

**EFFECT OF TAX INCENTIVES ON THE PERFORMANCE OF EXPORT
PROCESSING ZONES ENTERPRISES IN MOMBASA COUNTY, KENYA**

BY

RONALD NDUNGI NJOROGE

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DECLARATION

Declaration by Candidate

This research project is my original work and has not been presented for any degree award at any other University. No part of the thesis should be reproduced without the prior permission of the author and/or Moi University.

Signature

Date

Ronald Njoroge

KESRA/105/0025/2019

Declaration by the Supervisor

This research project has been submitted with our approval as university supervisors:

Signature

Date

Dr. Bruce Ogaga

Kenya School of Revenue Administration

Nairobi

Signature

Date

Dr. Lucy Rono

Accounting and Finance Department,

School of Business and Economics

Moi University

Eldoret

DEDICATION

I dedicate this research to my loving family and friends for unwavering support during this study.

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I have really enjoyed studying at the Kenya School of Revenue Administration. I give my sincere gratitude to the Almighty God for granting me the opportunity to study at the great institution. I also want to convey my heartfelt appreciation to my family and friends who have stood by me during my study period. I wish to acknowledge the efforts of my supervisor Dr Bruce Ogaga for his invaluable support, concern and timely feedback. Special thanks also goes to Dr Lucy Rono for her immense contribution and insights that enabled me to write and complete this research project in time. Without the tireless support of my supervisors I would not have completed this project. May God bless them.

ABSTRACT

Governments around the world are keen to boost their level of exports. Tax incentives are one common tool that can boost the performance of EPZ firms across the globe. In Kenya, the performance of EPZs firms has been declining in the past decade in comparison to other EPZs in both Africa and Asia. The purpose of this study was to establish the effect of tax incentives including capital deductions, VAT incentives and corporate income tax incentives on the performance of EPZs firms in Mombasa County in Kenya. The specific objectives of the study was to determine the effect of capital deductions on the performance of EPZs firms in Mombasa, to establish the effect of VAT incentives on the performance of EPZs firms in Mombasa and to determine the effect of corporate income tax incentives on the performance of EPZs firms in Mombasa. The study explored the optimal tax theory, benefit theory of taxation and Q theory of Investment. This research adopted an explanatory research design based on panel data for a period of ten years starting from 2010 to 2019. The population comprised 28 firms registered and licensed by Export Processing Zone Authority (EPZA) as at 2019 in Mombasa Country. The study used secondary data which was collected from EPZA and which was analyzed using multiple regression analysis to establish the relationship between the particular tax incentives and performance of EPZ firms as indicated by net profit. The findings of the study revealed that Capital Deduction ($\beta=10.989$, $P=0.004$), VAT incentive ($\beta=1.983$, $P=0.023$) and Corporate Income tax incentive ($\beta=2.340$, $P=0.033$) have a positive and significant effect on the performance of EPZs firm in Mombasa. The study concludes that Capital Deduction as measured by investment deductions has a positive and significant effect on the performance of EPZ firms in Mombasa. The study also concludes that VAT incentive as measured by VAT zero rating has a positive and significant effect on the performance of EPZ firms in Mombasa. The study also concludes that Corporate income tax incentive as measured in the form of tax holiday has a positive and significant effect on the performance of EPZ firms. Based on the findings, the study therefore recommends that the government increases the level of capital deductions, VAT incentives and Corporate Income Tax incentives allowed by EPZs firms given their positive effect. This will increase the investments by EPZs firms which will in turn spur more production in Kenya. Further studies should be conducted to identify other potential determinants of the performance of EPZs firms in Mombasa such as the presence of local skilled labor force, foreign exchange policies, foreign trade policies and employment income tax incentives.

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OPERATIONAL DEFINITION OF TERMS

Capital deductions are tax deductions that may apply to all types of capital investment may be limited to specific categories, such as machinery or technologically advanced equipment, or capital expenditure in specified activities, such as research and development (UN 2018).

Corporate income tax incentives are expressed as a percentage difference between the regular corporate income tax (CIT) rate and the tax incentive corporate income tax (CIT) rate (World Bank 2020).

Firm Performance is a multidimensional construct that can be further dimensionalized into sales, output, accounting returns, stock market and growth measures (Martinez et al., 2019).

Tax incentives are defined as Exemptions, tax holidays, credits, investment allowances, preferential tax rates and import tariffs, and postponement of tax payment are examples of preferential tax treatments granted to a chosen set of taxpayers (Chen et al., 2018).

ABBREVIATIONS

AGOA	African Growth and Opportunity Act
AfDB	African Development Bank
EPZA	Export Processing Zone Authority
EPZs	Export Processing Zones
FDI	Foreign Direct Investment
FTZs	Free Trade Zones
GDP	Gross Domestic Product
IFIs	International Financial Institutions
KRA	Kenya Revenue Authority
ROA	Return on Assets
ROI	Return on Investments
USA	United States of America
UNCTAD	United Nations Conference on Trade and Development
WTO	World Trade Organization

CHAPTER ONE

INTRODUCTION

1.0 Chapter Overview

This introductory chapter focuses on the background of the study, statement of the problem, objectives of the study, research questions as well as the significance of the study. The aim of the study was to examine the effect of tax incentives on the performance of EPZ firms in Mombasa County.

1.1 Background of the Study

Tax incentives have long been justified by governments as a way to ameliorate market failure caused by exogenous factors such as regional competition for scarce inward investment (Diana, 2019). In terms of tax incentives, advanced economies often provide benefits in the form of credits and tax incentives for corporate income taxes. Most governments in the global south and developing countries, on the other hand, place a premium on lower tax rates and tax holidays for corporate income taxes, VAT, and excise taxes (IMF et al., 2015). South American economies tend to rely on VAT exemptions, corporate income tax reduction and low import tariffs to promote investment (Agostini & Jorrat, 2017).

According to Agustin et al. (2018), where tax incentives for investment have an effect, they generally come at a high cost, reducing their efficiency. EPZs have a beneficial influence on job creation, according to a 2017 World Bank study that uses firm level data for the Dominican Republic. This advantage, however, comes with the loss of large tax revenues, limiting the government's ability to fund other investments and social services (World Bank, 2017).

Since the second half of the twentieth century, EPZs have had a significant impact on national economies, particularly in nations where the zones are part of a broader industrial policy (Adu-Gyamfi et al, 2020). UNCTAD (2020) posits that there has been a huge increase in the number of EPZs in the past twenty years as there were 3,500 EPZs recorded in 130 countries in 2006 but there are currently over 5300 EPZs around the global. Africa is home to about 230 EPZs, accounting for roughly 5% of all EPZs worldwide, whereas China alone accounts for over 47% of all zones (UNCTAD, 2020). The low figure in Africa can be linked to the continent's late start in establishing EPZs. Liberia, Senegal, and Mauritius were among the first African countries to establish EPZs in the 1970s. Most African nations established their EPZs in the 1990s.

EPZs as a policy tool for development and export-oriented growth have proliferated during the previous four decades, according to Engman, Onodera, and Pinali (2007), and were widely employed in Asia and Latin America in the 1970s. However, since the early 2000s, EPZs have mushroomed in both Africa and other developing countries. In response to changes in industrial and trade policies, several significant emerging economies, including China, India, and Russia, have recently enacted new EPZ laws. As a result, EPZs are increasingly catering to services as well as conventional industry, and more than 100 nations have implemented some type of zone legislation for the provision of goods and services to international markets (Engman, Onodera & Pinali, 2007).

EPZs have been linked to the growing international integration of emerging countries' economies. The first zone was the Irish Shannon Export Free Zone, which was established in 1959. Because of the experiment's early success, organizations such as

the United Nations Industrial Development Organization (UNIDO) encouraged it to be replicated by poor countries, and the first zone in a developing country was established in India in 1965 (Farole, 2010).

The provision of unique incentives to attract foreign investment is a prevalent feature of EPZs. Tax holidays, duty-free export and import, free repatriation of earnings, infrastructure provision, and labor law exemptions are all examples of these incentives (Jauch, 2002). EPZs generate foreign-exchange revenues by boosting non-traditional exports, jobs to reduce unemployment or underemployment in the host nation, and assistance with income creation and attracting FDI (Madani, 1999).

According to Stein (2008), Korea, Taiwan, and China have had the most successful export zones in the world by practically any criterion. Taiwan, like many African countries, was looking for new strategies to promote exports after initially focusing on import substitution. Since its start in 1971, the Mauritian EPZ sector has been expanding. This is evidenced by its EPZs growing export percentage of the country's overall exports, which has increased from 25% in 1978 to over 65% in 1998 (Tekere, 2000). Despite the fact that few African countries began EPZs or free zone projects in the early 1970s – Liberia in 1970, Mauritius in 1971, and Senegal in 1974 – most African countries did not implement them until the 1990s or 2000s (Farole, 2010).

The neoliberal interpretations of EPZs by multilateral financing agencies which linked EPZs to government industrial strategies in Africa, was one of the main reasons for their non-existence in Africa. According to Newman and Page (2017), several of Africa's relatively new EPZs were established in response to the US Africa Growth and Opportunities Act and the Multi-Fibre Agreement. In contrast to what has happened in a number of Asian nations, Stein (2008) claims that African EPZ projects

have been hampered by anti-industrial sentiments ingrained in World Bank-imposed tactics and a poor definition of EPZs by international financial institutions (IFIs).

According to Stein (2008), the World Bank closed parastatal institutions dealing with industry support in African nations after 1980, while also opposing new industrial policy attempts by limiting the scope of state participation to minimize distortions. The World Development Report of 1983 outlined the rationale for the African continent's rejection to industrial policies. To ensure that local industries can compete successfully with their international competitors, the World Bank preferred economy-wide regulatory liberalization.

According to the World Development Report (1983), market distortions are created by the government, either directly or indirectly, as they seek to achieve some social or economic goal. Other reasons were also given for rejecting governmental industrial backing, resulting in the postponement of the development of EPZs throughout Africa. According to a World Bank analysis from 1983, African state capacities are too weak as a result of governments' attempts to control too much economic activity. Instead, countries should concentrate on fundamental obligations, which should not include attempts to address market failings, as the intended remedy has all too frequently been worse than the problem.

All industrial strategies should be opposed, according to a World Bank report from 1983, because they are likely sources of corruption and rent seeking. In addition, administrative actions, such as limitations on international trade and payments, are also some of the policies opposed by the World Bank. The policy design and implementation processes experienced during Africa's import-substitution phases in

the 1960s and 1970s led to discouragement of further state intervention in the industrial sectors (UNCTAD, 2019).

Another explanation for the lack of EPZs in Africa, according to Stein (2008), was a 1989 Africa study that linked low manufacturing performance on the continent to 1970s and early 1980s industrial policy measures. During this period African governments used heavy protection measures, extensive regulation and as well as directed investment to shield domestic firms from foreign competition. These policies hindered local firms and made them less competitive in international trade.

The African Growth and Opportunity Act (AGOA) was signed into law by the United States in May 2000. AGOA was created to promote fair and equitable trade between the United States and Sub-Saharan African (SSA) countries by allowing duty-free access to the US market for a variety of textile and clothing products (Kim, Traore, & Warfield, 2006). According to Adala (2008), African EPZs, particularly in Kenya and Lesotho, gained greatly from trade privileges to the US market granted under the AGOA program from 2000 to 2004. This is largely due to the fact that they faced little competition from Asian producers in the US market, who experienced quota restrictions until the Multifiber Agreement (MFA) expired at the end of 2004.

Since 2005, diminishing competitiveness as a result of the end of MFA has been a well-documented driver of EPZ enterprises stagnation in Kenya and Lesotho (Adala, 2008). According to Stein (2008), African zones have been generally unsatisfactory in terms of a number of success measures, particularly when compared to experiences in a number of Asian countries. EPZs in Africa remain as isolated enclaves with limited linkages to the rest of the economy.

1.1.1 Firm Performance

Martinez et al., (2019) notes that firm performance is a multidimensional construct that can be further dimensionalized into sales, output, accounting returns, stock market, and growth measures. Firm performance is considered a product of the interactions from different parts or units within an organization. Given that some studies focus on financial performance while others focus on non-financial success, the debate on performance is still unresolved. Traditional performance metrics were based on traditional accounting methods, which have been criticized for their lack of impartiality, consistency, and vulnerability to internal manipulation.

According to Kaguri (2013), performance is multi-faceted, and the best measure to assess corporate performance depends on the type of organization being evaluated, as well as the goals that will be achieved through that evaluation. Financial performance in the form of profits, Return on Assets and Return on Investments, as well as product market performance indicators such as sales and market share, and shareholder return are all aspects of business success. According to Mulaa (2014), there has been a shift in recent performance research from the sole use of financial performance indicators to the addition of non-financial performance measures. This method is both practical and consistent with the multidimensionality of the performance construct. Measuring performance is critical for converting strategy into results. Measuring performance, at the same time, is challenging, especially when the metric to be measured is constantly changing and complex.

The classic theory of the corporation emphasizes wealth maximization as the primary metric of an organization's success (Belghitar et al 2019). Firm performance is significantly affected by various factors and tax incentives are one of the significant

factors among them. Lots of empirical studies have been done to explore if there is any relation between firm performance and capital structure and these studies produced mixed results.

