Do tax incentives matter for investment? A literature review

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Abstract: The effectiveness of tax incentives in attracting FDI remains one of the unsettled concepts in public finance. The importance of tax incentives in attraction of internationally mobile capital differs with the jurisdiction of the study and the methodology used in drawing conclusions. This study in reviewing both theoretical and empirical literature seeks to establish the merits and demerits of tax incentives. This is because though they receive a lot of criticism tax incentives continue to be used in most economies. Most of the empirical studies that this study explored concluded that though tax incentives might be important in attracting FDI they are more effective when combined with other non-tax factors. Macroeconomic conditions, infrastructure and strong institutions were found to be important non-tax factors that improve the attractiveness of an economy to FDI. The major weaknesses of using taxes in attracting FDI were discussed using the tax competition and tax harmonisation framework. Here it was noted that the use of tax incentives to attract FDI might improve the welfare of individuals in the jurisdiction that apply the incentives, but have external cost implications for residents in other competing jurisdictions that do not adopt tax incentives.

1. Introduction

The effectiveness of tax incentives in attracting FDI remains one of the unsettled concepts in public finance. The importance of tax incentives in attraction of internationally mobile capital differs with the jurisdiction of the study and the methodology used in drawing conclusions. Feld & Heckemeyer (2009) argue that the impact of tax differentials on multinational locational decisions remains insufficiently analysed. They conclude that qualitative survey analysis gives less convincing results hence most economists have resorted to econometric analysis. The methodology of the study is thus critical in the analysis of empirical studies.

In this paper the study seeks to make an inquest into the underlying theory on tax incentives' effectiveness in attracting FDI, with special interest in theory that is used to justify the use of tax incentives. The empirical findings of the studies on tax incentives for FDI attraction will also be explored with the view to establishing conclusions on the importance of tax incentives and also building the basis of the model this study is going to use.

Tax incentives have various definitions; Bolnick (2004) defines tax incentives as fiscal measures used by governments to attract investment domestically and internationally in certain key sectors of the economy. Zee, Stosky, & Ley (2002) defines tax incentives in

statutory and effective terms. A statutory tax incentive is a special tax provision granted to qualifying investment projects and this provision would not be applied to other investment projects outside the selected qualifying categories. An effective tax incentive is a special tax provision granted to qualifying investment projects with the goal of reducing the effective tax burden.

A thorough review of the literature on the economics of tax incentives, tax competition and harmonisation will help in understanding, firstly, whether tax incentives are or are not the most important factor in attraction of foreign investment; secondly, what kind of foreign investors are likely to be most responsive to changes in tax policy and which methodology gives more convincing results since these areas have retained the attention of many researchers over the years (see Yelpaala, 1985; Rendon-Garza, 2006; & Sato, 2012). The chapter will highlight the major ideas from international research to help the study to identify the gaps that still need to be filled in the SADC region. The aim of this research is thus to establish the harmony between theory and empirical evidence in explaining the attraction of foreign mobile capital.

The rest of the research is organised as follows: section 2 briefly look with the rationale for introducing tax incentives, section 3 deal with theoretical arguments for introducing tax incentives, section 4 discuss the case for and against tax incentives, section 5 deal with tax competition and harmonisation, section 6 move to the empirical analysis of findings on the effectiveness of tax incentives before the chapter conclusion in section 7.

2. Rationale for introducing tax incentives

Zee et al. (2001) define tax incentives in terms of their effect on reducing the effective tax burden for a specific project. Standard international tax policy endorses caution against the use of tax incentives for attracting Foreign Direct Investment (FDI) (Klemm, 2009). However, tax incentives have remained a popular policy tool for attracting FDI in developed, transitional and developing countries. Wilson (1999) argues that given the assumption of perfectly mobile capital, when a given government raises its tax rate, net return on capital located there falls and capital chooses to relocate elsewhere. Wilson's (1999) conclusions therefore support the use of tax incentives in reducing tax rates and attracting FDI.

Tiebout (1956) in Onyeiwu & Shrestha (2005) conclude that the effectiveness of tax incentives in attracting FDI depends on the tax incentives and public goods provision mix in the host nation. Typically FDI location favours nations with the highest public goods provision and lowest tax burden mix. This conclusion takes a balanced budget approach in analysing the effectiveness of a tax system where taxes are assumed to be the key source of government revenue in public goods provision. Reduction in tax revenue through introduction of tax incentives might compromise public goods provision thus the government should seek to optimise the trade-off between public goods provision and loss in revenue due to tax incentives.

The Organisation for Economic Cooperation and Development (OECD) (2001) notes that governments employ taxation for various political and policy objectives; however, it should be mentioned that the major objectives of tax reforms and restructuring have been more similar in many economies. The tax systems across the world have been designed to achieve a stable revenue base, to better income distribution and to improve national resource allocation. Tax incentives fall in the broad category of governments tax systems, thus they are expected to achieve similar objectives, apart from attracting internationally mobile capital. Developing countries offer tax incentives for a variety of reasons, chief amongst them being to counter the negative effects of a bad tax system (Holland & Vann 1998). Most developing countries have poor tax administration structures which inconvenience businesses and also lead to massive revenue losses due to tax evasion and tax avoidance.

