	22.80	1.62	3.10	1.26	8.50
16. Home production			0.64	0.00				
Correlation between. (1) and (2)	0.0410		0.0394		-0.0664		-0.0338	

Source: Decoster et al. (2009)

(1): The Total Expenditure Elasticity

(2): Indirect Tax Rates (%)

8. INDIRECT TAXES AND EXPENDITURE

Kaplanoglou and Newbery (2003) took place a study in a Greece context regarding the burden of indirect taxation in the years 1988 and 2002. They have been ranked indirect taxes based on regressiveness. Findings were showed that a huge part of the indirect tax strongly regressive, especially indirect taxes on essential goods such as food households and health products, and also tobacco products. Table 08 presents the indirect tax burden in expenditure groups in 1988 and 2002.

Table 08 depicts the indirect tax burden with respect to the expenditure groups, not the income groups. According to the findings, the poorest 10% of households are born at 9.36%, and the richest 10% of households are born at 12.81% of the burden of indirect taxation, respectively. Accordingly, the richest households are paid more indirect taxes than the poorest households because richer households are consumed a higher consumption basket than poor households. So richer households have a much higher expense on consumption than poor households. Because of the high consumption in richer households, they pay a higher portion of indirect taxation (Kaplanoglou & Newbery, 2003).

Table 8: Indirect Tax Burden by Expenditure Groups, 1988 - 2002

Households grouped by equivalent nondurable expenditure (OECD scale)	The average percentage of tax in total expenditure in 1988	The average percentage of tax in total expenditure in 2002
Poorest 10%	9.36	9.97
11%-20%	10.69	11.00
21%-30%	11.27	12.04
31%-40%	11.62	12.04
41%-50%	11.88	12.34
51%-60%	12.04	12.24
61%-70%	12.86	12.65
71%-80%	12.75	12.09

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81%-90%	12.70	11.77
Richest 10%	12.81	10.76
All Group Average	11.80	11.70

Source: Kaplanoglou and Newbery (2003)

9. CONCLUSION

When looking at the previous Research done by different scholars on indirect taxation, it can be concluded that there is a regressive effect of indirect taxation on low-income groups in a society. Regressive effect in a sense, low-income people have to bear a higher portion of the indirect tax burden than the high-income groups. Unlike direct taxes, all kinds of indirect taxes are distributed to the entire population in a country. Indirect taxes are violated the equity principle of taxation because it affect people irrespective of their income and ability to pay. However, the theories have described the distribution of indirect tax on a different basis among producers and consumers, which is not happening in the real world. The entire indirect tax portion will be shited to the consumers.

Governments of particular countries are trending to impose more indirect taxes on consumption for the easiness of collection of government revenues. The imposition of indirect taxes on consumption, especially on essential commodities, will lead to an increase in the cost of living for poor people. Poor people own relatively low and unstable sources of income. When the government increases indirect taxes, the portion of the indirect tax burden of poor people also will rise. The disposable income for the consumption of poor people declines due to the imposition of higher indirect taxes. This means poor-income people pay a significantly higher portion of the amount to the government as indirect tax from their limited income. Thus poor people may not be able to fulfill their basic and social requirements. The said scenario is a critical situation for a country. Declining the disposable income of poor people due to the indirect tax will lead to different economic and social problems in society.

Government, policymakers, and economists of a country should rethink the imposition of indirect taxes. Poor people are the most vulnerable community due to indirect taxation. Thus any government should protect them. The imposition of indirect taxes on consumption, especially of essential goods, further and further squeezes the tax burden of poor people. The optimal direct and indirect tax composition is essential for a better living standard in a country.

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