Micro and macroeconomic issues have an impact on a company's performance. Product, organizational culture, leadership, manufacturing, demand, and production factors are microeconomic elements that occur within the firm and are under management's control (Egbunike & Okerekeoti, 2018). Macroeconomic elements such as social, environmental, and political conditions, suppliers, rivals, and government regulations and policies, according to the World Bank (2015), operate outside the enterprise and are hence outside management's control. Inflation, unemployment, GDP, stock market index, corporate tax rate, are also other major economic parameters outside management control. Economic Value Added (EVA) is also becoming more prevalent as a performance metric. EVA is a financial performance metric that reflects a company's genuine earnings the most accurately (Bhasin, 2016). "After removing the cost of equity capital and debt from the operational profits," EVA is determined. EVA is nothing more than a modernized version of Alfred Marshall's classic "residual income (RI)" concept.

1.1.2 Export Processing Zones (EPZs)

Expanding export is considered as among the most important primacies of any government in both high income and emerging countries. The underpinning idea is that favoring domestic exports is a key driver of economic growth (Odhiambo, 2021). EPZs are one of the most common export promotion policies that can positively affect directly or indirectly exports in a given country.

One motive for promoting EPZs, according to Farole (2010), is that it is a viable and second-best policy in the face of systemic economy-wide deficiencies and challenges to other national policies. It is always advised that EPZs do not stay as isolated economic enclaves from the rest of the economy and that efforts be made to generate beneficial spillovers across the economy. Mauritius in the mid-1990s and Mexico in the 1990s both provided effective EPZs, whereas Senegal supplied a poor example.

Economic and political stability, profitability of local production, exchange rate policies and skill-content of local employment are some of the most essential elements determining the success of EPZs (Farole, 2010). EPZs are generally successful due to the pure economic incentives provided to resident businesses, such as credit obligations and special tax treatment. EPZs have been one of the most often employed schemes in Latin America to boost exports since the early 1990s (Adu-Gyamfi et al., 2020).

According to Belloc (2017), EPZ enterprises receive a variety of government incentives. The incentives are divided into three categories: budgetary, procedural, and infrastructure. While fiscal and procedural incentives are policy-based and apply to all enterprises, infrastructure incentives are zone-specific and vary depending on the zone. These differences result from the availability of fundamental necessities such as roads, electricity, water, sewerage, security, and storage and warehousing facilities.

According to Belloc (2017), EPZs favour capital deductions, VAT incentives, and corporate income tax incentives over duty drawback systems, which rely on reimbursing taxes paid on imported inputs included in final exported items. In terms of administrative management, duty drawback schemes are rather inconvenient. The

tax incentives of EPZs are also preferred as a way to support exports as compared to reduction and elimination of taxes that occurs when manufacturing under bond.

EPZs have expanded in the previous decade, providing perks and tax breaks to domestic and international enterprises producing items for export. They gained popularity as a result of the prosperity of the newly industrialized countries in East Asia. EPZs have been one of the most popular initiatives for increasing Latin American exports since the early 1990s (Adu-Gyamfi et al., 2020).

1.1.3 EPZs in Kenya

According to EPZA (2017) EPZs were established in Kenya in 1990 with the aim of attracting export oriented firms through a series of fiscal and procedural incentives. The number of operational enterprises stood at 131 while number of gazetted zones as at the end of December 2017 stood at 71 compared to 65 in December 2016, out of which 66 are privately owned and operated while 5 are public zones (EPZA, 2017).

According to EPZA (2019), in the year 2019, 37.2 percent of EPZ firms were completely Kenyan, 22.6 percent were joint ventures, and 40.2 percent were foreign investments. In 2018, 37.5 percent of businesses were completely held by Kenyans, 23.5 percent were joint ventures, and 39.0 percent were controlled by foreigners. Investors have come from Sri Lanka, India, Taiwan, Dubai, China, Qatar, Singapore, the United States, the United Kingdom, Belgium, the Netherlands, Denmark, Australia, Mauritius, and Tanzania.

1.1.4 EPZs in Mombasa

Mombasa is Kenya's second largest city, and it is also the country's main seaport. It is located in the country's southeast along the Indian Ocean coastline. The city has a population of 1.2 million people and is located on an island separated from the

mainland by Tudor Creek and Kilindini Harbor (2019, KNBS). Mombasa County is 230 square kilometers in size and is bordered to the north by Kilifi County, to the south by Kwale County, and to the east by the Indian Ocean (Mombasa county government, 2018).

Ngece and Gichora (2020) notes that the first settlement on the island dates back to 1000A.D. when the urban center developed as an important trade center with connections to India, Yemen, Persia, and China. At the time, its key exports were spices, gold and ivory. After the discovery of the city by the Portuguese explorer Vasco da Gama in 1498, Mombasa was captured and came under Portuguese rule in 1511. However the seaport assumed its importance when the British assumed control of the city in 1898. Mombasa port has achieved great economic significance because it has become the gateway to Kenya's neighbors including the Democratic Republic of Congo, South Sudan and southern Ethiopia, Uganda and Northern Tanzania especially in terms of export and import of goods (Ngece & Gichora 2020).

FAO (2017) notes that coastal regions have attracted human settlements because they provide ideal avenues for agricultural, industrial and transport activities. Manufacturing enterprises are attracted to the coastal areas due to their inherent benefits they provide such as proximity to low-cost marine and inland transportation systems, use of water for industrial process or cooling, marine transportation. Coast shorelines also provide raw material.

EPZA (2019) notes that Mombasa is the most ideal location for EPZs firms because of its close proximity to the Mombasa modern seaport as well as the newly constructed port of Lamu. Investors will benefit from its closeness to the Mombasa

Standard Gauge Railway station at Miritini, as well as its large road network connecting Mombasa Island to the rest of the country.

EPZA (2019) notes that EPZs in Mombasa perform better as compared to those in the rest of the country because the firms are located near the seaport where operational logistics are minimal. The first EPZ in Mombasa was the Kipevu Public Zone which was gazetted into an EPZ in 1993. Currently out of the EPZ 72 zones in Kenya, 24 are in Mombasa. As of 2018, EPZs in Mombasa were leading the country in number of firms established, employees, exports and sales (EPZA, 2019).

According to EPZA (2019), agro processing, chemicals, commercial and commercial craft dartboard, electronics, and food processing are among the industries represented at the Mombasa EPZs. Garments and garment support services, minerals and gemstones, medicines and medical supplies, plastics, printing, relief supplies, drinks and silicone goods are among the other industries represented. The majority of the export processing zone-based enterprises in Mombasa service the US market, although exports to Europe are becoming increasingly important. There are also companies that have established presence at the EPZs with a sales focus towards China.

1.1.5 Tax Incentives and Performance of EPZ Firms

Twesige, Gasheja and Barayendema (2020) notes that a number of countries have used tax incentives for both private and public firms as part of the strategy to stimulate the performance of EPZ firms. Amendola, Mele, and Sensini (2018) notes that tax incentives positively affect the performance of EPZs firms in studies conducted in the Dominican Republic. According to the findings, there is a statistical link between tax incentives and corporate performance. Firms that receive incentives

consistently beat their peers on a wide range of financial criteria, showing that they have a significant competitive advantage, according to the statistics.

Kuria (2018) researched on the impact of taxes incentives on EPZ firms in Kenya. The findings revealed that tax incentives had a considerable impact on EPZ firm performance when examined using ROA as a metric. According to the findings, tax incentives have a considerable impact on EPZ firm performance as assessed by the number of workers hired. The number of years in operation of EPZ enterprises was found to have a favorable and significant link with their performance.

Frick et al. (2018) conducted a study on the impact of tax incentives on EPZs, with the major findings indicating that the zones' expansion is difficult to maintain over time. The findings revealed that efforts to improve the technology component or value addition of the economy through zone policies are frequently difficult, and that the size of the geographical zone mattered in terms of growth potential. Uwaoma and Ordu (2014) notes that country context also significantly determines EPZ performance. Firms favor zones with low-cost locations that are adjacent to significant urban centers, according to the findings. Zone performance is further boosted by proximity to significant consumer markets and pre-existing industrialization. Incentives and other program-specific variables, on the other hand, are highly context-dependent and not fundamentally related to EPZ performance.

1.2 Statement of the Problem

According to Bendell et al. (2015), there are still disagreements over the economic impact of EPZs on host countries. According to some analyses, these are economic enclaves with weak ties to economic development outside the zones. However, other research suggests that they can operate as development stimulants outside of zones.

Forward and backward economic linkages with other enterprises in a national economy, as well as skills transfer into the wider society, are examples of catalytic effects.

Most EPZ statutes, according to Waters (2013), are in violation of Article 3.1(a) of the World Trade Organization's Agreement on Subsidies and Countervailing Measures (SCM Agreement). The main reason for this is that EPZ incentives are considered banned export subsidies. Export subsidies that harm the importing country's domestic sectors are prohibited under international trade regulations. Fortunately, many developing nations have been granted exceptions to this rule, allowing them to keep their EPZ systems in place.

According to Action Aid International (2012), Kenya's government is offering a variety of tax advantages to firms in order to attract more investment, particularly into the EPZs. According to this analysis, such tax advantages result in significant revenue losses and are not required to encourage FDI. According to the study, Kenya loses Kshs 100 billion each year as a result of all tax breaks and exemptions.

The importance of the EPZ program to the national economy has been on the decline in the recent past. EPZA (2019) notes that total sales from the EPZs in Kenya stood at Kshs 77.2 billion in 2019 from Kshs 77.3 billion in 2018, while value of exports were Kshs 68.6 billion in 2019 from 72.4 billion shillings in 2018. EPZ output contribution to the manufacturing sector was 3.00 percent in 2019, down from 3.21 percent the previous year. EPZ exports as a percentage of overall Kenya exports fell to 11.49 percent in 2019 from 11.78 percent the previous year. In addition, the value of local purchases by EPZs firms declined by 6.0% between 2019 and 2018 mainly as a result

of adverse weather conditions that affected supply of raw materials to agro processing EPZ enterprises.

According to EPZA (2019), high production costs and internal shocks are two factors that are predicted to have a significant impact on the program's success in 2020. EPZs' poor performance was attributed to a number of issues, including meteorological difficulties, such as a drought that disrupted the supply of raw materials to agro processing industries, inconsistency in orders for some garment firms, worldwide competitiveness, and nervousness about general elections (EPZA, 2019).

The World Bank has also commented on the poor performance of Kenya's export sector. According to the World Bank (2012), Kenya's economy has been powered by a single engine: domestic consumption, which accounts for 75% of GDP. Kenya's weak engine remains exports, which have been rapidly dropping in relative importance, implying that EPZs are not operating as expected. The value of imports has been increasing at a faster rate than the value of exports (World Bank, 2012).

A comprehensive empirical analysis on the effects of EPZs is still missing. A number of scholars have conducted studies on the effects tax incentives on the performance of firms in the United States, China, Dominican Republic, Rwanda and in Kenya. Mersky et al. (2018) studied the effects of tax incentives on EPZ firms operating in the Dominican Republic. This indicates the presence of a contextual gap because they were conducted outside of Kenya.

A number of scholars have also focused on EPZ firms in Kenya but have studied different tax incentives and firm performance indicators as compared to the current study, hence the presence of a conceptual gap. Kuria (2017) investigated the impact of excise duty tax incentives and custom duty incentives on EPZ firm performance in

Kenya, whereas the current study concentrated on corporate income tax incentives, VAT incentives, and capital deductions.

The study is also relevant due to presence of methodological gap in the study of tax incentives. Kuria (2018) studied the effect of VAT incentives on the performance of EPZ firms in Kenya using primary and secondary data and correlation research design while the current study will only use secondary data and explanatory research design. Kuria (2017) studied the influence of tax incentives in Kenya on the performance of EPZ firms in Kenya using primary data while the current study will use secondary data. This indicates the presence of a methodological gap.

From the foregoing, the study sought to find answers to the effect of capital deductions, VAT incentives and corporate income tax incentives on the performance of export processing zones (EPZs) firms in Mombasa County in Kenya.

1.3 Research Objectives

The key objective was to study the effect of tax incentives on the performance of export processing zones (EPZs) firms in Mombasa County in Kenya.

1.3.1 Specific Objectives

The specific objectives were:

- i. To determine the effect of capital deductions on the performance of export processing zones (EPZs) firms in Mombasa.
- ii. To establish the effect of VAT incentives on the performance of export processing zone (EPZs) firms in Mombasa.
- iii. To determine the effect of corporate income tax incentives on the performance of export processing zones (EPZs) firms in Mombasa.

1.4 Hypotheses

The following hypotheses were used to guide the study:

H₀₁: Capital deductions have no significant effect on the performance of export processing zones (EPZs) firms in Mombasa.

H₀₂: VAT incentives have no significant effect on the performance of export processing zones (EPZs) firms in Mombasa.

H₀₃: Corporate income tax incentives have no significant effect on the performance of export processing zones (EPZ) firms in Mombasa.

1.5 Significance

This study will enable governments to gauge whether EPZs based in Mombasa are ideal vehicles to boost foreign exchange earnings and reserves. The results of the study could be used to provide policy makers with evidence as to whether an export led development model is appropriate for Kenya. This study will also guide the government in future policy reforms. The study should help Kenya to decide whether taxes foregone by EPZ firms especially in Mombasa are a benefit or cost to the economy. KRA has been losing significant amounts of revenue in the form of tax incentives. The study will ensure the government makes an informed decision on whether the benefits outweigh the costs.