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Tax incentives are also used to counterweight the effects of poor macroeconomics, poor infrastructure and a lack of effective institutions in developing nations, which increase the cost of doing business. Thus reducing tax rates will help to cover the losses made by investors. The effectiveness of tax incentives in attracting FDI is a highly debatable issue with a number of studies finding non-tax factors more effective than tax incentives (Onyeiwu & Shrestha, 2005; Bolnick, 2004; Sudsawasd, 2008), and others view fiscal incentives as central to FDI attraction (Hassett & Hubbard, 2002; Sato, 2012). However, governments over the years have made wide use of tax incentives to compete for internationally mobile capital.

James (2010) points out that policy makers employ both tax and non-tax incentives to lure investment across their borders. He also concludes that the economy's investment climate is critical to the effectiveness of tax incentives. James (2010) defines tax incentives as those tax reduction treatments offered to foreign investments and not to domestic investments with the view to attracting FDI. Tax incentives increase the after-tax profits on investments and generally an investor will prefer a location with a lower tax liability in cases where locations have similar resource characteristics (Owens, 2004). Thus, tax competition has dominated the justification for use of tax incentives over the years where neighbouring nations seek to out-do one another in FDI attraction through lowering tax rates.

Tax incentives are also used to signal ease of doing business in a country as they reduce barriers to FDI location and indicate the host nation's level of acceptance of foreign players in markets where incentives are instituted. The major theoretical foundation for this chapter is that all fiscal incentives will have an impact on the cost of capital, effective tax rates and, ultimately, on where FDI locates. Holland & Vann (1998) argue that regional development is also a common objective for the use of tax incentives. Thus, this chapter will also explain how regional blocks use taxes and tax harmonisation to bring development to their regions.

3. Theoretical arguments for introducing tax incentives

3.1 Early theoretical arguments for introduction of tax incentives

Early economic development theorists of the neoclassical era established the importance of capital formation on economic growth (Jorgenson, 1963; Fei & Ranis, 1961). Neoclassical theorists in their quest to reincarnate classical economics were the earliest theorists to explain the link between (tax) incentives and the attraction of internationally mobile capital. This section will discuss the theories that support the use of tax incentives to attract capital.

The capital arbitrage theory, the neoclassical investment theory, the neoclassical OLI theory and Intangible assets theory

The capital arbitrage theory of international capital movement which originated from the neoclassical international trade theory argues that capital movement responds to the differentials in rates of return (Yelpaala, 1985). Hence the theory identifies a strong causal link between tax incentives and FDI location. The theory established that capital will move from capital-rich countries to capital-scarce countries in search of higher returns and the process will continue until the returns on capital are equalised between jurisdictions.

The owners of internationally mobile capital act as arbitragers and move their capital in pursuit of highest returns given the risk associated with the investment. The capital arbitrage theory is used to explain the location of Multinational Corporations (MNCs) in developing countries where capital is scarce. Normally capital-scarce locations have high

unemployment rates and thus provide cheap labour which further enhances the profits from locating capital in such regions.

Jorgenson (1963) introduced the neoclassical investment theory which suggests that firms will continue to accumulate capital as long as the costs of doing so are less than the benefits. Since firms experience decreasing returns from additional capital, they will stop when the present value of returns from capital equals the present value of costs.

Since the before-tax rate of return on capital is viewed as a cost of capital, lower tax rates reduce the cost of capital and increase the investment in more capital stock (Van Parys & James, 2010). The neoclassical investment theory thus suggests that tax incentives encourage growth of established firms through reinvestments and also lures new investments since it reduces the cost of capital.

Dunning (1988) developed the OLI theory also termed the 'eclectic paradigm of investment'. The theory explains how firms choose foreign markets to establish their businesses. The study concludes that firms choose locational destinations based on three factors: ownership (O), location (L) and internalisation (I).

Tavares-Lehmann, Coelho, & Lehmann (2012) classify tax incentives under the locational advantages of a host nation in attraction of FDI. Hence tax incentives increase the host country's attractiveness to investment if they lower tax rates below the investor's home country tax rates or if they lower tax rates below those of other competing destinations.

Devereux (2006) in Tavares-Lehmann et al. (2012) conducted a study on the analysis of empirical evidence on the effects of taxation on investment location decisions of MNEs and concludes that taxation plays a role in affecting MNEs' choices; however, taxes were found not to be equally important in all MNEs' locational decisions. Efficiency-seeking FDI was found to be more responsive to tax incentives than resource-seeking FDI.

Hirsch (1976) in Yelpaala (1985) argues that the costs of the business operation are vital in FDI location decisions. The major conclusion of the theory is that FDI takes place as long as there are positive gains from investing in intangible assets in a host country after factoring in all the costs of operation. Tax incentives lower the operational costs of firms and thus encourage foreign investors to invest in more capital.

