**UNIVERSITI PUTRA MALAYSIA**

# *SOURCES OF VALUE ADDED TAX AND ITS EFFECTS ON ECONOMIC GROWTH IN DEVELOPING COUNTRIES*

**SEYED HOSSEIN GHAFFARIAN KOLAHI**

**FEP 2018 30**

# SOURCES OF VALUE ADDED TAX AND ITS EFFECTS ON ECONOMIC GROWTH IN DEVELOPING COUNTRIES

By

**SEYED HOSSEIN GHAFFARIAN KOLAHI**

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in Fulfilment of the Requirements for the Degree of Doctor of Philosophy**

**November 2017**

# DEDICATION

*This dissertation is wholeheartedly dedicated to my beloved wife*

*Samira Aghaei*

*for standing beside me here and there*

Abstract of thesis presented to the Senate of the Universiti Putra Malaysia in fulfilment of the requirement for the Degree of Doctor of Philosophy

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**November 2017**

**Chairman : Zaleha Bt Mohd Noor, PhD**
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Today the role of economic growth for its effect on social welfare is undeniable. For this reason, the factors influencing the economic growth are taken into account by policymakers and researchers. On the other hand, the value added tax (VAT) has been considered by most of the countries due to its numerous advantages and benefits. Hence, investigating how this type of tax affects the economic growth seems to be indispensable, particularly in developing countries. This research was established to investigate the effect of VAT on economic growth and its sources in developing countries. To this end, three objectives were formulated. The first objective was to evaluate and estimate the effect of VAT on economic growth in developing countries. The second objective was to estimate the effect of VAT on the sources of economic growth including physical capital accumulation and productivity growth in developing countries. Moreover, the third objective was to evaluate the effect of VAT on the saving in developing countries. The study employed the Generalized Method of Moments (GMM) panel estimators developed for dynamic models of panel data, proposed by Arellano and Bond (1991) and Blundell and Bond, (1999) to estimate the models. The empirical results related to the first objective showed a positive significant effect of VAT on economic growth using panel data of 62 countries for the period of 2003-13, suggesting that an increase in VAT will result in higher economic growth. The empirical results related to the second objective using panel data of 62 countries for the period of 2003-13 revealed that VAT had a significant positive effect on both sources of economic growth including capital accumulation growth and productivity growth. The empirical results related to the third objective using panel data from 62 countries for the period 2003-13 showed that the variable VAT had a significant negative impact on saving, suggesting that countries with increased VAT results in lower levels of saving. Based on the results, an increase in VAT leads to an increase in economic growth but this increase in economic growth is due to an increase in tax revenues, not due to an increase in saving.