The study will also help managers of EPZs to determine if the tax incentives provided by governments are sufficient enough to drive profitability of their firms. The study will also guide investors on whether additional fiscal and non-fiscal measures are required in the EPZs to attract and retain them in Kenya. This is because investors have many investment destinations choices due to the mobility of capital. The study will help scholars boost the EPZs theories. There has been debate whether theories

used to justify the existence of EPZs are adequate to enable scholars evaluate the benefits and costs of EPZs. The evolving nature of globalization requires scholars to utilize and develop appropriate theories for EPZs.

1.6 Scope

The study covers the effects of tax incentives on the performance of the 28 EPZ firms located in Mombasa County and the study collected data spanning 10 years from 2010 to 2019. The independent variables were capital deductions, VAT incentives and corporate income tax incentives claimed by the EPZ firms while the dependent variable was performance of the EPZs in terms of net profit.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter presents a conceptual review, theories as well as the empirical studies underlying the effects of tax incentives on the performance of export processing zones (EPZs) firms in Mombasa County in Kenya. This chapter also presents the conceptual framework, a summary of previous studies on tax incentives and performance of firms, a critique of the existing literature review as well as the existing research gaps.

2.1 Conceptual Review

The independent variables for the study are capital deductions, VAT incentives and corporate income tax incentives while the dependent variables are performance of EPZs firms as measured by net profit.

2.1.1 Firm Performance

Raffoni et al (2018) believe that performance measurement systems have several characteristics, namely a combination of long and short terms measurement, integration of financial and non-financial indicators including internal and external point of view, presence of forward-looking perspectives and definitions of causal relationships in various sizes and perspectives. Despite its importance, Prihatiningtias et al. (2020) point out that there is little agreement on the definition, dimensionality, and measurement of firm performance. The effectiveness or success of a firm, employee performance, ability to provide value for customers, productivity, flexibility and adaptation, goal achievement, and stakeholder satisfaction are all considered in performance definition.

Financial performance measurements are frequently used to gauge a firm's competitiveness, according to Liargovas and Skandalis (2008). Financial performance measurements have the advantages of being simple to calculate and having globally agreed meanings. Financial measures have traditionally been used to assess the success of a manufacturing system or organization.

According to Zaid and Ahmad (2020), economic performance is measured by financial and market results such as earnings, sales, return on investment for shareholders, and other financial matrices. In contrast, operational performance focuses on visible indices such as customer happiness and loyalty, the company's social capital, and competitive advantage generated from competencies and resources. Successful enterprises, according to Taouab and Issor (2019), are a critical ingredient for emerging countries, and many economists regard them as akin to an engine in determining their economic, social, and political development. To thrive in a competitive business climate, every company should function under performance-based conditions.

Any company's goal is to achieve continual performance. This is due to the fact that companies may only experience growth and progress if they perform well. As a result, monitoring and measuring business performance is critical, as firms are always looking for more effective and efficient solutions (Taouab & Issor, 2019). Firm performance has recently become a popular topic in strategic management research, and it is regularly employed as a dependent variable. Firm performance, must be differentiated from the wider concept of organizational effectiveness (Richard et al., 2009). Key performance indicators for companies include sales in volumes, sales in revenues and as well number of jobs created by the company. Sales volume refers to the number of things a company sells in a specific time period, or by a year or fiscal

quarter, whereas sales revenue refers to the amount of money a company generates during the time period under consideration.

EPZ enterprises in South Korea, Malaysia, Sri Lanka, China, and Indonesia, according to Jayanthakumara (2003), have been a key source of employment and have promoted local entrepreneurs. They're also cost-effective, generating profits that well outweigh the anticipated opportunity costs. However, in other countries, such as the Philippines, the high infrastructure expenditures associated with establishing the zones resulted in a negative net present value, and as industrialization progresses, the gap between market and opportunity labor costs narrows, and interest in EPZs fades.

This research uses net profit as the performance indicator and is obtained by deducting expenses, depreciation and tax expenses from net sales. Net profit is an appropriate performance indicator for corporations because it is a true indicator of overall profitability (Joonsen, 2019).

Dermawan and Indrajathi (2017) notes that in the accounting and business field, net profit which is also referred to as total comprehensive income or net earnings, is an accounting period's revenues minus cost of goods sold, costs, depreciation and amortization, interest, and taxes. The amount of revenue left over after all expenses and income have been accounted for in a period is referred to as net profit.

Given that increased sales do not always correlate to greater profitability, net profit, commonly known as a company's bottom line, is a vital indicator for firms to track. Profitability is an important metric of a firm's performance because it is an obvious part of recognizing entrepreneurial opportunity (Siepel & Dejardin, 2020).

2.1.2 Tax Incentives

Tax incentives, sometimes known as tax breaks, tax concessions, tax exemptions, tax holidays are preferential tax treatment given to particular categories of taxpayers, resulting in them paying less tax or delaying their tax burden until a later period (Diane, 2019). Tax incentives, according to Chen et al. (2018), are preferential tax treatments provided to a select set of taxpayers in the form of exemptions, tax holidays, credits, investment allowances, preferential tax rates and import tariffs, and tax liability deferral. Tax incentives have been justified in some countries because the general tax system disadvantages investments in such countries as compared to other ones.

According to Blumkin et al. (2019), governments frequently pick tax incentives over other sorts of action since it is far easier to provide tax benefits than to address legal system flaws or drastically alter a country's economic environment. As a public policy tool, tax incentives are justified if the economic, social and environmental benefits they bring about outweigh the costs they generate. These include fiscal costs, due to loss of revenue, as well as effects on efficiency, equality and transparency (ECLAC, 2020). While tax is one of several criteria that determine where multinational firms invest, governments may opt to employ a more visible and accessible instrument like tax holidays rather than work to enhance the overall investment climate, such as macroeconomic stability and public infrastructure adequacy.

According to Twesige and Gasheja (2019), in Kenya tax incentives could be classified as either investment or export promotion incentives. Export tax incentives are used to improve international competitiveness of local firms that use domestic inputs. In order to recruit investors and influence their operations, developing countries are increasingly relying on investment incentives. More than half of the 107 developing

nations granted tax vacations or favourable corporation tax rates across sectors at the national level in 2015. Between 2009 and 2015, 46% of low income countries introduced new tax incentives or increased the value of existing ones (Andersen, Kett & von Uexkull 2018).

2.1.3 Capital Deductions

The cost of capital, according to Calitz et al (2020), is one of the most important factors of enterprises' capital investment decisions. The cost of capital, also known as the cost of retaining a unit of capital for a unit of time, indicates the opportunity cost of funds utilized in a firm, or the minimal rate of return required to make a capital investment worthwhile.

Capital deductions, according to Chen et al. (2018), are tax deductions that can be applied to any type of capital investment. They could also be limited to certain types of equipment, such as machinery or technologically advanced equipment, or to capital expenditure in specific activities, such as research and development. They are given in addition to regular depreciation allowances, allowing the investor to write off a sum larger than the investment's cost. According to Melville (2019), capital consumption expenses rise as the value of most capital assets utilized in businesses depreciates due to wear and tear and obsolescence. Accounting and corporate tax systems allow companies to deduct costs of capital assets from their income over time.

Kenya provides for tax deductions in respect of capital expenditures incurred for industrial buildings, machinery, roads, railways, fencing, farm works, water and sewerage works (Income tax act, 2018). Where capital expenditure is incurred on buildings and machinery for use in an export processing zone, a deduction, known as an investment deduction, equal to one hundred percent of the capital expenditure may

be taken at the discretion of the enterprise against gains or profit in the year in which the building or machinery is erected (Income tax act, 2018). In addition, wear and tear deductions for plant and machinery installed at EPZs is at the rate of 12.5 percent.

The finance Act 2021 made changes to investment deductions to state that if capital investments are at least 2 billion shillings for the preceding three years, the investment deduction rate shall be at 100 percent for firms that operate outside Nairobi and Mombasa counties. However, a rate of 150 percent shall continue to apply if the investments were made before 26 April 2020. For counties outside Nairobi and Mombasa, the rate for investment deduction shall be at 100 percent if the capital expenditure exceeds 250 million shillings in that year of income.

2.1.4 Corporate Income Tax Incentives

Corporate income tax is a direct tax enforced on the income or chargeable gains accruing to a company. Governments use corporate income tax incentives as a tool to encourage enterprises to invest in EPZs (OECD, 2019). According to the World Bank (2020), corporate income tax incentives (CIT) are calculated as a percent-point difference between the ordinary CIT rate and the tax incentive CIT rate. Increased competition to attract foreign direct investment contributes to the growing popularity of corporate tax incentives (OECD, 2019). According to Chen et al. (2018), corporate income tax incentives can take the form of a total exemption from profits tax and, in some cases, it can be a reduced rate of tax, or a mix of the two, such as a two-year exemption followed by three years at half the usual rate. The exemption or discount is only valid for a certain amount of time.

Corporate income tax incentives are a type of tax expenditure that differs from the benchmark system in that they are only given to investors or investments that meet

certain criteria (OECD, 2019). An EPZ firm that does not engage in any commercial operations is free from paying corporation tax for 10 years, beginning with the year in which production begins; nonetheless, the corporate rate of tax will be 25% for the next ten years, beginning immediately after that (Income tax act, 2018).

2.1.5 VAT Incentives

The value-added tax (VAT) was first conceived about a century ago. The idea is usually attributed to the German businessman Wilhelm von Siemens. Some scholars also argue that the American academic economist Thomas S. Adams had the same idea at about the same time. Von Siemens thought of it as a better consumption tax, while Adams thought of it as a better corporate income tax (James, 2015).

Slemrod and Velayudhan (2020) notes that the first full-fledged VAT systems appeared in Denmark and Brazil around 1967, after which the pace of adoption accelerated in Europe and Latin America, followed by Asia and Africa in the 1980s. Its adoption in Europe was partly due to the belief that it would be easier than a retail sales tax to harmonize across countries. As of 2020, it has become a huge success in terms of ubiquity of adoption and revenue raised. It accounts for about 30 percent on average of total tax revenue in countries where it has been adopted (ICTD, 2019).

According to the Institute of Economic Affairs (2012), value added tax (VAT) is a tax on the difference between what a producer pays for inputs like raw materials and services like advertising and what the manufacturer charges for finished goods and services. Imported taxable products and services are likewise subject to VAT. VAT incentives include zero rating, VAT deferment, VAT refunds, and VAT exemptions, according to Madzivanyika and Kadenge (2015). Some taxable supplies are classified as zero-rated supplies, and registered operators who make zero-rated supplies can

claim the entire input tax credit for goods and services purchased to make the zero-rated supply.

According to EPZA (2017), EPZ firms are exempt from VAT on all sales transactions outside the EAC as well as on purchase of all inputs. Local purchases of goods and services supplied by enterprises in Kenya's customs territory or domestic market are likewise exempt from VAT. Tax exemptions are not available for vehicles that do not stay within the zone. Exportation of goods or taxable services is zero rated while the supply of goods or taxable services to an EPZ firm is also eligible for duty and tax free importation (VAT act 2015).

2.2 Theoretical Review

This section will discuss existing literature on the directions of causality that exist amid tax incentives and EPZ firms' performance. The theories that will be discussed are the Optimal tax theory, the Benefit theory of taxation and the Q theory of investment.

2.2.1 Optimal Tax Theory

Frank Ramsey founded the optimal tax theory through his 1927 paper on, a contribution to the theory of taxation. According to Ramsey, proficient taxation regulations require authorities to implement a raft of taxes as compared to a singular tax. Ramsey (1927) posits that the optimal tax theory indicates that numerous smaller taxes are more optimal as compared to a single large tax. The optimal tax theory postulates that a tax regime ought to be implemented to optimize social welfare given that most taxes distort behavior of economic agents.

Stiglitz (2000) considers Frank Ramsey's 1927 paper on optimal taxation as an introduction of the field of the study of optimal taxation theory. Corlett and Hague

(1953) also played a key role in the formulation of the optimal taxes design by use of analysis developed by Frank Ramsey. The two researchers noted that if certain economic activities cannot be taxed directly then governments ought to consider imposing surrogate taxes instead. By taxing complementary goods and reducing the rate of taxation of substitute goods, governments can achieve optimal taxation. A unique application of Ramsey's analysis was used to generate one of the first advancements in the design of optimal taxes.

Boiteux (1956) also played a significant role in developing the optimal taxation theory by researching on linear pricing of firms that operate in non-competitive market places. The researcher indicated that authorities can achieve maximum social welfare by making sure that tax levels imposed on monopolies don't affect their efficiencies. Before the advent of research by Mirrlees (1971), the work of Ramsey on optimal tax theory was the foundation of optimal taxation. Mirrlees through his works in his paper an Exploration in the Theory of Optimum Income Taxation, indicated that tax regulations should be implemented through information symmetry. His studies introduced a new line of thinking by proposing that nonlinear taxation as the most effective tool to raise money by governments. This new found reliance on nonlinear income has reduced the importance of singular taxes on commodities in favour of smaller taxes that are spread across many economic activities.