3.2 Modern theoretical arguments for tax incentives

Earlier theories on the justification of tax incentives were probed and the conclusions deemed the arguments to be inappropriate (Yelpaala, 1985). However, tax incentives remain a key policy tool used by governments to lure investment and policy makers have based their justifications on factors that are different from the earlier theories. The new arguments will form the modern theoretical arguments which will be discussed in this section.

New economic geography (NEG) theory, policy arguments and Economic arguments

The NEG theory was built on the neoclassical investment theory which concludes that there is a direct positive relationship between lowered tax rates and increased investment (Van Parys & James, 2010). The model introduces the concept of core-periphery. This concept suggests that business concentration reinforces itself and thus the world is left with a core region that attracts the most FDI.

NEG models emphasize the role of business concentration that is self-reinforcing leaving the world with a core region. Devereux, Griffith, & Simpson (2007) support the theory with their findings that lower tax rates are more effective in regions that already have more investment.

This model has however, also been used to discourage FDI attraction through lowering tax rates in regions outside the core region. This is because FDI will locate in regions where they find many other firms even if those regions have higher tax rates.

As noted by the OECD (2001) report entitled 'Corporate tax incentives for FDI', tax incentives are introduced by many developed, transitional and developing countries with the aim of achieving international competitiveness, addressing market failures, boosting regional development and improving income distribution. Low corporate taxes increase FDI flows by attracting new investors, retaining existing investors and encouraging reinvestments of returns accrued by existing enterprises (Onyeiwu & Shrestha, 2005).

International competitiveness tax incentives are regarded as a strong factor in attracting internationally mobile capital, encouraging research and development initiatives by multinational companies and improving the competitiveness of the export sector of the host nation (OECD, 2001). Thus, tax incentives are viewed as critical in the locational decisions of the multinational companies. Tax incentives act as a relief to locational costs of foreign business and increase the competitiveness of an economy against other neighbouring jurisdictions with similar locational factors.

The market mechanism is inherently socially suboptimal, thus tax incentives are also used in instances where socially optimal investment has not been achieved by the market system (OECD, 2001). In this case, tax incentives are used as government intervention mechanisms in achieving socially acceptable investment levels. Due to the positive externalities characterising investment, the private sector normally under-produces investment, hence the socially desirable level of investment is established through government intervention in the form of subsidies and tax incentives. Tax incentives are also used by economic regional groupings to address the regional unemployment and poverty problems. OECD (2001) notes that tax incentives are also important in improving the host nation's macro-economy. By moving investment into their countries, nations reduce the problems of cyclical unemployment, balance-of-payments (BOP) deficits and, in some cases, help to control inflation.

The use of tax incentives has grown since the 1990s due to a number of world economic changes such as globalisation and the creation of common markets (Owens, 2004). The process of globalisation has increased competition and establishment of production units in different locations has increased the amount of internationally mobile capital which can be lured into different locations through the use of tax incentives (Owens, 2004). The creation of common markets through economic integration has reduced the difference between market-oriented and export-oriented FDI. Reduced tariffs have reduced the costs of importing and exporting (Owens, 2004). This has created a situation where foreign investment chooses a single location. Thus, tax incentives can lure the investors to a preferred destination and supply to markets that do not offer investment incentives but share a common market and common tariffs with the preferred location.

4. Merits and demerits of tax incentives

Easson & Zolt (2002) conclude that it is common knowledge that tax incentives for FDI are both bad in theory and in practice. Theoretically they find tax incentives bad since they distort investment decisions. Practically, tax incentives are deemed to be ineffective and prone to corruption thus the conclusion that they are bad (Easson & Zolt, 2002). However, almost all countries continue to use them for a number of reasons thus in this section the study will explore the merits and demerits of tax incentives. Bird (1993) suggests that, "Tax incentives improve economic performance only if government officials are better able to decide the best types and means of production for an economy than private investors."

4.1 Merits of tax incentives

Correcting market failure

Bird (1993) argues that governments have a role to play in achieving a socially desirable socio-economic environment using a variety of tools including taxation. Taxes are used by governments for redistribution of income, efficient allocation of resources and to raise revenue for government operations. Most taxes distort the economic conditions; income taxes reduce returns on factors of production; import taxes distort the level of imports and exports and consumption taxes distort expenditure (Easson & Zolt, 2002).

Governments use taxes to correct market failures. For example, tax incentives are used to correct under-production of investment activities by the private sector and thus generate positive externalities (Easson & Zolt, 2002). Governments will seek to correct investment decisions of the private sector using tax incentives and harness investment that would have not occurred without tax incentives. This is because governments want the economy to enjoy the benefits of foreign capital which include technological transfer, skills transfer, employment creation and economic growth and development.

Externalities

There are investments that create positive externalities which benefit the overall economy and governments need to support such activities. These activities include new technology investments, infrastructural development, and environmentally friendly technology (James, 2009). New technology development in production opens opportunities for other firms in the same industry to adopt the same new ways of production which improves the economy's overall performance. Infrastructural development has a positive spill-over effect due to the public good nature of infrastructure, thus investment in infrastructure benefits the whole economy. Environmentally friendly investments which create a clean environment have positive externalities due to the public good nature of a clean environment which is non-excludable to all citizens of an economy.