**Keywords**: value added tax (VAT), economic growth, capital accumulation, productivity, saving, developing countries

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

**PUNCA-PUNCA CUKAI NILAI TAMBAH DAN KESANNYA TERHADAP PERTUMBUHAN EKONOMI DI NEGARA-NEGARA SEDANG MEMBANGUN**

Oleh

**SEYYED HOSSEIN GHAFFARIAN KOLAHI**

**November 2017**

**Pengerusi : Zaleha Bt Mohd Noor, PhD**
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Hari ini, peranan pertumbuhan ekonomi serta kesan-kesannya ke atas kebajikan sosial tidak dapat dinafikan. Oleh sebab itu faktor-faktor yang mempengaruhi pertumbuhan ekonomi adalah diambilkira oleh pengubal dasar serta penyelidik. Cukai nilai tambah (CNT) telah dipertimbangkan oleh kebanyakan negara kerana ia mempunyai pelbagai kelebihan serta faedah. Oleh itu menyiasat bagaimana cukai jenis ini mengesani pertumbuhan ekonomi adalah tidak dapat dielakkan, terutama di negara-negara sedang membangun. Penyelidikan ini dibuat untuk menyiasat kesan CNT ke atas pertumbuhan ekonomi serta sumber-sumbernya di negara-negara sedang membangun. Tiga objektif telah dibentuk. Objektif pertama adalah untuk menilai dan menganggar kesan CNT ke atas pertumbuhan ekonomi di negara-negara sedang membangun. Objektif ke dua adalah untuk menganggarkan kesan CNT ke atas sumber-sumber kepada pertumbuhan ekonomi seperti pengumpulan modal fizikal serta pertumbuhan daya pengeluaran di negara-negara sedang membangun. Selain daripada itu objektif ke tiga adalah menilai kesan CNT ke atas tabungan di negar-negara sedang membangun. Kajian ini menggunakan penganggaran panel mengikut Kaedah Am Momen yang dibangunkan bagi model data panel dinamik, yang dicadangkan oleh Arellano dan Bond (1991) serta Blundell dan Bond (1999), bagi menganggarkan model-model. Hasil dapatan empirik berhubungan dengan objektif pertama menunjukan kesan positif bererti dari CNT ke atas pertumbuhan ekonomi menggunakan data daripada 62 negara bagi tempoh 2003-2013, yang menunjukkan pertambahan dalam CNT akan menghasilkan pertumbuhan ekonomi yang lebih tinggi. Hasil dapatan berkaitan dengan objektif ke dua yang menggunakan 62 negara bagi tempoh yang sama, menunjukkan CNT mempunyai kesan positif bererti ke atas kedua-dua sumber pertumbuhan, iaitu pertumbuhan pengumpulan modal fizikal serta pertumbuhan daya saing. Hasil dapatan untuk objektif ketiga yang menggunakan data serta tempuh yang sama mendapati CNT mempunyai impak negatif yang bererti ke atas tabungan, menunjukkan negara-negara yang meningkatkan CNT, akan mengalami tingkat tabungan yang lebih rendah. Berdasarkan dapatan kajian, pertambahan CNT akan menyebabkan bertambahnya pertumbuhan ekonomi, tetapi pertambahan ini adalah disebabkan oleh pertambahan hasil cukai, bukan disebabkan oleh pertambahan tabungan.

**Katakunci**: Cukai nilai tambah (CNT), pertumbuhan ekonomi, pengumpulan modal, daya pengeluaran, tabungan, negara-negara sedang membangun.

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This thesis was submitted to the Senate of Universiti Putra Malaysia has been accepted as the fulfilment requirement for the degree of Doctor of Philosophy. The members of Supervisor Committee were as follows:

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This is to confirm that:

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# INTRODUCTION

## 1.1 Background of study

Increase in taxes was supposed to raise the government revenues. However with the changes in ideologies, belief systems and conditions, the aim of taxes has differed. Nowadays, aside from the goal of raising the public revenue, taxes level affect consumption, production and distribution to ensure the social welfare via the economic development of a country. Taxes are regarded as important tools and can be used in the following different ways: raising government revenue, stability of prices, economic growth, and encouraging investments (Edame & Okoi, 2014).

Taxes are regarded as compulsory levy forced by the governments. It can include income, properties and profits of people and companies. It will help the governments which have no other compensatory benefit. Taxes are of two types: direct and indirect. Direct taxes are the ones which are imposed on the income, profits and properties of individuals and corporate bodies. Among different kinds of direct taxes one can point to personal income tax, companies' income tax, petroleum profit tax, capital gains tax, education tax and etc. on the other hand, indirect taxes are levied on goods and services. In fact, these taxes are imposed on the fully or partially on the End-consumer that is even unaware of the time he makes payment or the exact amount of payment. Among the examples of indirect tax Value Added Tax (VAT) is the most famous (Madugba & Azubike, 2016).

The VAT success was a proof on its practicality in the EU. The steady support and promotion of the VAT by the IMF and others first in Latin America and later in other countries around the world advanced and facilitated the adoption of VAT with less developed economic and administrative structures than those in the original EU member states. Along with this move, all the non-EU countries of the OECD, apart from America, began to adopt VATs one by one for various reasons (Bird, 2005).

VAT introduction in developing countries may raise different problems and may have its own challenges. The presentation in developing countries is within an economic liberalization program which includes reductions in tariffs and it is often recommended by international advisory bodies such as the IMF or World Bank. Developing countries try to retain excise taxes to offset revenue losses from tariff reductions in order to keep their tax revenues high. Therefore VAT has changed to an additional tax rather than a replacement for existing taxes and it may lead to more difficulties for different businesses. Developing countries especially the ones with strong and large informal sectors have several problems dealing with VAT laws. VAT in the most of developing countries is collected from imports and the remaining part is collected from large taxpayers (Smith, Islam and Moniruzzaman, 2011).