Atkinson and Stiglitz (1976) also played a vital part in developing the optimal tax theory by revealing that non-flat tax levels is ideal to ensure economic agents remain incentivized to enhance their output without avoiding taxation. Their findings showed that nonlinear taxes have less impact on tax collected because they don't remove incentive to earn income for fear of over taxation. The conclusion from Atkinson and Stiglitz (1976) also had a major impact on the evolution of the optimal tax theory by

indicating that prices for goods and services should not be used to reduce income inequalities. A number of researchers have utilized the optimal tax theories for their studies. Fleurbaey and Manique (2018) studied the effects of optimal income taxation theory on deserved and undeserved income in the US. Onakoya et al (2017) used the optimal taxation theory to study the effect of tax revenues on the growth of the gross domestic product (GDP) in Africa.

The optimal tax theory relates to this study because it calls for restrictions on the design of the indirect taxes such as VAT on final goods. Specifically it advocates for non-taxation of intermediate goods and that final goods should all be taxed alike. The theory argues that government should not use tax incentives such as exemptions on VAT to lower the burden of tax on low-income persons, but instead use redistributive income taxation, for the goal attainment. The theory also calls for zero capital taxes since capital equipment is a step in the process of producing future output while corporate income taxes should be at flat rate to avoid market distortions. The optimal tax theory relates to this study because taxes tend to distort consumers behavior such that the activity that is taxed becomes less desirable. So the government should design taxes to ensure that EPZs activities are not discouraged from taking root as a result of high taxation.

2.2.2 The Benefit Theory of Taxation

The benefit theory of taxation was developed by Eric Lindahl in 1919 in his paper, *The Justness of Taxation*. The theory holds that each person's share of taxes should equal the share of benefits each person receives in the form of government-provided goods and services. According to Lindahl, taxation is the price the taxpayer pays for government benefits or services. Taxes should be low or zero for people who get no government assistance and high for those who receive the most.

Henry Simons on his paper on Personal Income Taxation (1938) contributed to the evolution of the benefit theory of taxation through his insights on the role of progressive income tax as vital for feasibility of a free market economy. Samuelson (1954) contributed to the development of the benefits tax theory by arguing that effective resource allocation for the provision of public goods necessitates the equality of marginal rate of substitution or marginal social benefits in aggregate for all persons. In an attempt to answer the problem of 'price' for the taxpayer-voter, Samuelson (1955) contributed to the evolution of the benefits theory of taxes by defining public good. Samuelson (1955) laid out the requirements for a public benefit to be non-rivalrous, non-excludable, and utilized equally by all.

Musgrave (1959) advanced the benefit theory of taxes by demonstrating that the closer an individual's tax share matches his or her individual benefits, the closer the given quantity of public goods is to the effective amount. According to Stewart (2015), Richard Musgrave revived the benefit theory by relying on both Anglo and Germanic public finance traditions. Musgrave established a three-branch government with Allocation, Distribution, and Stability as its normative foundation. Musgrave's move to defend the benefit theory must be viewed in the context of the early twentieth-century US tax debate, which centered on the income tax's progressivity as the government's principal gesture toward distributive fairness.

According to Stewart (2015), the benefit theory of taxation was created in an environment where public spending, paid by taxes, grew in lockstep with the economy's expansion. The ability of democratic governments to tax and spend has become a distinguishing feature of modern states. The size of government spending and taxation grew considerably as the economy grew.

During the 50-year era from 1930 to 1980, when the western world's tax and government systems underwent the most dramatic transformation, the benefit theory of taxation rose to prominence. For the first time in history, income taxes were paid by the majority of the people who earned money from labour rather than from capital, resulting in social security levies on wages funding the 'entitlement' or insurance model of welfare in many nations (Stewart, 2015). The benefit theory of taxation has also evolved to support earmarked taxation where taxes are ring fenced to finance a particular project. It therefore becomes possible to finance an impure public good through user charges (IMF, 2007). The theory has been applied by researchers to explain role of taxes in economic growth. Babatunde et al., (2017) used the benefit theory of taxation to study the effectiveness of taxes as a tool for promoting economic growth.

The benefit theory of taxation relates to this study because it calls for taxation of entities according to the amount of public services they enjoy from the state. Therefore capital deductions, VAT incentives and corporate income tax incentives should only be permitted to the extent that they don't erode the responsibility of EPZs firms to pay their fair share of taxes. The goal is that taxes liability should equal the access to the publicly funded goods such as infrastructure, security and other social services.

2.2.3 Q Theory of Investment

Brainard and Tobin (1968) proposed the Q theory of investment in their paper "Pitfalls in Financial Model Building," arguing that a firm's investment should be positively related to the ratio of its market value to the replacement value of its capital stock, without using the letter Q to denote this ratio. Tobin (1969) defined the incentive to invest in capital as the ratio of a firm's market value to the replacement

cost of its capital stock, which he dubbed Q. Tobin's Q is an empirical application of Keynes' (1936) theory that capital investment becomes more appealing as the value of capital rises relative to the cost of acquisition (Abel 2008). The firm's assets are determined by the market value of its shares and debt (Tobin, 1969). Tobin's Q, on the other hand, is the sum of the book value of total debt and the market value of equity, divided by the book value of assets (Tobin, 1969).

Salinger and Summers (1983) notes that Tobin's Q could be used to approximate the impact of tax incentives policies on the performance of firms. According to the Q theory of investment, investments into firms should only be made if a one-shilling investment boosts the firm's market value by more than one shilling. A fixed rate of return is required by a company's shareholders to encourage them to keep their existing stock of shares. Dividends, which are the same as profits after taxes, provide this return.

Tobin's Q, according to Vintila and Nenu (2015), is by far the most extensively used market size indicator, having been introduced by Tobin and Brainard (1968). The ratio between the market value and the replacement cost, or the present market value of the company and the book value of its assets, is known as Tobin's Q. If $q > 1$, the market value of a capital investment exceeds its cost, and the market value of its registered assets exceeds its cost. If q is less than one, the capital market is thought to be undervaluing the company, which will enhance demand for its shares. As q rises, the issuance of additional shares becomes more profitable than debt (Vintila & Nenu, 2015).

Through their research on the time series behavior of investment, production, and pricing in a competitive industry with stochastic demand, Lucas and Prescott (1971)

contributed to the development of the Q theory of investment. Hayashi (1982) formalized the premise that investment is a function of marginal q, which is the firm's optimal capital accumulation issue with adjustments costs. The optimal rate of investment was also calculated as a function of marginal q adjusted for tax parameters in the study. Fazzari et al. (1988) also contributed to the evolution of the q theory of investment as they were the first researchers to utilize the sensitivity of investment to cash flow by holding q constant as a metric of a company's financing constraint. A number of scholars such as Chen and Lee (1995) used the q ratio as a measure of business performance while Wernerfelt and Montgomery (1988) and Lang and Stulz (1994) used the q ratio as a measure of returns from diversification. The q ratio also assesses market power based on the firm's current assets as well as its future growth potential.

Kogan et al (2020) notes the q theory of investment is the cornerstone of the investment-based asset pricing. One prediction of the theory is that lower cost of capital stimulates more investment, so current investment negatively predicts future stock returns. Because it is best adapted to address growing concerns about the constraints of accounting measures of performance, the q ratio offers significant advantages as a financial-market measure. The q ratio has been employed by industrial organization economists and strategy scholars to investigate the effects of market power on performance, particularly when accounting measurements have failed to find any influence (Kogan et al., 2020).

The Q theory of investment supports the dependent variable which is the performance of EPZ firms as measured by net profit. This is because increase in net profits leads the q value becoming smaller than one which makes the EPZ firms more attractive to investors who want to buy shares of the firms because it is undervalued by investors.

The Q theory of investment is also relevant to this study because it indicates that decrease in net profits results in the q value becoming bigger which will reduce the attractiveness of EPZ firms amongst investors. This is because investors will consider the firm overvalued in comparison to the replacement costs of the EPZ firm.

2.3 Empirical Review

This section presents the studies have been conducted to determine the effect of tax incentives such as capital deductions, VAT incentives and corporate income tax incentives on the performance of EPZ firms receiving the tax incentives. It seeks to study the linkages that exist between the independent variables and the dependent variables.

2.3.1 Corporate Income Tax Incentives and Performance of EPZ Firms

Mersky et al (2019) investigated the impact of business income tax incentives on the uptake of electric vehicles in Norway. The study looked at electric car sales in Norway on a regional and municipal level, then compared them to local demographic data and incentive programs to identify what characteristics influence electric battery vehicle uptake. Access to electric charging infrastructure, proximity to large cities, and regional incomes were found to have the strongest predictive capacity for electric sales growth. Short-range cars, on the other hand, were found to be more sensitive to income and unemployment than long-range vehicles.

In the Dominican Republic, Amendola et al. (2018) investigated the relationship between business tax incentives and chosen firm-level performance measures. Fixed and random effects models were employed to analyze firm level panel data from 2006 to 2015. Individual firm performance in the Dominican Republic was positively benefited by corporate income tax exemptions, according to the findings. Inequitable

tax treatment of businesses, further, hampers competition in the industrial sector, lowering the overall economic productivity.

Twesige et al. (2020) investigated the relationship between corporate tax incentives and SMEs' growth in Rwanda. Both qualitative and quantitative research methods were used in this study. In the Nyarugenge district, 49,000 SMEs in the agricultural, industrial, service, and tourism sectors were evaluated. Tax incentives were shown to have a substantial, favorable, and significant association with the growth of small and medium firms in Rwanda.

Brazys and Regan (2021) studied the effect of corporate tax incentives in Ireland's Foreign Direct Investment Growth Model. The study researched on 5320 tax domiciled companies with annual turnover of 1 million euros or more in any year in the data in the period between 2002-2019. The studied used secondary data from the FAME database which is compiled from the annual International Financial Reporting Standards (IFRS) statements of Irish registered companies. The results indicated that ten multinational enterprises account for 40 percent of all corporate tax payments, whilst 100 firms account for over 70 percent of all corporate tax payments. MNEs in the Large Corporate Division (LCD) of Revenue paid 80 percent of all net corporate tax receipts.

Muli and Ombati (2020) investigated the impact of capital gains tax on real estate firm performance in Machakos County. The study employed a descriptive research methodology, with the target population consisting of all 143 employees of 31 real estate enterprises operating in Mavoko and registered with the applicable Machakos County Government department. The study relied on primary data gathered by an open-ended and closed-ended likert scale questionnaire. Capital gains and firm

performance were shown to have a strong positive association, while capital allowances and firm performance were found to have a non-significant positive relationship.

Kuria et al. (2017) investigated the impact of a corporate income tax incentive on EPZ firm performance in Kenya. A correlation research design was used in this study. Because the population was small, a census survey was conducted, which included all 86 registered EPZs operating in Kenya. The research relied on original data gathered through questionnaires. Secondary data on the independent variables was also obtained as part of the study. To analyze the data, the researchers employed both descriptive and inferential statistics. The study found that, at a 5% level of significance, corporate income tax incentives had a positive and significant association with EPZ company performance as evaluated by ROA.

2.3.2 VAT incentives and Performance of EPZ firms

Chuanwang et al (2020) investigated value-added tax (VAT) incentives in various types of new energy enterprises in China, and used the Difference-In-Difference (DID) approach to empirically investigate the effect of VAT incentives on new energy listed companies. The findings revealed that VAT refunds for the new energy business could reduce the experiment group's return on equity (ROE) by 4.7 percent, compared to the control group. This is primarily due to the tax incentives causing a twisted industrial chain, overcapacity, and a lack of innovation impetus. By evaluating the dynamic effects of VAT incentives, the study also demonstrated that policy influence has a temporal lag and fluctuates significantly over time. This study used firm-level data to provide new evidence on the effectiveness of tax incentives for the new energy industry.

Harju et al. (2019) investigated the impact of VAT exemptions on firm performance in Finland. The study found that at the sales-based threshold, both remitted VAT and compliance costs of frequent VAT reporting varies. The study employed variations in both the VAT rate and the reporting requirements to demonstrate that the big observed sales reaction is caused by VAT compliance costs rather than the VAT rate itself, emphasizing the importance of compliance costs between small businesses and entrepreneurs.

Liu et al. (2019) investigated the effects of tax incentives on the productivity of Chinese businesses. The study used a unique firm-level dataset from 2005 to 2012 and a quasi-experimental approach to examine the effects of the change on business investment and productivity. According to the data, VAT incentives increased investment and productivity of treated firms by 38.4 percent and 8.9 percent, respectively, as compared to control enterprises. The findings further show that for enterprises with financial restrictions, the favorable impacts are amplified.

Zheng (2020) investigated the relationship between VAT decrease and corporate investment. The study covered the years 2009 to 2019 and focused on Chinese engineering organizations with stock exchange listings. The calculated value of the VAT coefficient was 0.021, which is strongly connected at the level of 5% after controlling for firm size, asset-liability ratio, return on assets, and enterprise growth capability. The VAT coefficient of the sample of non-state-owned firms was bigger in absolute value than that of the sample of state-owned enterprises, showing that VAT reduction has a greater boosting effect on non-state-owned enterprises' investment than that of state firms.