Investments which bear positive externalities thus benefit the overall economy and should be encouraged through tax incentives.

Tax competition

Tax incentives may be used by countries to increase their revenue base by improving their competitiveness (Klemm, 2009). This is useful in countries that wish to attract mobile capital but face revenue constraints. Countries will offer tax incentives to mobile capital and attract investment while getting revenue by taxing existing capital and immobile capital.

4.2 Demerits of tax incentives

Revenue loss

Easson & Zolt (2002) identify two sources of revenue loss due to tax incentives. Firstly, tax incentives discourage other investments in favour of the incentive-receiving projects hence revenue is lost from the foregone projects. Secondly, revenue is lost since

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businesses will improperly claim incentives and in some instances shift income from taxable activities to those that fall under tax incentives thereby avoiding tax.

Misallocation of resources

The success of tax incentive policies means that investment will increase in regions and nations within the successful incentive structures thus reducing investment in those that do not have the incentives (Bird, 1993). This increase in investment due to tax incentives in some cases will correct market failures while in most instances it may lead to too much investment in activities that have incentives and reduced investment in those activities without incentives, thereby leading to misallocation of resources.

Enforcement and compliance challenges

Government tax provision comes with associated costs in enforcing the tax laws and ensuring that parties comply. Easson & Zolt (2002) suggest that tax incentives are difficult to administer and enforce which leads to huge losses in revenue to governments that operate them.

Encourages corruption

Tax incentives give bureaucrats the opportunity to engage in corrupt and rent-seeking activities (Easson & Zolt, 2002). This is prevalent in cases where tax incentives give the authorities discretion to determine which projects qualify for incentives and which do not. Tanzi (1998) suggests that corruption is high with tax incentives, due to direct links between investors and government authorities who use their discretion in implementing tax incentives.

The empirical findings by Zelekha & Sharabi (2012) show that tax incentives lead to significant corruption. The study employed a large cross-section of European countries and two-stage least square analysis to reach the conclusion.

5. Tax competition and harmonisation

Alfano (2001) defines tax competition as actions by countries in reducing their tax bases in response to other countries' reduction in tax bases. Wilson & Wildasin (2004) define tax competition as a non-cooperative game, in which countries set tax rate policies in a bid to influence the location of internationally mobile capital. Tax competition can thus be considered as government's deliberate reduction in the domestic tax rates for specific economic activities by foreigners with the sole purpose of attracting foreign mobile capital and to boost economic activity (Rendon-Garza, 2006).

Tax competition can be categorised as regional or global competition. Regional tax competition is competition amongst countries in close geographical proximity and global tax competition extends to competition for capital that can locate anywhere in the world (Rendon-Garza, 2006). Where nations discover that the overall welfare of their nationals is

being compromised due to tax competition, they collaborate in setting tax systems and uniform tax rates; this is tax harmonisation and it is common in most regional states.

5.1 Theories of tax competition

Tiebout, Oates and the standard Zodrow-Mieszkowski model

The earliest work on tax competition was coined by Tiebout (1956) and Oates (1972). The model was formally modelled by Zodrow & Mieszkowski (1986) and Wilson (1986). The theory's main thrust is that tax competition amongst regional countries leads to inefficiencies in government expenditure and taxation.

The origin of the theory of tax competition comes from Tiebout's (1956) theory of federalism and is also termed the 'theory of efficient tax competition'. The theory is rooted in the competition amongst jurisdictions for households given efficient provision of public goods (Rendon-Garza, 2006). Tiebout's (1956) model identifies the fact that with households voting with their feet and locating where there is an efficient trade-off between public goods provision and taxation, jurisdictions end up with inefficient taxation mixes in their quest to attract more households. This model was then extended to the location of firms by White (1975), Fischel (1975) and Wellisch (2000) with similar conclusions to the original Tiebout (1956) model that firms favour locating to where there are lower tax rates.

The Tiebout (1956) model's extension to mobile firms' locational decisions was formulated in the same way as that for mobile residents. The model assumes that firms are in infinite elastic supply to each country and each country supplies firms with public inputs into their production functions. Each firm is taxed using the marginality principle where marginal tax should equal the marginal cost of providing the firm with public inputs which constitutes public goods (Wilson, 1986). Therefore, the models found that under the Pareto efficiency principle, tax competition leads to efficiency since marginal benefits from public goods provision is equalised to the marginal cost of paying taxes.

Rendon-Garza (2006) points out that the effectiveness of the Tiebout model in explaining FDI location is highly constrained by its simplifying assumptions. The first restrictive assumption is that government can institute a fair tax on each individual which is equal to the cost of providing the individual with his/her preferred public good. The assumption is unrealistic in the attraction of investing firms since they favour taxes which give them competitive advantage over existing local firms. This is because foreign firms find it difficult to compete with local firms which have easy access to their local markets for inputs and sales; thus they require lower production costs in the form of lower taxes.