Value Added Tax is defined as a consumption tax levied on the increase in value of goods and services in during their production or supply. It may influence the economic growth of a country through affecting the rate of production and consumption (Ibadin & Oladipupo, 2015; Jayakumar,2012).

Identifying the impact of VAT on the major economic indicators, such as consumer spending and economic growth, means a lot to the traders, academics and policymakers. Two major problems in developing countries are poverty and unemployment. Indeed, unemployment has a reverse relationship with economic growth, meaning that the higher the economic growth, the lower unemployment (Figure 1.1).

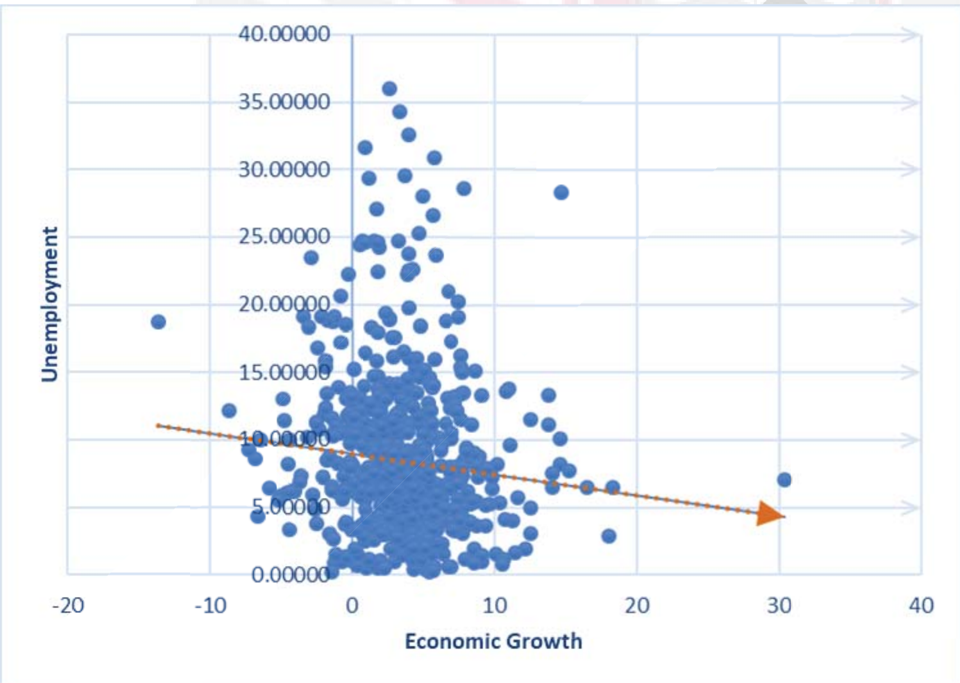


**Figure 1.1: Economic Growth vs Unemployment in developing countries**

Moreover, economic growth has a positive correlation with living standards; therefore, by an increase in economic growth, living standards could be increased in developing countries (Figure 1.2).