Chan (2019) investigated the effect of value-added tax incentives on ASEAN manufacturing performance. The study employed imbalanced panel data from ten ASEAN nations from 1985 to 2014. Secondary sources were employed to create the panel dataset for this investigation. There are 174 country-year data observations in total. Using dynamic panel data in ASEAN countries from 1985 to 2014, this analysis demonstrated a strong and negative association between VAT and industrial value added. According to the data, an increase in VAT causes a decline in value addition by the manufacturing sector. VAT has a positive relationship with the volume of exports. This shows that exempting exports from taxes encourages increased export volume. This findings indicate that the manufacturing sector in countries with VAT perform better as compared to manufacturers in countries without VAT.

Kuria (2018) investigated the impact of VAT incentives on EPZ firms' performance in Kenya. The study employed a correlation research approach, with 86 registered EPZs enterprises in Kenya as the sample size. Primary data was collected using questionnaires, and secondary data was received through EPZ enterprises. The study used inferential and descriptive analysis to identity the results. VAT incentives had a favorable and significant link with EPZ firms' performance as evaluated by ROA, according to the data. VAT incentives were found to have a positive and significant link with EPZ firms' success as evaluated by the number of total employment created in Kenya, according to the findings. VAT incentives were also found to have a positive and substantial link with EPZ firms' performance as evaluated by the number of years in operation.

2.3.3 Capital deductions and Performance of EPZ firms

In the United States, Slattery and Zidar (2020) investigated the effects of state and municipal business incentives. The study looked at firm-specific incentives like capital deductions, as well as the tradeoffs that come with using them to meet local and national goals. According to the study, some states spend between \$5 and \$216 per capita on corporate incentives in the form of firm-specific subsidies, which primarily target investment, job creation, and R&D. Large establishments in manufacturing, technology, and high-skilled service industries received firm-specific incentives, with an average discretionary subsidy of \$178 million for 1,500 promised jobs. There was evidence of direct job gains from attracting a firm, but no clear evidence that firm-specific tax incentives increased broader economic growth at the state and municipal levels, according to the research.

Kari et al. (2018) studied the effects of investment incentives on the performance of European Union firms under the Allowance for Growth and Investment (AGI). The scholars studied the effect of capital deductions that were granted to companies according to increases or decreases in their equity within the last 10 years. The findings indicated that the introduction of the capital deductions decreases the cost of capital in high-tax countries and hence more lucrative for companies enjoying the tax incentive. The study also found that the capital deduction distorts the allocation of capital with respect to several dimensions, like economic depreciation.

In Nigeria, Kyari (2020) investigated the influence of capital deduction incentives on FDI inflow. A five-point Likert scale was used to collect data, which was then analyzed using descriptive statistics and the Kruskal-Wallis approach. Nigeria's petroleum tax incentive package is sufficient in number and appropriate in mix in

attracting foreign direct investment, according to the report. Nigeria's petroleum tax incentive package, according to this report, is suitable for attracting foreign direct investment.

Obafemi et al. (2021) investigated the effect of tax incentives on the growth of small and medium scale enterprises in Kwara state. The sample size of the study comprised of 10 selected SMEs in Kwara State. The research used primary data to determine the effect of tax incentives on the performance of firms. The findings indicated that tax incentives do have a significant impact on the growth of small scale industries through enhancing their sales revenue and profit growth.

Olaleye (2015) investigated the impact of capital allowances and foreign direct investment in Nigerian listed manufacturing firms. The study used a descriptive research design, and the study's target population was the 74 publicly traded manufacturing enterprises with over 56,000 employees. The study used a sample size of 352 respondents from 32 manufacturing organizations, who were chosen via stratified purposive sampling and divided into three strata: top, medium, and lower management levels. The study relied on primary data gathered through the administration of questionnaires. The data suggests that capital allowance and foreign direct investment have a strong positive linear relationship.

Olayemi and Folajimi (2021) studied the effect of investment allowance tax incentives and the growth in revenue sales of SMEs in Ondo and Ekiti States. The study employed survey design and a sample size of 386 SMEs registered with SME Development Agency of Nigeria in Ondo and Ekiti States. The owners, employees, accountants and auditors of these SMEs were selected through a multi-stage sampling approach which involved the stratified, proportionate, and simple random sampling

methods. Descriptive and inferential statistics were used to analyze the data. The study concluded that tax incentives proxies, of investment allowance, tax credit, tax holiday, and tax deferment were significant determinants of the growth in sales revenue of SMEs in Ondo and Ekiti States, Nigeria.

Kuria (2017) investigated the impact of tax incentives on EPZ firm performance in Kenya. The study looked at the impact of capital allowance tax incentives on EPZ firm performance, including profitability, gross margins, and the number of employment produced. The results of the bivariate regression models used demonstrated that capital allowance tax incentives had a positive and significant association with EPZ firm performance as evaluated by ROA and total number of jobs at a 5% significance level.

2.4 Critique of Literature

Some of the literature reviewed involved studies in countries and contexts outside of Kenya and therefore their findings cannot be generalized into Kenyan's unique fiscal settings. Mersky et al. (2019) studied the effectiveness of corporate income tax incentives on electric vehicle adoption in Norway while Amendola et al. (2018) studied the effects of tax incentives in the Dominican Republic. At the same time Twesige et al. (2020) studied the effect of corporate tax incentives and growth of SMEs in Rwanda while Chuanwang et al. (2020) studied value-added tax (VAT) incentives in different kinds of new energy enterprises in China while Harju et al. (2019) studied the effect of VAT exemptions threshold on the performance of firms in Finland. On the other hand, Kari et al. (2018) studied the effects of investment incentives on the performance of European Union firms under the Allowance for Growth and Investment (AGI) while Slattery and Zidar (2020) studied the effects of state and local business incentives in the United States. Kyari (2020) studied the

impact of capital deduction incentives on Foreign Direct Investment inflow in Nigeria.

A number of scholars have also focused on EPZ firms in Kenya but have studied different tax incentives and firm performance indicators as compared to the current study. For instance, Kuria (2017) investigated the impact of tax incentives on EPZ firms performance in Kenya. Firm size was employed as a moderating variable in the research of the link between tax incentives and EPZ firms performance in Kenya. The study should, however, have included the exchange rate as a moderating variable in the association between tax incentives and EPZ firm's performance in Kenya.

Kuria (2018) investigated the impact of VAT incentives on EPZ firms performance in Kenya. The study employed a correlation research approach, with 86 registered EPZ enterprises in Kenya as the sample size. Primary data was collected using questionnaires, and secondary data was received through EPZ enterprises. However, in order to discover cause-and-effect linkages, the researcher should have employed an explanatory study design.

Muli and Ombati (2020) investigated the impact of capital gains tax on real estate firm performance in Machakos County. The study utilized primary data and focused on capital gains tax. The performance indicators for the firms were operational efficiency and growth. The current study will use an explanatory research design and focus on different types of tax incentives.

2.5 Summary of Literature Review and Research Gap

This chapter reviewed the optimal tax theory, benefit theory of taxation and the Q theory of investment to explain the predictor and response variables. The chapter also

reviewed empirical studies conducted both internationally and locally by scholars. Kari et al. (2018) studied the effects of investment incentives on the performance of European Union firms, while in China, Chuanwang et al (2020) investigated VAT incentives in several types of new energy firms. Mersky et al (2019) investigated the impact of corporate income tax incentives on electric car adoption in Norway, whereas Amendola et al. (2018) investigated the impact of tax incentives in the Dominican Republic.

Twesige et al. (2020) investigated the impact of corporate tax incentives on SMEs' growth in Rwanda. In the United States, Slattery and Zidar (2020) investigated the effects of state and municipal company tax incentives. The influence of capital deduction incentives on foreign direct investment inflow in Nigeria was investigated by Kyari (2020). Kuria (2017) investigated the impact of tax incentives on EPZ firm performance in Kenya. Kuria (2018) investigated the impact of VAT incentives on EPZ firm performance in Kenya. Muli and Ombati (2020) investigated the impact of capital gains tax on real estate firm performance in Machakos County.

A research gap, according to Robinson et al. (2011), is a topic or area in which missing or insufficient knowledge makes it difficult to reach a conclusion on a matter. A research need is described as a knowledge gap that prevents decision-makers from making informed judgments. This research has discovered contextual, conceptual, and methodological shortcomings that it intends to address.

There are a number of studies that have a contextual gap because they were conducted outside of Kenya. Mersky et al. (2019) studied the effectiveness of corporate income tax incentives on electric vehicle adoption in Norway while Amendola et al. (2018) studied the effects of tax incentives in the Dominican Republic. At the same time

Twesige et al. (2020) studied the effect of corporate tax incentives and growth of SMEs in Rwanda while Chuanwang et al. (2020) studied value-added tax (VAT) incentives in different kinds of new energy enterprises in China while Harju et al. (2019) investigated the impact of VAT exemptions on firm performance in Finland. On the other hand, Kari et al.(2018) studied the effects of investment incentives on the performance of European Union firms under the Allowance for Growth and Investment (AGI) while in the United States, Slattery and Zidar (2020) investigated the effects of state and municipal business incentives. The influence of capital deduction incentives on foreign direct investment inflow in Nigeria was investigated by Kyari (2020).

Here in Kenya, Kuria (2018) looked at the impact of VAT incentives on EPZ firm performance in Kenya, but the current research studied capital deductions, VAT incentives, and corporate income tax incentives, indicating that there is a conceptual gap. Kuria (2017) studied the influence of tax incentives in Kenya on the performance of EPZ firms in Kenya. The independent variables were capital allowance tax incentives while the current study will study capital deductions, VAT incentives and corporate income tax incentives and this indicates the existence of a conceptual gap. Muli and Ombati (2020) studied the effect of capital gains tax on performance of real estate businesses in Machakos County Kenya while the current study will study capital deductions, VAT incentives and corporate income tax incentives and this indicates the existence of a conceptual gap.

Kuria (2018) used both primary and secondary data to investigate the impact of VAT incentives on EPZ firm performance in Kenya, but the current study will solely use secondary data. Kuria (2017) studied the influence of tax incentives in Kenya on the

performance of EPZ firms in Kenya using questionnaires to collect data while the current study will use secondary data. This indicates the presence of a methodological gap. From the empirical review above, it is apparent from both international and local scholars that none of them has focused on the effects of capital deductions, VAT incentives and corporate income tax incentives on the performance of EPZ firms in Kenya. This research therefore seeks to fill this research gap by answering the research question: What is the effect of tax incentives on the performance of EPZ firms in Mombasa County?

2.6 Conceptual Framework

The relationship between the variables in a study is represented graphically or diagrammatically in a conceptual framework (Mugenda & Mugenda 2003). The conceptual framework, according to McGaghie et al. (2001), sets the stage for the presentation of the specific research question that drives the investigation being presented based on the problem statement. According to Kothari (2004), independent variables are the predetermined causes of variation of the dependent variable while a dependent variable is one that the study will seek to explain.

Based on figure 2.1, the dependent variable is performance of EPZ firms while the independent variables are shown by the capital deductions, VAT incentives and corporate income tax incentives. The specific measurement of performance will be the amount of net profit.

Capital deductions was measured as the amount of money a firm can deduct from profits based on qualifying capital expenditures, while VAT incentives was the amount of VAT waived, while corporate income tax incentive was the amount of corporate income tax waived.