The second assumption of the classical Tiebout model is that there are no economies of scale in public goods production and the third is that there are a large number of jurisdictional authorities or countries meant to achieve an efficient sorting of individuals. The second assumption contradicts economic theory which has identified that provision of public good requires a large capital set-up which in the long-run creates economies of scale. The third assumption makes the model difficult to apply to the concept of FDI location competition since most regional economies are made up of a small number of countries.

The fact that the location of internationally mobile capital requires taxation that favours certain activities over others makes the analysis of tax competition more relevant in the analysis of FDI locational decision. The departure from the principles that lead to efficient tax setting in the Tiebout model means that tax competition in FDI attraction leads to fiscal externalities amongst competing economies (Rendon-Garza, 2006). The effect of these externalities is the basis of the modern analysis of tax competition.

Oates (1972) extends the Tiebout (1956) model but concludes that the use of tax competition can lead to inefficient provision of public goods. This emanates from the fact

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that in a bid to attract investment authorities will keep tax rates at low levels. This low taxation may lead to authorities providing inefficient levels of public services due to funds constraints.

Oates (1972) argues that if the business offered a low tax rate does not confer social benefits, the social inefficiency of tax incentives will be large. This is because tax competition leads to low wages; low employment; capital losses on homes and reduced tax base (Oates, 1972). The conclusion of welfare loss due to taxation in Oates' (1972) theory emanates from the fact that, when all governments lower their tax rates in a bid to attract internationally mobile capital, no one benefits from the competitive advantage and thus the resultant resource allocation will be sub-optimal (Wilson, 1999).

Thus, the origin of the modern race-to-the-bottom theory in tax competition is that tax competition lowers government spending and tax revenues to inefficient levels (Rendon-Garza, 2006). The empirical support for the theory was pioneered by Wilson (1986) and Zodrow & Mieszkowski (1986) through theoretical model formulations based on Oates's (1972) tax competition theory.

The Zodrow-Mieszkowski (1986) model also termed the 'standard Z-M model of tax competition' has a number of simplistic assumptions. Firstly, the model assumes a fixed number of homogeneous regions; secondly, it assumes that each region has an immobile factor of production labour and a mobile factor capital. The immobile capital is supplied by residents of the region and is inelastic in supply. The assumption of perfectly mobile capital implies that residents can choose to locate their capital wherever they want. The residents of each region have a fixed capital endowment. The model also assumes perfect competition in production and constant returns to scale technology. Due to fixed capital endowments in each region, adding the capital in all regions gives a fixed supply of capital in the world economy (Rendon-Garza, 2006).

The Z-M model further assumes that the government seeks to achieve socially optimal mixes of public goods and taxation. The major conclusion of the model is that, given the fixed world economy capital, a rise in the capital tax rate in one region will increase the outflow of capital in that region due to the reduced returns on capital. The capital moving from the region with higher tax rates will move to the regions with lower tax rates and this is the basis of tax competition where regions compete for the limited world capital stock (Rendon-Garza, 2006).

Zodrow & Mieszkowski (1986) show that within a large number of jurisdictions competition leads to abandonment of property tax in all jurisdictions, thus all jurisdictions will rely on head taxes. As the number of jurisdictions increase it becomes difficult for a jurisdiction to influence the after-tax returns of investors. Eventually the Z-M model concludes that the tax competition will shift the tax burden to immobile factors of production Thus, any tax on mobile capital will be shifted to the immobile factor of production labour.

Extensions of the standard Tax Competition Z-M Model

Most of the models based on the standard tax competition Z-M model are based on relaxing the basic assumptions of the original model.

Bucovetsky (1991) and Wilson (1991) were the initial theorists to extend the Z-M model. They argued that in real situations tax competition is among countries of different sizes so they relaxed the assumption on the size of the jurisdiction. Their conclusion was that given two countries with different sizes and equal per capita endowments, the smaller country is likely to lower tax rates to attract a greater proportion of internationally mobile capital and achieve a higher per capita utility level than the larger country.

Haufler & Wooton (1997; 1999) also relaxed the size of jurisdiction assumption and obtained different results from the Bucovetsky (1991) and Wilson (1991). Wilson (1991) shows that given a large difference in the country sizes, tax competition is more preferable to a smaller nation since it reduces head taxes on individuals. Haufler and Wooton's model extends the Z-M model and analyses tax competition between two countries of different sizes but adds trade costs and multiple tax instruments. They consider two taxes; profit-tax and consumption-tax. They conclude that, when regional countries have only a lump sum profit-tax at their disposal and face equal transport costs for imports, then both countries will always subsidise the business and the subsidy will be larger in the larger region than in the smaller region (Rendon-Garza, 2006). The equilibrium outcome will be that firms locate to the larger markets paying profit-tax at an increasing rate with the market size. This illustrates that while tax competition may be generally bad it may benefit other countries.

Kennan & Riezman (1988) analyse tax competition between countries in a model of tariff war between two countries. They model their analysis using Nash's equilibrium in tariff rates and conclude that given large size differences between nations the large countries benefit more from tax competition. This is because the introduction of tariffs will change the terms of trade from the other country in an unfavourable way. Thus, this has its roots in the inter-regional externalities which will create favourable changes in terms of trade to large jurisdictions than to smaller ones (Wilson, 1999).