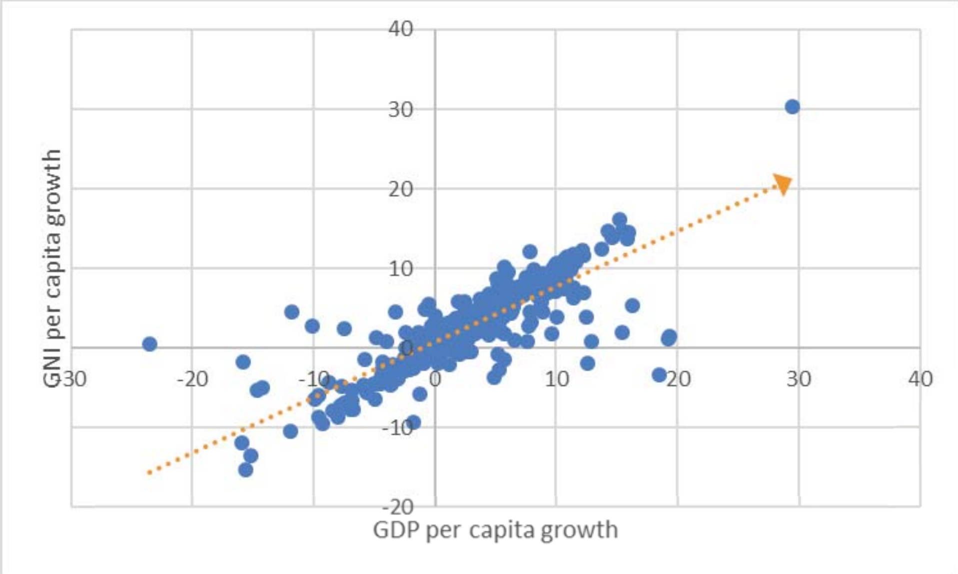


**Figure 1.2: Economic Growth vs living standards in developing countries**

Attentions have been directed toward the effect of tax policy on economic behaviour in recent years particularly on saving and consumption. In many countries, this per se leads to numerous proposed tax reforms which support the replacement of the income-based tax with a comprehensive consumption-based tax (EL-Ganainy, 2006).

Vats do not distort consumption-savings/investment decisions and that's why they have become one of the most popular types of taxes. Vats have other advantages too. in fact, cascading of taxes which sometimes occur with consumption taxes are rare in VATs because sellers can claim a credit for VAT paid on their inputs(Smith et al., 2011).

Several characteristics are mentioned dealing with general consumption taxes. First, it is believed that consumption taxes are more helpful for economic development than income taxes since they influence the savings and on labour supply. Income taxes impose on savings and on the income from savings (interest) but General consumption taxes can encourage savings and they may lead to increase in investment and growth because they do not impose on the savings. Furthermore, general consumption taxes don't play a crucial role on the hard working people. Progressive income tax system makes people reluctant to work harder and earn more since the more you earn and the more you work the more you have to pay taxes. Despite income taxes, General consumption taxes encourages the saving culture and increases labour supply and therefore affects economic growth (Miki, 2011).

## 1.2 Value added tax (VAT)

Consumption taxes are mainly divided into two types. One is general consumption taxes, which is imposed on an extensive range of goods and services. It is named VAT. The other is excise taxes, which are imposed on specific goods and services like alcoholic drinks, tobacco, gasoline, etc.(Miki, 2011).

According to Wilhelm Von Siemens, a German businessman, is credited with coming up with the idea of VAT in the 1920s. When a business company buys the things it needs in producing its own product from other firms, it adds a tax on the value of those things which is called a value added tax (VAT). In 1954 the VAT was executed in France. In many countries these types of indirect taxes like VAT generate the considerable part of tax income. As IMF has supported it strongly, it has expanded too fast as it has been executed in 156 countries now and it earns about one-quarter of all tax income of these countries. . Despite its name, the VAT is not generally intended to be a tax on value added as such; rather it is usually intended as a tax on consumption (Smith et al., 2011; Njogu 2015).

Onwuchekwa and Aruwa (2014) point out VAT is a tax on estimated market value added to a product or service at each stage of its manufacture or distribution and the additions are ultimately added to the final consumer. In this way as the consumers cannot regain the tax paid on the goods and services that they receive, the burden or incidence of taxation must be endured by the last person who uses the products or services. However, businesses pay VAT for the goods and services which are like intermediate products and they use them as a part of their production which is going to be presented to other businesses or the final consumer, so they can regain VAT they pay. Value added tax levied at each stage on value added in the economic chain of supply and it is a constant rate (Onwuchekwa and Aruwa, 2014; Njogu, 2015).

It is believed that VAT is an efficient tax system and that can be the main reason for its accelerated spread. (For other reasons we can mention its high efficiency in revenue, its correspondence with outward-oriented economic policy, and also its simplicity from the point of view of administration(Bird, 2005; Bird, Martínez-Vázquez &Torgler, 2005).

A VAT is affected by the tax charged at all levels of production process in order to restore the full credit of the companies and the VAT that has been charged on the goods and services they used as their input. Then a VAT does not have an influence on the amount that the companies finally pay for their inputs and it does not cause the cascading effect – the tax-on-tax as the good passes from one company to another- therefore a VAT prevents the production from being distorted.(Jayakumar, 2012; Onwuchekwa & Aruwa, 2014; Adhikari, 2015; Simionescu & Albu, 2016; Pant 2016).