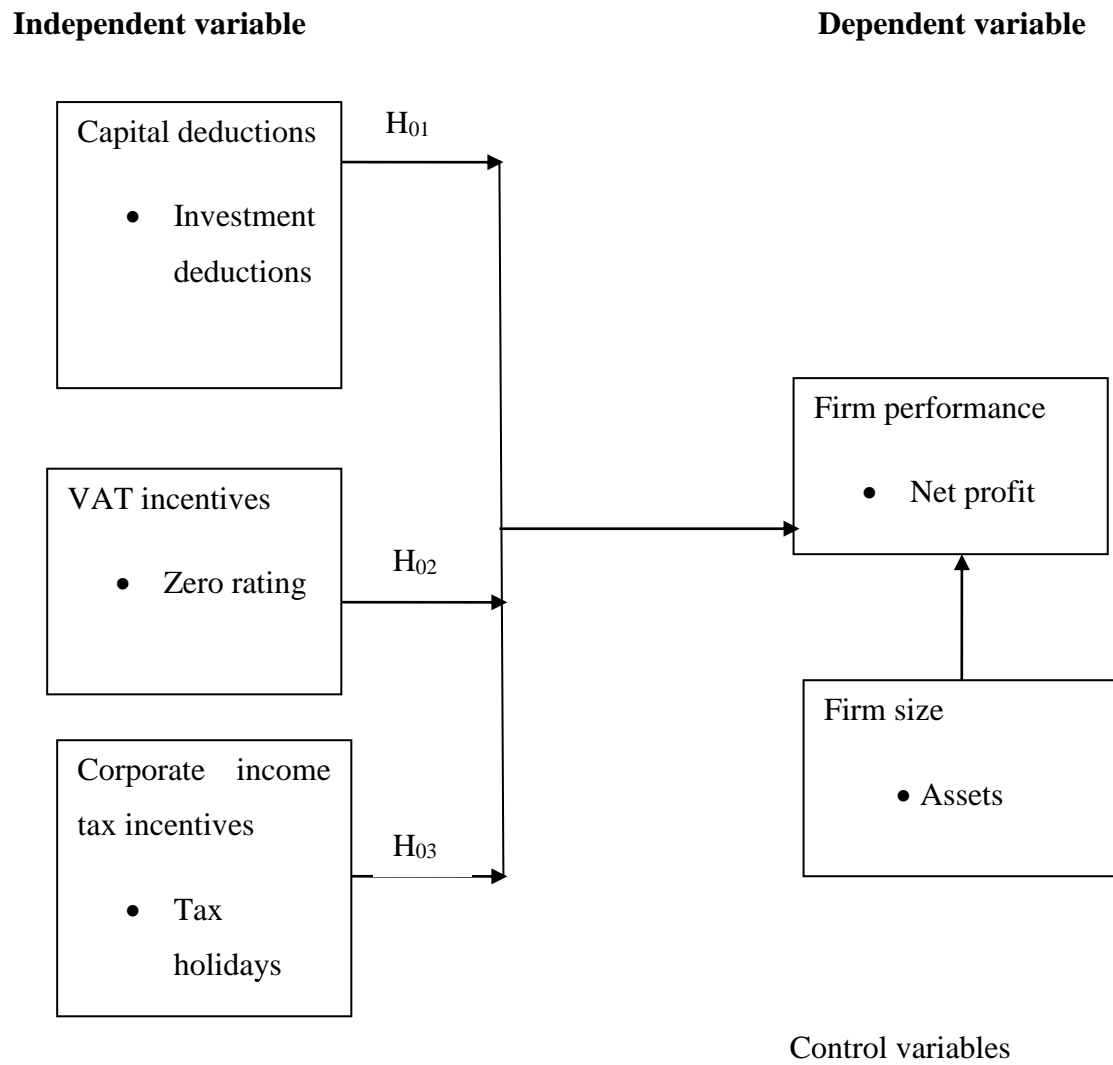


Figure 2.1: Conceptual Framework

Source: Author (2021)

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter presents the methodology that was used to carry out this study. The methodology includes the research design, population studied and sampling strategy, the data collection process, the instruments used for gathering data and the data analysis approach taken.

3.1 Research Design

Cooper and Schindler (2010) describe research design as the investigation structure plan of research that is deployed so as to provide solutions to the study objectives. The study design serves as a roadmap for achieving goals and answering questions. It serves as a plan for data gathering, measurement, and analysis (Cooper & Schindler, 2010). The methods and procedures for data collection, measurement, and analysis are specified in a study design, which allows the researcher to answer the research questions. The problem statement, research questions, and research objectives will necessitate a specific research design (Saunders et al., 2009).

This study used an explanatory research design to analyze the effect of tax incentives on the performance of EPZ firms in Mombasa. Explanatory research design is used to uncover causes and reasons while also providing evidence to support or refute a hypothesis or explanation. When the study is focused on cause-and-effect linkages, it might be explanatory, explaining which causes result in which outcomes (Yin, 1994).

3.2 Target Population and Sample

A target or study population, according to Ngechu (2004), is a well-defined or specified collection of people, items, homes, firms, services, elements, or events that

are being examined. Population is defined by Mugenda and Mugenda (2003) as a complete group of individuals, events, or things that share observable features. The target population of the study comprised of the 28 EPZ firms that were operating in Mombasa County between 2010 and 2019 so a census was undertaken.

Sampling is a method that involves picking some of the elements in a population to make conclusions about the full population (Diamantopoulos & Schlegelmilch, 2006). A census, according to Lavrakas (2008), is an attempt to list all elements in a group and measure one or more of those items' qualities. The target population of the study was the 28 EPZ firms and so given their small number, the research conducted a census study where all the 28 EPZ firms in Mombasa were studied. Kothari (2014) notes that when a study population is relatively small, a census should be conducted.

3.3 Data Types and Sources

This study utilized secondary data from the EPZA. Secondary data refers to information gathered from existing sources (Sekaran, 2003). Reports of the 28 EPZ firms in Mombasa for the periods 2010 to 2019 was obtained from EPZA. Data relating to capital deduction, VAT incentives and corporate tax incentives claimed by the EPZ firms as well as data relating to the dependent variable was obtained from EPZA.

3.4 Data Collection Procedure

The data collection procedure consisted of use of the data collection sheet attached as appendix II to collect the secondary data from EPZA. Data collection is the process of gathering information from all available sources in order to solve the research problem, test the hypothesis, and assess the results (Fisher, 2009). Secondary data for

this research was obtained from financial reports for the 28 EPZ firms from the EPZA.

3.5 Measurement of Variables

Slattery and Zidar (2020) notes that capital deductions are measured using investment deductions and wear and tear allowance. Wear and tear allowances are granted to investors in the EPZs to cater for wear and tear of their machinery that is used to produce goods. Investment deductions are tax incentives granted to EPZ investors for their expenditures towards new buildings and machinery.

Investment deductions are by far the most common form of capital deduction used by EPZ firms because they tend to invest in physical rather than financial or human capital. So the best way to capture capital deductions is through investments deduction because it is the most comprehensive form of capital expenditure deduction (Klemm, 2019).

Chuanwang et al.(2020) posits that VAT incentives are measured in terms of exemptions and zero ratings that are granted to firms. The VAT incentives waived are in respect of purchase of inputs such as raw materials, machinery, equipment and other VATable supplies as well as sales outside of the EAC. The VAT incentives will also apply to purchases of goods and services from other firms in the Kenyan custom territory.

Mascagni et al (2021) notes that VAT zero rating is a form of tax incentive whereby the firm does not pay a tax but is allowed to claim credits for VAT paid on inputs. A VAT exemption is a form of tax incentive where the firm does not pay tax but the firm is not allowed to claim tax credits on its inputs. Due to the fact that because

VAT exemptions breaks the VAT chain of credits on inputs purchases, VAT zero rating is the best method to calculate VAT incentives.

Amendola et al., (2018) notes that corporate income tax credits are exemptions and tax credits, as well as long periods during which these exemptions can be claimed. Corporate income tax incentives are measured in terms of the ten year tax holiday that is offered to EPZ investors. After the ten year period, EPZ investors pay 25 percent corporate income tax compared to the 30 percent paid by Kenyan companies. Thereafter the EPZ firms will pay the normal prevailing rate of corporate tax.

OECD (2019) notes that in the case of EPZs, most firms only enjoy the tax holiday of zero taxes for a period of ten years because of their short term stays. The EPZ firms are more likely to relocate to other jurisdictions after the expiry of their designated tax holidays meaning the tax holidays are the best proxies for corporate income tax incentives.

According to Dermawan and Indrajathi (2017), net profit is calculated as net sales minus cost of goods sold, costs, depreciation and amortization, interest, and taxes for a given accounting period. The amount of revenue left over after all expenses and income have been accounted for in a period is referred to as net profit.

3.6 Data Analysis and Presentation

Data analysis was conducted through statistical techniques and especially through the use of regression analysis. Regression analysis was performed on the data to test any effect of tax incentives such as capital deductions, VAT incentives, corporate tax holidays (independent variable) on a firm's performance (dependent variable). The research conducted an analysis of data between 2010 and 2019 regarding capital

deductions, VAT incentives, corporate income tax incentives which was compared against net profit generated by EPZ firms.

The dynamic panel approach was employed in this study to predict future responses based on response history and the transfer of dynamics from pertinent predictors. The study collected panel data from 28 EPZ firms in the time span ranging from the year 2010 to 2019.

The general equation or multiple regression model used was as follows:

$$Y_{it} = \beta_{0it} + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \epsilon_{it}$$

Where;

Y_{it} = Performance of firm;

X_{1it} = Capital Deductions of firm;

X_{2it} = VAT incentives of firm;

X_{3it} = Corporate Income Tax Incentives of firm;

β_{0it} = the constant term

$\beta_1 - \beta_3$ = The coefficients for the various independent variables

Subscript i = Firms ranging from 1 to 28;

Subscript t = Years (time-series dimensions) ranging from 2010 to 2019;

ϵ_{it} = Composite error term of the model.

The specific models are as follows;

$$\text{Net profit} = \beta_{0it} + \beta_1 \text{it Capital Deductions} + \beta_2 \text{it Corporate Income Tax Incentives} + \beta_3 \text{it VAT incentives} + \mu_{it}$$

3.7 Control Variable

The model used firm size as a control variable which was held constant throughout the research in order to ensure that it does not affect the relationship between the independent variables and the dependent variables. If the confounding variables are not controlled it could lead to biased results (Hünermund & Louw, 2020). This study included control variables so as to enhance the precision of the research results.

In empirical research, multiple regression analysis takes into account the confounding influence factor of independent and dependent variables by introducing a set of control variables so as to get unbiased causal effect approximates (Hünermund & Louw, 2020). The aim of control variables is to limit the influence of confounding variables. The role of control variables in regression analysis is to exclude the possibility that the independent and dependent variables are connected through any other variables apart from the independent and dependent variables in order to avoid spurious non-casual relationship amid them. The aim of control variables is to ensure that only uncontaminated causal effect of variable X on variable Y is indicated by the regression analysis (Hünermund & Louw, 2020).

Multivariate regression analysis is a useful tool in management, organizational studies, and economics research. In order to achieve unbiased causal impact estimates, these methods account for confounding influence factors between a treatment and an outcome by including a set of control variables. The control variable in this research was the firm size and the size of the enterprise is measured by the logarithm of its total assets. Hence, the need to control for the size of the EPZ firms, as it affects the economies of scale of production which ultimately affects firm performance as measured in net profit. Ngumo et al (2017) notes that there is a statistically significant link between firm size and the performance of firms.

3.8 Diagnostic Tests and underlying assumptions of the panel regression model

Diagnostic tests were performed on the variables data in order to identify whether any of the regression assumptions have been violated. The diagnosis tests are carried out to ensure that the results of the analysis are correct and devoid of bias (Field, 2009). Several critical assumptions are made when using multiple linear regression analysis: The response variable and the independent variables must have a linear connection, multivariate normality, no multicollinearity, homoscedasticity, and no auto-correlation.

3.8.1 Normality Test

A normality test is conducted to identify the normality of the residuals which is the difference between observed and estimated or predicted values on the dependent variables. The aim of the normality test is to identify whether a variable is normally distributed in some population. The Kolmogorov-Smirnov test or the Shapiro Wilk test can be used for the normality test. A normality test can also be conducted graphically.

3.8.2 Heteroscedasticity Test

A key assumption of linear regression is that the spread of the residual or the error term is constant across the graph and if this assumption is violated the statistical results may not be trustworthy due to biased coefficients. Heteroscedasticity means that variance of errors from the regression line is not constant and not homoscedastic. The Breusch-Pagan/Godfrey test was used to test heteroscedasticity in the regression model.

3.8.3 Linearity Test

Multiple linear regressions models require that the relationship between dependent and independent variables be linear in order for analysis to be reliable and valid. One way to confirm linearity is through producing scatter plots of the relationship between each of dependent and independent variables.

3.8.4 Multicollinearity Test

Multicollinearity is defined by Zhang, Zhou, and Liu (2020) as the occurrence of exact correlations or strongly correlated connections among the explanatory variables. Multicollinearity exists when the predictors or independent variables are too highly co-related causing model's coefficients to become unstable.

Tamura et al (2020) notes that the variance inflation factor, VIF, is the most frequently used indicator for detecting multicollinearity in multiple linear regression models. With a VIF of more than 10 there is certainly multicollinearity among the variables. The multicollinearity test may be conducted through the matrix of Pearson's Bivariate Correlation on the variables and the correlation coefficients need to be smaller than 1.

3.8.5 Test of Autocorrelation

When the residuals are not independent of one another, autocorrelation arises. The assumption that the error terms are uncorrelated in regression analysis is violated by autocorrelation of the error terms. If the autocorrelation is neglected, the estimations of coefficients and associated standard errors will be incorrect (Uyanto, 2020). The Durbin-Watson, Breusch-Godfrey, Box–Pierce, Ljung Box, and Runs tests are among the various autocorrelation tests available.

3.8.6 Unit Root Test

Aue (2019) notes that most secondary data is non-stationary and therefore a unit root test must be conducted on the data to identify the presence of unit root. It is important to determine the stationarity of series before carrying out the regression analysis, so as to avoid a case where the results will be spurious and do not make sense. A time series is said to be stationery when the statistical properties such as mean, variance and covariance of the distribution are constant over time or there is no trend over time. Using the differences method, we can stabilize the mean of the time series to eliminate the trend of the data.

3.9 Ethical Issues

During the course of the research, the researcher respected the privacy and confidentiality of the information provided by the EPZ firms. The researcher only shared confidential data about the EPZ firms with the consent of the EPZ firms. The researcher also observed the principle of anonymity. According to Arksey and Knight (2009) anonymity means that the identity and personal information of participants is not disclosed unless the respondents give express consent.

3.10 Limitations of the Study

The study and its findings were confined to the EPZ firms in Mombasa which were 28 firms. These meant that the study population was small and hence study findings might not be able to generalize for all the EPZ firms in the country. In research when the population under research is small, it might be a challenge to identify relationships that are contained in the available data sets. The availability of a larger population of study would have resulted in better accurate results.