Trade and tax competition

Wilson (1987) launched the concept of trade in tax competition by introducing many countries in the analysis of tax competition. The model introduced two private goods, a capital intensive and a labour intensive good. Due to the concept of comparative advantage, the eventual effect of trade is that low tax rate regions will end up producing capital intensive goods and the high tax regions will produce labour intensive goods.

This distorts the original comparative advantages structure between jurisdictions before the introduction of tax incentives which reduces the overall welfare of the trading partners, because production in capital intensive sectors is shifted to inefficient producers owing to lower tax rates.

5.2 Tax harmonisation

Tax harmonisation emerged to counter the effects of harmful tax competition (Gaigné & Riou, 2004). Tax harmonisation is defined as a process by which countries in the same economic region equalise their corporate income tax rates and standardise corporate tax bases (Bond, Chennells, Devereux, Gammie, & Troup, 2000). When countries do not adopt tax harmonisation strategies this leads to suboptimal taxation (Gaigné & Riou, 2004). However, tax harmonisation removes the autonomy of a nation's tax system and thus nations will be constrained in their use of fiscal policy to deal with economic shocks (Fourcans & Warin, 2001).

Tax competition like every competitive market will lead to efficient tax systems which competing countries can use to better their tax administrations (Boss, 1999). Harmonisation can lead to an increase in the tax rates in a region and discourage innovation and growth in the tax system which may reduce FDI flows into a region. Lack of tax harmonisation has the following negative impact on economies:

Loss in revenue

Tax incentives lead to loss in revenue through two channels. Firstly, tax competition lowers tax rates and thus reduces revenue and, secondly, companies in their tax planning strategies will seek to exploit opportunities presented by tax incentives to lower their tax burden through tax avoidance (Bond, Chennells, Devereux, Gammie, & Troup 2000).

Change of economic behaviour

The structure and operation of corporate income taxes can affect the operational decisions of firms on location, production, pricing and market conduct (Bond, Chennells, Devereux, Gammie, & Troup, 2000). Efficiency in production and economic integration and trade requires that production should take place in locations where an activity has comparative advantage over other locations. Thus use of taxes to influence location can lead to overall inefficiencies in production in the region.

6. Empirical analyses on the effectiveness of tax incentives in attracting FDI

The theoretical analyses of tax incentives have opened a debate on whether tax incentives should be central in policies meant to attract FDI in the SADC. It is now important that the study turns to empirical findings on the effectiveness of tax incentives in achieving their objectives in attracting FDI and improving the economy's competitiveness.

Zee, Stotsky, & Ley (2002) argue that there is little evidence of the effectiveness of tax incentives in attracting FDI especially in developing countries. They questioned the importance of tax incentives in attracting FDI compared to non-tax factors that increase the attractiveness of an economy to FDI. Beyer (2002) also finds no relationship between tax concessions and FDI attraction in transitional economies. While other studies such as Klemm & Van Parys (2012) find tax incentives to be vital to attracting FDI in low income countries. Van Parys & James (2010) also find tax concessions to have a positive impact in the Caribbean islands.

6.1 Country-specific empirical studies

Bolnick (2004) in a SADC technical report suggests that evidence from other developing nations including those in the SADC show that tax incentives are not enough to convince foreign investors to choose their locations. The study cites Mauritius, Costa Rica, Ireland and Malaysia as economies that have successfully used non-tax incentives to lure FDI. These countries implemented successful economic reforms, ensured political stability, educated their work-force, built good infrastructure and instituted investment promotions to increase their appeal to investors.

Kransdorff (2010) in a study on the effectiveness of tax incentives on FDI attraction in South Africa concludes that taxation is important in attracting efficiency-seeking FDI. In the study Kransdorff reckons that given the effectiveness of taxation in attracting FDI, the low FDI flows in South Africa are due to a poor tax incentive structure. The study thus recommends that there is need for tax incentive regime reform in South Africa if the economy wishes to attract meaningful FDI. However, the study is qualitative and lacks quantitative proof to substantiate the arguments. It would be difficult to rely on Kransdorff's study for policy reform so this is where the present study looks forward to filling in the quantitative gaps.

Tax incentives were also found to be effective in improving firm performance in Uganda (Mayende, 2013). Using firm level data in the manufacturing sector, the study concludes that tax incentives improve the firm's ability to increase gross sales and value addition. The study thus recommends that tax incentives be used to increase firm performance. This positive impact of tax incentives on firm performance can be observed in the increase in the number of investors in an economy. However, the Tax Justice Network Africa & Action Aid International (2012) concludes that tax incentives in Uganda have led to harmful revenue losses. Tax Justice Network Africa & Action Aid International thus recommends that the Ugandan government remove tax incentives, especially tax holidays since they have led to harmful tax competition in the East African region.