In reality, there are two main factors in choosing among taxes and they are the administrative costs of taxes and the risk of evasion. Considering these factors, VAT has some merits, the most obvious one is its low rate of evading chance as it uses strict invoice methods. According to these methods, credit mechanism allows sellers to claim for any VAT paid by them at purchase time which are required to manufacture the goods or services they sell. Sellers, confronted with any kind of VAT having the responsibility to make a payment while goods sale and services, are supposed to redeem those credits of VAT. Provided that they give invoices for the VAT they had paid on their inputs, sellers may claim those credits of VAT. Followed by this, VAT discourages tax evasion since the taxpayers have the inclination to give and receive receipts for VAT input paid that is bought to enable them receive credit on the VAT they are required to pay when selling their final product or service. Since receipts are required at both ends of transaction, taxpayers themselves can provide checks against one another. One cannot apply this method to other kinds of general sales taxes such as the turnover tax and retail sales taxes (Lao-Araya, 2008; Brhane, 2013).

An efficient and proper implementation of VAT will have a good impact on the income distribution among citizens of countries and will develop the saving patterns of citizens while having a negative impact on the consumption patterns to the opposite (Brhane, 2013).

## 1.3 Developing Countries

For the current fiscal year, low-income economies are defined as those with a GNI per capita, calculated using the *World Bank Atlas* method, of $1,045 or less in 2013; middle-income economies are those with a GNI per capita of more than $1,045 but less than $12,746; high-income economies are those with a GNI per capita of $12,746 or more.

The World Bank categorizes all low- and middle-income countries as developing but asserts that the use of such a term is convenient because it does not mean that all economies in the group are experiencing similar development or that other economies have reached a preferred or final stage of development. This type of classification which is according to the income does not necessarily reveal the development status (World Bank, 2017).

Based on International Monetary Fund (IMF), a flexible classification system is used that considers (1) per capita income level, (2) export diversification—so oil exporters that have high per capita GDP would not make the advanced classification because around 70% of its exports are oil, and (3) degree of integration into the global financial system. It seems that this classification is better than the one offered by the World Bank classification as it utilized other indexes in addition to per capita income. It is necessary to notice that in this study, the definition of IMF is used for recognizing the developing countries. Table 1-1 displays the list of developing countries according to the international Monetary Fund's World Economic Outlook Report, April 2017 (Appendix A).

## 1.4 VAT in developing countries

Globalization is an irrefutable fact in the world history. During the last twenty years and by the time the Berlin wall collapsed, many developing countries became members of the global markets. Developing countries had to follow certain rules for participating in the globalization phenomenon. These rules included privatization of public services, elimination of export and import duties, relaxation of capital exchange controls, implementation of a form of consumption tax and negotiation on double tax treaties, among other things. Developed countries proposed such rules following the Washington Consensus through various organs, mainly the International Monetary fund (IMF) and the World Bank (Lang et al., 2009).

The IMF generally proposed the elimination of trade barriers and promotion of the private investment. Concerning tax policy, this included the decrease of import tariffs and export taxes and the introduction of a consumption tax. Developing countries pursued these suggestions during this stage of globalization and opened their economics with an effort to attract foreign direct investment (Verstraeten, 2009).

At the beginning of the 1990s and before the onset of this new stage of globalization, VAT revenues accounted for a small portion of total revenues, considering they were targeted to few transactions. However, VAT revenues changed into one major (if not the most Important) source of revenues after the IMF and World Bank's intervention in developing countries' economies. At this time, in most developing countries, VAT is applied to all goods and services (Bird, 2005).

Privatizing the public enterprises is planned by many liberalized developing countries as the private sector can execute those economic functions more effectively. Due to the fall of nontax revenue, these governments must collect more tax revenue. Based on all these mentioned facts, developing countries immediately need to improve tax collection more than developed countries in consideration of overall economic priorities (Verstraeten, 2009).

Based on a vast body of literature, in both developed and developing countries VAT is considered as the most substantial tax system in earning government income for public use, then it is the most efficient form of general consumption tax, particularly in developing economies. VAT can be an important source of revenue for economies if administered efficiently and effectively(Brhane, 2013).

VAT will enhance the saving rate of citizens and earn more income for the government expenses of infrastructural facilities. Therefore, it will have an essential positive effect on the developmental activities of countries. The importance of these positive effects of VAT is also stronger in developing and emerging countries than the developed ones since the developmental activities and public infrastructural facilities are more urgent in those developing economies (Brhane, 2013; Izedonmi & Okunbor, 2014).