The study also relied on secondary data. This is data that is collected by someone else for a different purpose and not by the researcher. A disadvantage of secondary data is that the end user was not involved in the collection of the data. By use of secondary data, the researcher will have to answer their research questions using data that was not specifically collected by them. A major limitation of the study was that the researcher was not able to verify the secondary data and whether the collection process of the data was accurate enough to ensure that results obtained from the data is correct. Secondary data is also data that was collected in the past and its relevance might be affected by the passage of time. However this was overcome by cross checking the data with industry journals and data from the Kenya National Bureau of Statistics and Kenya Revenue Authority. So the use of broader scoped primary data would have provided more insights to the current line of study. By using primary data, the research would have relied on primary data collections instruments that would have collected data that specifically addresses the research questions.

The data from the research design was limited to a period of 10 years between 2010 to 2019, so a wider scope of data would have showed significant trends and other effects on the firms. In order to get precise results, the research would have been extended to a longer in order to clearly identify the trends.

Another limitation for the study was that the data required for the study involved data that is confidential to the EPZ firms. In order to overcome this challenge, the study maintained confidentiality of all the private data that was provided in line with ethical research standards.

Another limitation of the study was limited time required to complete the research project. The ongoing COVID-19 pandemic which requires social distancing protocols

and also adherence of curfew rules was also a challenge for the research because it limited that amount of time available to conduct and complete the research on time. In order to overcome this limitation, the researcher developed a time plan to ensure that sufficient time is devoted to conduct and complete the research on time.

Table 3.1: Operationalization and measurement of study variables

Variable	Type	Source	Indicators	Measurement Scale	Analysis Method
Capital deductions	Independent Variable	Slattery and Zidar (2020) Kari, Laitila, and Ropponen (2018)	Investment deductions	Interval	Regression Analysis
VAT incentives	Independent Variable	Chuanwang, Yanhong and Gang (2020) Harju, Matikka and Rauhanen (2019)	Zero ratings	Interval	Regression Analysis
Corporate income tax incentives	Independent Variable	Amendola, Mele, and Sensini (2018) Twesige, Gasheja and Barayendema (2020)	10 yrs tax holiday	Interval	Regression Analysis
Performance of EPZs	Dependent Variable	Dermawan and Indrajathi (2017)	Net profit (Kshs)	Interval	Regression Analysis
Firm size	Control variable	Ngumo et al (2017)	Total assets	Interval	Descriptive Analysis

Source: Author (2021)

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSION

4.0 Introduction

This chapter explores data analysis, presentation, interpretation and discussions of the research findings using descriptive and inferential statistics. Tests of the regression model assumptions was also conducted.

4.1 Response Rate

The study sought to collect secondary data from 28 EPZ firms that were operating in Mombasa County between 2010 and 2019. Out of 28, 20 EPZ firms were picked after data cleaning. The 8 omitted firms had missing data and therefore were eliminated. This represented 71.4 % which was within a response rate of 50% which is sufficient for analysis and reporting. According to Creswell and Creswell (2017), a rate of 60% is good, while a rate of 70% and above is exceptional.

Table 4.1: Response Rate

Category of sampled population	Sample	Percentage
Response	20	71.4
Non-response	8	28.6
Total	28	100.0

Source, Research Data (2021)

4.2 Descriptive Statistical Analysis

Descriptive statistics are a quick summary of a set of data, which can be a representation of the full population or a sample of a population, in order to uncover trends in the data. Descriptive statistics comprises of measures of spread or dispersion and measures of central tendency. Mean, median and mode are measures of central

tendency while measures of dispersion include kurtosis and skewness, standard deviation, variance, the minimum and maximum variables.

4.2.1 Descriptive statistics on Capital Deduction

The study established the descriptive statistics for capital deduction between the years 2010 to 2019. Table 4.2 illustrates the findings.

Table 4.2: Descriptive statistics on capital deductions

Year	Capital Deduction (Ksh)
	Mean values
2010	6,871,018
2011	6,908,120
2012	7,012,015
2013	7,912,067
2014	8,179,917
2015	8,271,513
2016	9,118,218
2017	9,271,261
2018	10,251,218
2019	11,982,122
Statistics for Capital Deduction	
N	200
Mean	8,577,746.90
Std. Deviation	1,633,354.34
Minimum	6,871,018.00
Maximum	11,982,122.00
Sum	85,777,469.00

Source, Research Data (2021)

The findings from Table 4.2 show that the mean Capital Deduction figures are ksh 8,577,746.90. It further indicates that the maximum was ksh 11,982,122 while minimum was ksh 6,871,018.

4.2.2 Descriptive Statistics on VAT Incentive

The study analyzed the descriptive statistics for the VAT incentive for the EPZ firms from 2010 to 2019.

Table 4.3: Descriptive statistics on VAT incentive

Year	VAT incentives (Ksh)
	Mean values
2010	17,918,218
2011	5,810,019
2012	18,219,098
2013	18,312,019
2014	18,262,142
2015	18,564,017
2016	19,065,109
2017	18,634,980
2018	28,813,871
2019	19,210,019
Statistics for VAT incentives	
N	200
Mean	18280949.2
Std. Deviation	5459820.94
Minimum	5810019.00
Maximum	28813871.00
Sum	182809492.00

Source, Research Data (2021)

The descriptive statistics for the VAT incentive concludes that the mean was ksh 18280949.20; the maximum VAT incentive was ksh 28813871.00 while the minimum is ksh 5810019.00

4.2.3 Descriptive Statistics on Corporate Income Tax Incentives

The findings from Table 4.4 illustrate the descriptive statistics for the corporate income tax incentive data for the EPZ firms from 2010 to 2019.

Table 4.4: Descriptive statistics on Corporate Income tax incentives

Year	Corporate Income Tax incentive (Ksh)
Mean values	
2010	1,276,326.00
2011	8,762,151.00
2012	10,988,000.00
2013	11,125,971.00
2014	11,265,711.00
2015	12,213,716.00
2016	12,251,761.00
2017	12,915,271.00
2018	13,100,201.00
2019	20,172,615.00
Statistics for Corporate Income Tax incentive	
N	200
Mean	11,458,452.2
Std. Deviation	4,657,318.5
Minimum	1,276,326
Maximum	20,172,615
Sum	114,584,522

Source, Research Data (2021)

The findings from Table 4.4 show that the corporate income tax incentive had a mean of Ksh 11,458,452.20 with the highest Corporate Income tax incentive being Ksh 20,172,615 while the lowest was Ksh 1,276,326.

4.2.4 Descriptive statistics on Firm Size

The findings from Table 4.5 illustrate the descriptive statistics for the firm size data for the EPZ firms from 2010 to 2019.

Table 4. 5: Descriptive statistics on Firm Size

Year	Firm Size
	Mean values logarithm of assets
2010	9.19
2011	9.18
2012	9.24
2013	9.31
2014	9.27
2015	9.35
2016	9.37
2017	9.35
2018	9.44
2019	9.51
Statistics for Firm Size	
N	200
Mean	9.4325
Std. Deviation	.31364
Minimum	7.51
Maximum	9.99
Sum	2452.46

Source, Research Data (2021)

The outcomes from Table 4.5 show that the firm size had a mean of 9.4325 with the highest being 9.99 while the lowest was 7.51.

4.2.5 Descriptive Statistics on Performance of EPZ Firms

The final descriptive statistical analysis will describe the data for performance of EPZ firms in terms of net profit by assessing the standard deviation, mean, maximum and minimum amounts.

Table 4. 6: Descriptive statistics on Performance of EPZ firms

Year	Performance of EPZ firms in terms net profit (Ksh)
2010	197682300
2011	195369900
2012	206877500
2013	217322200
2014	226052220
2015	232715330
2016	244956330
2017	238105550
2018	303156660
2019	275666660
Statistics for Performance of EPZ	
N	200
Mean	233790465
Std. Deviation	34229727.82
Minimum	195369900
Maximum	303156660
Sum	2337904650

Source, Research Data (2021)

The outcomes from Table 4.6 indicate that the mean was ksh 233,790,465 the minimum was ksh 195,369,900 and the maximum was ksh 303,156,660. Table 4.6 also shows that there was a decrease in net profit from 2010 down to 2011, and then a steady growth 2011 to 2016 and a stable dip from 2016 to 2017. The highest net profit was recorded in 2018.

4.3 Tests of Assumptions of Regression Model

This section will provide the tests of assumptions of the regression model to check whether any of the assumptions was violated. If the regression model assumptions are violated it might lead to biased results.

4.3.1 Linearity Test

A linearity test was used to determine if the independent factors and outcome variables have a linear relationship.

Table 4.7: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.63E+17	4	4.09E+16	86.67	0.00001
	Residual	9.19E+16	195	4.72E+14		
	Total	2.554E+17	199			

a. Dependent Variable: Performance of EPZ firms

b. Predictors: (Constant), Corporate Income Tax incentive , VAT incentives, Capital Deduction Source, Research Data (2021)

The ANOVA Table 4.7 shows the results of F statistic of 86.67 and p value of 0.00001 ($P < 0.05$). These results indicated that there was a linear link between the response variable and the predictor variables as the p value is less than 0.05.

4.3.2 Normality Test

The test for normality was measured using normal distribution curve.

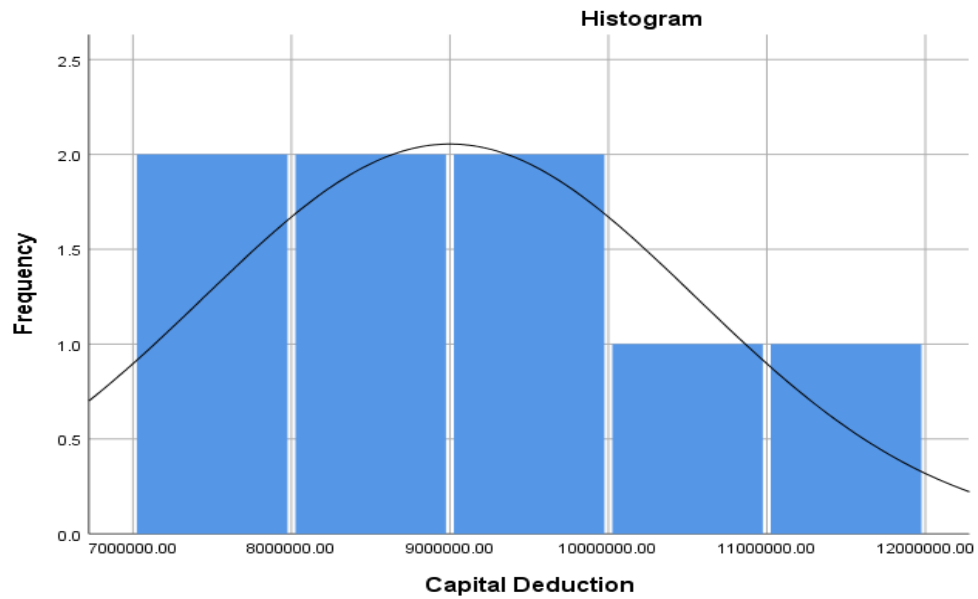


Figure 4.1: Normality test Capital Deduction

Figure 4.1 indicated a normal distribution curve indicating values for Capital deduction for EPZ firms in Mombasa County was normally distributed. The data showed a normal distribution with figures on the right of the curve skewing slightly.

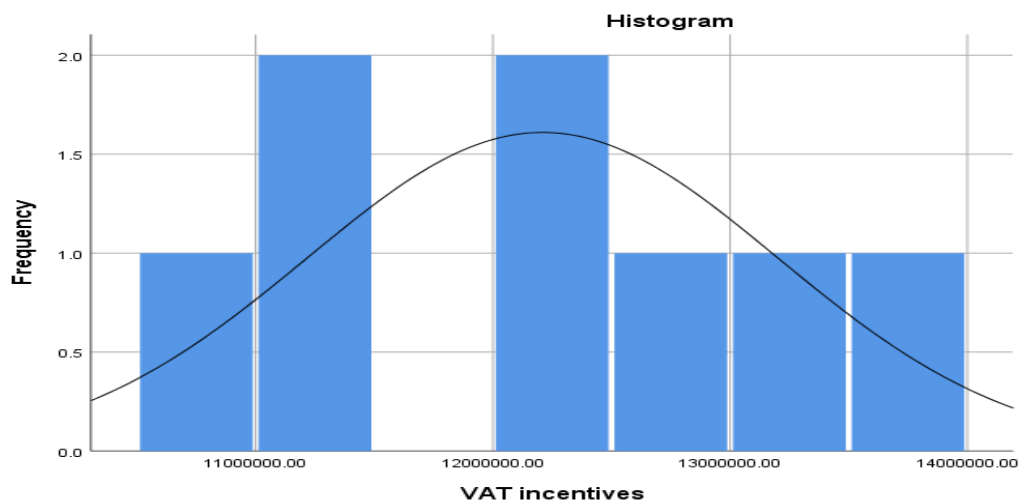


Figure 4.2: Normality test VAT incentive

The data for VAT incentives on figure 4.2 showed a balanced skewness with slight deviation on the left of the curve. The graph indicated that VAT incentive was normally distributed.