Miller, Webster, & Yanti (2013) in a study on the effects of indirect taxes on US inward FDI state that taxes are one of the determinants of FDI attraction in the US. Their study used a large sample of industries using gross operating surplus as a measure of indirect taxes. Using this unique tax measure the study analysed the composition of inward FDI in the US. The study concludes that the coefficient for indirect tax is both statistically significant and negative, indicating that higher indirect taxes reduce FDI flows into the US.

6.2 Global empirical studies

Klemm & Van Parys (2009) sought to establish the effectiveness of tax incentives in attracting FDI and whether tax incentives are used in competing for FDI. They used data on tax incentives from 40 Latin American, Caribbean and African countries for the period 1985-2004. They applied panel econometric techniques in their study and concluded that lower tax rates are important in FDI attraction. Their use of spatial panel econometrics aided their second finding that tax holidays as well as lower corporate taxes are used in tax competition for FDI.

Biggs (2007) surveyed twenty-one developing countries from across the world. The study concludes that given a well-structured tax policy, tax incentives can be effective in attracting foreign mobile capital. The study probes the fiscal regimes in developing countries and concludes that developing countries use the wrong tax incentives like tax holidays and accelerated depreciation which does not work in their economies. The study also recommends that policy makers focus their incentives on small domestic corporate players which are more responsive to incentives than large multinational corporations which require other non-tax incentives.

Djankov, Ganser, McLiesh, Ramalho, & Shleifer (2009) in partnership with Pricewaterhouse Coopers conducted a survey of 85 countries. The survey used effective corporate rates which were applied in 2004 for the sampled countries. It emerged that corporate tax rates have an adverse impact on gross investment, FDI and entrepreneurship. Corporate taxes were found to attract investment in the manufacturing sector but not in the services sector.

These studies took data from countries across the globe which do not belong to a specific region. The conclusions show divergent views on the effectiveness of tax incentives on FDI attraction. This shows that effectiveness of tax incentives depends on the sampled economies.

6.3 Regional empirical studies

Chai & Goyal (2008) in a study to compare the benefits and the costs of tax concessions reckon that the cost of tax incentives is larger than the benefits. They used data from small island states in the Eastern Caribbean Currency Union. By comparing the costs of tax concessions (also termed tax incentives in terms of revenue lost and the benefits in the form of FDI attracted) they concluded that the region needed to move away from using tax concessions since they were found to be costly.

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Šimović & Žaja (2010) performed a review of tax incentives used in Western Balkan countries, that is, in Slovenia, Croatia, Serbia, Montenegro, Macedonia and Albania. The survey-based study concluded that like other transitional economies, the Western Balkan countries use tax incentives in under developed regions to attract investment and to develop the regions.

Kinda (2014) used firm-level data from 30 Sub-Saharan Africa (SSA) countries. The review revealed that infrastructure, human capital, and institutions, are influential in attracting FDI and taxes are not. Taxes were found to be ineffective in attracting both vertical FDI (that is export sector FDI) and horizontal FDI (where foreign firms will be producing for the host market).

Van Parys & James (2010) did an enquiry into the effectiveness of tax incentives in twelve Western and Central African countries over the period 1994-2006. Using panel data econometrics, controlling for fixed effects, they found no robust positive relationship between tax holidays and investment attraction.

Bellak & Leibrecht (2005) in a study on Central and East European Countries found that corporate tax rates were lowered in the region in a quest to attract international capital. Using panel data econometrics of 35 bilateral country relationships in the period 1995-2002 the study revealed that the semi-elasticity tax rates on capital movement between trading countries was -2.93. This shows that lowering tax rates has been successful in attracting FDI in the region.

These studies in different economic regions show that there is no solid conclusion on the effectiveness of tax incentives and results differ according to the regions and methodology used in the study. It is thus important that the SADC region's data set be put to the test and results on the effectiveness of tax incentives in attraction of FDI in the region be produced to help policy makers.

6.4 Methodological issues in regional studies

Methodological issues have been significant in the kind of conclusions reached in the study of tax incentives for FDI (Sato, 2012). Country-specific studies are less effective since tax issues are mostly regional and most regions either use taxes for competition or for harmonisation. Regional studies which employ panel data econometrics apart from considering many economies in one model also have the theoretical power to separate effects of specific actions from more general policies (Hsiao 2003). Thus the effects of tax incentives and other incentive policies can be separated and bold conclusions can be drawn.

Feld & Heckemeyer (2009) state that most economists have resorted to empirical studies to draw conclusions on the effectiveness of tax incentives on FDI attraction. They looked at the problem of heterogeneity in the study of taxation, especially the effects of factors such as public spending that may moderate the impact of tax differentials. The outcome of their study of European countries was that taxation is important in FDI locational decisions.

It is thus imperative that every study that seeks to give instructive results affords careful consideration of the methodology to be used. Below is a summary of studies that looked at tax incentives for FDI attraction with a focus on regional studies. Emphasis will be on the effectiveness of the methodologies that were used.

As noted by Klemm (2009) studies on the effectiveness of tax incentives in attracting FDI are limited especially in developing countries. The little work that exists is basically descriptive and qualitative in nature and based mainly on small sector case studies and thus is not reliable to use in policy formulation. This study's econometric study of tax incentives and FDI attraction in the SADC thus goes a long way in establishing bold conclusions about the impact of taxation on investment in the broader developing world.