In previous years, more success has been gained by VAT in more developed economies. However, it has more significance for resource mobilization, reasonable distribution of income and economic stabilization in long-term for developing countries. VAT has is capable of increasing the saving rate and decreasing the consumption rate of countries, since it is consumption based. Furthermore, because of wide range of transactions charge, brings more money in alignment with the number of transactions along the market activities and also makes it easy for the tax payer. This particularly happens in developing countries where the market is not well-structures and there aren't strong infrastructural facilities (Brhane, 2013)).

Using the definition of International Monetary Fund, in this study we selected those developing countries which had a background of value added tax from 2003 to 2013.

## 1.5 Problem Statement

For efficiently supplying diverse infrastructural facilities in order to fulfil the individuals' demands and requirements while taking its ranks among the other countries, a country's economic development and growth would highly rely on the government capability of generating sufficient revenue. As asserted by Adegbie, Olajumoke & Kwarbai (2016), a tax system could be considered as a very efficient means to mobilize the internal resources while being able to result in promoting the economic growth. Tax has been regarded as a chief source of revenue for the governments worldwide which ultimately leads to better living conditions for the resident.

To finance activities related to development, a majority of the developing countries would rely on external financial resources even more. The fact is that the contribution of the tax to GDP within the developing countries is far less than the one in the developed nations. The governments are all committed to eliminate poverty and unemployment that have been known as chief factors leading to welfare and well-being among the citizens. Fulfilling these kinds of aims is unfeasible in the absence of producing adequate revenue which is possible to minimally cover the government's budget (Markos, 2010).

A sudden decline in GDP and deep recession is going to be the most common economic problem today. This serious crisis imposes the most noticeable effect on mass unemployment. There is an inverse relation between economic growth and the unemployment rate. This means that more economic growth will result in less unemployment (Figure 1-1). Also, Chakraborty (2004) found that there is a significant relationship between increases in the economic growth and increasing living standards of the society (Figure 1-2).

Economic growth, as the base of improved prosperity, originates from the accumulation of capital (both human and physical) and from innovations which result in technical progress. Also, the productivity of the inputs will be raised into the production and the potential level of output will be increased by accumulation and innovation (Myles, 2007).

It is necessary to note that the growth share from each of economic growth components differs country by country. Kim and Lau (1996), concluded that in the East Asian countries, the economic growth can be justified by capital accumulation and not through technical progress. Unlike some developed countries, the productivity share in the economic growth rate is highly more than the capital accumulation share in the economic growth.

Capital accumulation is directly affected by the taxes which can be either positive or negative depending on the type of the tax. As an example, Myles examined the rate of growth proving that it can be influenced by policy throughout the effect generated by taxation on the economic decisions. In other words, the returns to investment (in both physical and human capital) and Research and Development (R&D) will be reduced as a result of taxation increase. Because lower returns per se imply less accumulation and innovation, a lower rate of growth will be expected consequently. This needs to be regarded as the negative aspect of taxation. On the other hand, taxation includes a positive aspect, too. It is believed that several public expenditures can improve the productivity such as the provision of infrastructure, public education, and health care. It can be mentioned that these expenditures can be financed by the means provided by taxation which also increases the growth rate indirectly (Myles, 2007).

VAT as a kind of tax gained through diverse channels could result in economic growth in developing countries and as said before economic growth is the biggest economic problem today in these countries. These channels are summarized as follows:

1. VAT can lead to an escalation in the tax revenue (this aspect of VAT effect has been authenticated by most of the studies conducted before). As stated above, an increase in the tax revenue could lead to an enhancement in the economic infrastructures and thus economic growth.
2. It is more favorable for the countries to levy taxes on consumption instead of having it levied on the investment while the VAT should fit the bill. Having this in mind, in case it is claimed that the taxes are requisite and to confirm this many countries commentators acknowledge this necessity, taxes then are required to offer an incentive for the individuals to save and not to spend. The volume of the capital accumulated owing to the mentioned incentive is believed to have a contribution to the economy growth (Hailemariam, 2011). Nonetheless, the effect of VAT on consumption is itself under the impact of the substitute and revenue effects, and the net effect of these two determines whether the saving increases or declines.
3. Savings increase the productivity provided that the tax reform extends the base of the tax adequately through various preferences of tax elimination. Subsequently, a labour supply growth and productivity will be achieved. This happens because the marginal tax rate is reduced by savings on labour income and brings about a more long-term output (Leibfritz, Thornton & Bibbee, 1997).

Taking into account the abovementioned points, it is clear that the chief problem faced in most developing countries is decline in the economic growth. In this research, we attempt to investigate the effect of VAT on the economic growth in developing countries. Moreover, it is tried to identify the channel through which VAT increases the economic growth.

## 1.6 Specific objectives

In this research, in addition to understanding whether or not VAT affects the economic growth, we want to determine the channel of this effect, whether this effect is obtained by the increase in saving and then by an increase in capital accumulation or it is obtained via the increase in the government revenue and then an increase in the economic infrastructures.

1. To evaluate the effect of VAT on the economic growth in developing countries.
2. To estimate the effect of VAT on the source of economic growth including physical capital accumulation and productivity growth in developing countries.
3. To evaluate the effect of VAT on the saving in developing countries.

## 1.7 Significance of the Study

The results of this research can be used in two main fields. First, they will be helpful in recognizing the most significant challenges and introducing potential solutions of the VAT collection in authority. Therefore, the government can benefit from the result of the study. And second, the results presented here can be used by other researchers as a base for further studies and research to be done on this domain.

Because the economic growth increases the employment opportunities as well as labour productivity, it can consequently lessen the poverty indirectly. This fact was also proved and reported by a study which was conducted by the researchers of the Overseas Development Institute (ODI) examining the growth in 24 countries indicating that in 18 cases, poverty was decreased. Nonetheless, employment has not been proved to alleviate the poverty as also reported by the International Labour Organization (ILO) which once approximated that almost 40% of workers were experiencing the poverty because of inability to earn sufficiently for keeping their families above the $2 a day poverty line. This can be also illustrated be a case in India where most constantly poor people are wage earners working in the formal employment as in such contexts there is little job security and low salary. This per se never provide an opportunity of accumulating wealth to evade risks(Melamed, Hartwig and Grant, 2011)

Furthermore, economic growth results in living Standards if managed appropriately because resources for vital public services such as education and health care will be definitely increased by economic growth. Similarly, budget deficits will be influenced by the economic growth because budget deficits will be increased through the deep recession. Therefore, there is a need for economic growth for improving the government’s budget deficits, (Pettinger, 2009).

As it is highlighted through the existing literature, economic activity, growth, and the future standard of living are stimulated by higher investment resulted from more saving. Due to such mentioned facts, there seems to be an urgent need for better understanding and assessing the mechanism which allow such reforms to affect the economic agents’ behaviour in terms of their consumption and saving decisions.

Although the theoretical relationship between consumption tax on one hand, and savings and capital accumulation on the other has been studies by Summers (1981), and Seidman and Lewis (1999), little emphasis has been empirically granted to its impact on consumer behaviour in developing countries. This research, therefore, is a pioneering one in empirically examining the impact of the vat - as a broad-based consumption tax - on consumer behaviour in the developing countries.

An intertemporal effect will be produced by the VAT, which can influence the relative prices of the current consumption vs. future consumption. More clearly, substitution and income effects will be generated by the tax shock. It needs to be asserted, however, that the net effect of these two forces on the level of aggregate private consumption is unclear theoretically.

By employing the empirical results of the countries of under study, this study attempts to clarify the effect of VAT on consumption which is influenced by two substitute and income effects. Furthermore, future policy makers can utilize fiscal policy with attention to this study.

The capital accumulation and productivity growth are two principle factors in economic growth and developing countries try to achieve higher rate of economic growth for acquiring higher income rate resulting in more welfare in their countries. For this reason, conducting the current study bears a particular value because of its anticipated results and findings.

This study can be useful for some developing countries that utilize VAT as taxation in their countries through considering the effective rate of VAT on capital accumulation and productivity growth as wells as being guide for other countries that never implement such scheme such as Malaysia.

## 1.8 Scope of study

To suite the purpose of this study, using the definition of International Monetary Fund, the researcher selected those developing countries which had a background of value added tax from 2003 to 2013 These countries are listed in Table Appendix A.

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