The major findings of this research are that while tax incentives are important in FDI attraction they work well with non-tax incentives. Developing nations should seek to develop economic infrastructure wish to attract any meaningful investment. Tax incentives are easy to implement thus most countries use them. However in the process they lose a lot of tax revenues.

7. Summary and conclusion

The research discussed the impact of tax incentives in attracting foreign mobile capital. Theoretical and empirical evidence shows that there is no clear conclusion on the effectiveness of tax incentives on FDI location; however, the results differ within the delimitation of the study.

Most of the empirical studies that this study explored concluded that though tax incentives might be important in attracting FDI they are more effective when combined with other non-tax factors. Macroeconomic conditions, infrastructure and strong institutions were found to be important non-tax factors that improve the attractiveness of an economy to FDI. Recent empirical work found tax incentives to be effective in FDI attraction, given that with massive globalisation; locations are becoming more and more similar (Šimović & Žaja, 2010). Regional integration has necessitated harmonisation and coordination of economic policies in regional groupings such as the SADC, the European Union, ECOWAS and the African Union. The convergence in economic policies and economic growth has made regional countries perfect substitutes for investors, thus fiscal incentives are becoming increasingly important in competing for investment.

The major weaknesses of using taxes in attracting FDI were discussed using the tax competition and tax harmonisation framework. Here it was noted that the use of tax incentives to attract FDI might improve the welfare of individuals in the jurisdiction that apply the incentives, but have external cost implications for residents in other competing jurisdictions that do not adopt tax incentives. Thus, tax incentives were seen to reduce the overall welfare of residents in a region. Tax harmonisation has thus dominated the order in regional integration economics, where regions seek to collectively lure internationally mobile capital.

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Appendix

TABLE 1. SUMMARY OF EMPIRICAL FINDINGS ON TAX INCENTIVES AND INVESTMENT
AND ANALYSIS OF EFFECTIVENESS OF METHODOLOGIES USED

AUTHOR	FINDING	METHODOLOGY USED	ANALYSIS
Hassett & Hubbard (2002)	Using microeconomic data from firms they concluded that a 1% increase in user cost of capital lowers investment by between 0.5% - 1%. Thus since taxes increase the user cost of capital, tax incentives lower the cost of capital and thus increase investment	Microeconomic data	The use of microeconomic data limited the study from including other locational characteristics which attract FDI such as macroeconomic environment, infrastructure and institutions. Thus, the result cannot be relied on for policy formulation.
Sato (2012)	Main conclusion was that current investment is influenced by previous year investment and taxes were found to negatively affect investment thus incentives help increase investment.	Panel data	The study used a panel of 30 OECD countries over the period 1985-2007. The study used the Generalised Method of Moments (GMM) estimation of panel method recognising that current investments are affected by previous year investments and concentrated on macroeconomic variables as other determinants, ignoring effects of infrastructure and institutions. A long-panel series is also spurious thus panel unit roots could have improved the reliability of estimators. Testing for unit roots in panel data is important for assessing whether the first-differenced GMM estimator is identified or other estimators need to be considered (Baltagi & Kao, 2000).
Bolnick (2004)	The study concludes that the costs of tax incentives are larger than benefits in the SADC. Tax incentives were also found to be more effective in some SADC countries than in others. Non-tax factors were found to be more effective than tax factors in FDI attraction in the SADC.	Marginal effective tax calculations	The study does not use quantitative econometrics analysis to draw conclusions on the effectiveness of non-tax incentives. Conclusions on tax incentives' effectiveness were drawn using the marginal effective tax rate (METR) formula which does not capture fully the complexity of tax systems and the effect of non-tax factors. Onyeiwu & Shrestha (2005) argue that due to a variety of factors that influence FDI it is not practical to make deductions from a model that has tax incentives and FDI as the only variables. This study fills this gap by applying panel data econometric models which captures all theoretical factors that influence FDI in developing countries and addresses individual country's tax effects.
Sudsawasd (2008)	The findings indicate that corporate income tax rates of East Asian countries do not have a significant impact on the level of FDI inflows from the 30 OECD countries.	Gravity model	The analysis used the gravity model of investment between home and host nation and is limited in giving reliable conclusions on tax incentives since it relates tax systems between countries and ignores the impact of lowered tax rates on an individual firm's decision to invest.
Onyeiwu & Shrestha (2005)	They conclude that tax incentives influence FDI flows into Middle Eastern and North African (MENA) countries and also found infrastructure, macroeconomic variables, institutional variables and government expenditures to be effective in FDI attraction.	Panel data	The study employed a fixed effects model. The model included important factors that improve the economic competitiveness of a country cited in various World Development Reports. The model has the shortcoming of ignoring the use of Generalised Method of Moments (GMM), which works in a similar way to the Two Stage least squares in overcoming problems of endogeneity (Baltagi & Kao, 2000). However, most of the variables were used in this study's model since the SADC region has similar growth characteristics to the MENA region.