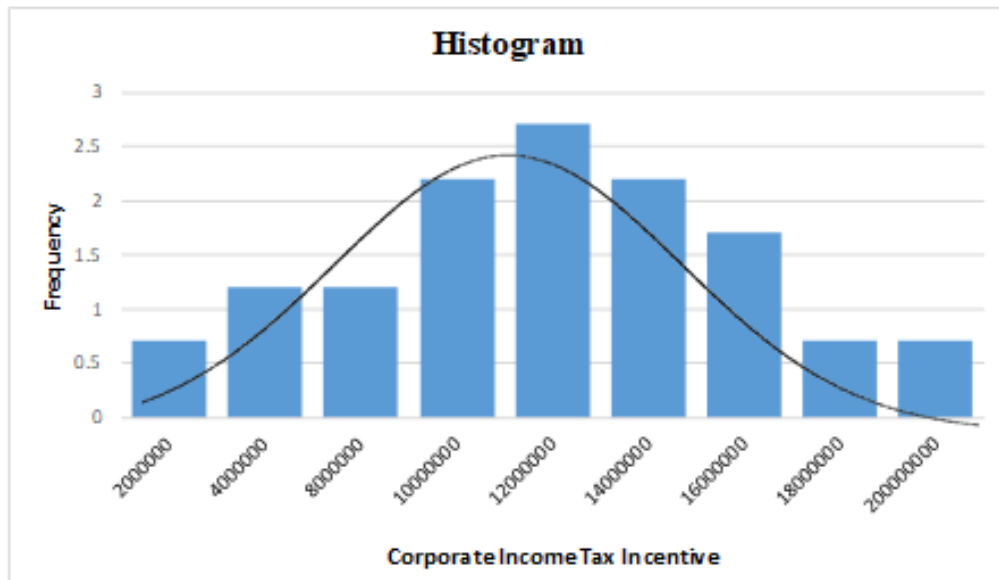


Figure 4. 3: Normality test corporate Income Tax incentive

The normal distribution curve indicated on figure 4.3 indicates that there was normal distribution for the data. The test concluded that corporate income tax incentives are normally distributed.

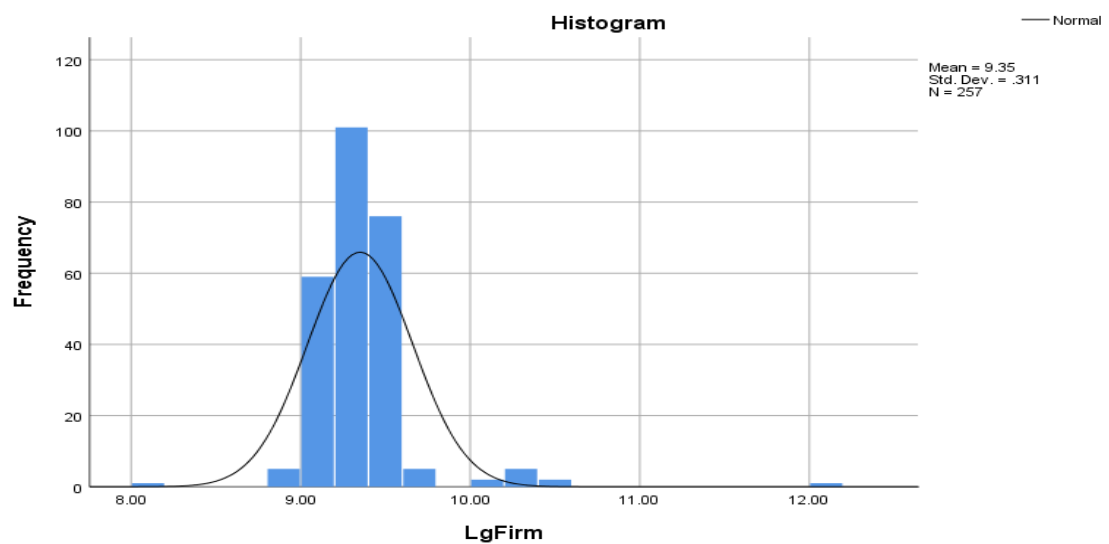


Figure 4. 4: Normality test for Firm Size

The data for firm size on figure 4.4 showed a balanced skewness with slight deviation on the left of the curve. The graph indicated that firm size was normally distributed.

Figure 4.1, figure 4.2, figure 4.3 and figure 4.4 presented the normality test findings, where the test concluded that the data for Capital deduction, VAT incentives, Corporate Income Tax incentive and firm size are normally distributed.

4.3.3 Multicollinearity Test

Multicollinearity test is a test done to find out the correlation between independent variables. Vanegas and Paula (2016) notes that the test is conducted to ensure that the data collected would not be a result of undesired trends in the distribution of data within the study.

Table 4.8: Multicollinearity Test

Model		Collinearity Statistics	
		Tolerance	VIF
1	Capital Deduction	0.516	1.938
	VAT incentive	0.626	1.596
	Corporate Income Tax incentives	0.480	2.082
	Firm size	0.785	1.274

a. Dependent Variable: Performance of EPZ firms

Source, Research Data (2021)

Tolerance and VIF are utilized as a metric for the existence of multi-collinearity in a regression model, according to Borssoi, Paula, and Galea (2017). To build a model fit for the investigation, they proposed that the tolerance margins be constricted above 0.1 (> 0.1) and the VIF be constricted below 10 (< 10). Tolerance values of less than 0.1 and VIF outputs of more than 10 are, however, deemed undesirable in the model.

Tests from Table 4.8 indicated that all the independent variables Capital deduction VIF = 1.938, VAT incentive VIF = 1.596, Corporate Income Tax incentive VIF=2.082 and Firm size VIF=1.274, pass the collinearity test since tolerance levels were above 0.1 while VIFs were all below 10.

4.3.4 Homoscedasticity Test

Homoscedasticity means that the variance or spread of errors from the regression line is constant. Wolfgang et al. (2017) notes that in regression, an error is how distant a point deviates from the normal line of regression. A key assumption of linear regression is that the spread of the residual or the error term is constant across the graph and if this assumption is violated the statistical results may not be trustworthy due to biased coefficients. Heteroscedasticity means that variance of errors from the regression line is not constant and not homoscedastic. The Breusch-Pagan/Godfrey test is used to test heteroscedasticity in a linear regression model.

The results from Table 4.9 show the results from the Breusch pagan test analysis of variance table.

Table 4.9: Breusch Pagan test

Ho:	Constant
	variance
Chi2 (1)	0.74
Prob>chi2	0.6547

With regard to the results presented in Table 4.9, the significance level (0.05) was less than the p-value (0.6547) hence there was no violation of the homoscedasticity principle in the data. Hence it was concluded that there is no heteroscedasticity problem.

4.3.5 Autocorrelation Test

This test was conducted to check whether the values of the residuals are independent and that was to ensure that the observations are independent from one another and uncorrelated. The Durbin-Watson test was conducted to indicate the level of autocorrelation. The statistic's value ranges from 0 to 4. Non-autocorrelation is shown

by a number near 2; positive autocorrelation is indicated by a value near 0; and negative autocorrelation between independent variables is indicated by a value near 4.

Table 4. 10: Autocorrelation Test Durbin Watson

Model	Durbin-Watson
1	2.078392

Table 4.10 results show Durbin Watson statistic value is 2.078392. Chen (2016) notes that test statistic values in the range of 1.5 to 2.5 indicates no autocorrelations hence the conclusion is that there is no autocorrelation between the independent variables.

4.4 Unit Root Test

The unit root test to determine the stationarity of the data in the time series was conducted. According to Herranz (2017) a times series is said to be stationary when the statistical attributes, such as; mean, variance and covariance of the distribution are constant over time.

The unit test uses a probability scale of 0.05 or 5%, and a rule that if the probability of unit test is <0.05 there is no unit root therefore the time series is stationary. If there is a p value >0.05 there is a unit root and the time series is non-stationary. The Augmented Dickey-Fuller Test was conducted and the results were as shown on Table 4.11 for the probability values for Level and 1st difference using the unit roots in Intercept and Trend and intercept.

Table 4.11: Unit Root Test

Independent Variables	Level		1 st difference	
	Intercept (p-value)	Trend & Intercept (p-value)	Intercept (p-value)	Trend & Intercept (p-value)
Capital Deduction	0.9992	0.9735	0.0012	0.0006
VAT incentive	0.1545	0.0068	0.0003	0.0090
Corporate Income Tax Incentive	0.0001	0.0001	0.0002	0.0001
Firm size	0.6145	0.6466	0.0004	0.0027

Results from the stationarity test indicated that for Capital Deduction level intercept $p=0.9992$ $p>0.05$, while trend and intercept $p = 0.9735$ $p>0.05$ while for 1st difference intercept $p=0.0012$ and Trend and intercept $p=0.0006$, therefore there was non stationarity in the time series for Capital deduction in level and but stationary in the 1st difference unit root tests.

The VAT incentive had a Level intercept $p= 0.1545$ and trend and intercept $p=0.0068$ while for the 1st difference intercept $p =0.0003$ while trend and intercept was $p=0.0090$, the conclusion is that there was non stationarity in the level intercept unit tests but stationarity in the 1st difference intercept tests.

For the Corporate income tax incentive, the p values all recorded results with p values <0.05 therefore there was stationarity in both pairs of level and 1st difference tests and therefore no unit root and the time series is stationary for both unit root tests.

Results from the stationarity test indicated that for Firm size level intercept $p=0.6145$ $p>0.05$, while trend and intercept $p = 0.6466$ $p>0.05$ while for 1st difference intercept $p=0.0004$ and Trend and intercept $p=0.0027$, therefore there was non stationarity in the time series for firm size in level and but stationary in the 1st difference Unit root tests.

4.5 Hausmann Test

The Hausman test is used to choose between models in panel data investigations, according to Sheytanova (2014). The Hausman test examines whether the panel model has endogeneity. The Hausman test, which defines whether a fixed or random effects panel model should be employed, is one of the tests used to determine a suitable model.

For data analysis, a dynamic panel data model can use either fixed effects (FE) or random effects (RE) models. Fixed-effects (FE) models, according to researchers and academics, are the best starting point for studying panel data because they allow analysts to compensate for unobserved time-constant heterogeneity (Vaisey & Miles 2017). The results of the dynamic panel analysis can be affected by some unobserved time-constant variables such as the business models or culture of firms that could affect the dependent variables over the study period. Unobserved variables pose the greatest challenge to causal inference, and if the independent variables are associated with these unobserved factors, estimates of their effects will be skewed.

The Random effects models differ from the fixed effects models based on the assumption they presuppose regarding the relationship between the unobserved variables and the observed predictors (Cameron & Trivedi, 2010). In general, random effects models assume that the observed predictors in the model are uncorrelated with the unobserved variables, whereas fixed effect models allow for correlation between the two variables. The fixed effect model is a more suitable regression analysis model because all the unmeasured time constant factors of the independent variables should in reality be correlated to the variables that are measured (Bell et al, 2019).

Table 4.12: Hausmann Test

4	---- Coefficients ----			
	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	Fixed	Random	Difference	S.E.
CD	-8.015	-5.033	-2.981	1.717
VI	-11.45	-6.405	-5.051	1.478
CIT	-0.017	0.621	-.639	0.329
FirmSize	-0.006	-.004	-.0014	0.0026

b = consistent under Ho and Ha; obtained from xtreg

B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: Random effect model is appropriate

H₁: Fixed effect model is appropriate

$$\begin{aligned} \chi^2(4) &= (b-B)'[(V_b-V_B)^{-1}](b-B) \\ &= 6.0523 \end{aligned}$$

$$\text{Prob}>\chi^2 = 0.03677$$

Hausman test -

Null hypothesis: GLS estimates are consistent

From the above results, the P value is 0.03677, which is less than 0.05 (P<0.05)

So, this research choose the fixed effect model.

The study used the fixed effect model or estimator because it allows for heterogeneity and individuality between the EPZ companies by allowing each company to have its own intercept value. The fixed effect is also ideal due to the fact that although the intercept may differ over the different companies it will not vary over time making it time invariant.

4.6 Correlation Analysis

In this investigation, the Pearson product moment correlation coefficient was used. The strength of a linear link between two variables is estimated using correlations. Correlation coefficients range from -1.0 (perfectly negative correlation) to positive 1.0 (perfectly positive correlation). According to Creswell (2018), the greater the connection is, the closer the correlation coefficients approach to -1.0 or 1.0. The lesser the correlation between the independent and dependent variables, the closer the correlation coefficient gets to zero.

Table 4. 13: Correlation Matrix

		Performance	CD	VAT	CIT	FirmSize
Performance	Pearson Correlation Sig. (2-tailed)	1				
CD	Pearson Correlation Sig. (2-tailed)	.61** .001	1			
VAT	Pearson Correlation Sig. (2-tailed)	.541** .007	.534 .111	1		
CIT	Pearson Correlation Sig. (2-tailed)	.455** .002	.672* .033	.579 .080	1	
FirmSize	Pearson Correlation Sig. (2-tailed)	.612** .005	.36* .02	.12* .045	-.027* .011	1

**Correction is significant at the 0.01 level (2 tailed)

*Correction is significant at the 0.05 level (2 tailed)

Source, Research Data (2021)

The analysis of the findings indicated that the **Capital Deduction** correlates with Performance of EPZ firms at 61% (R=0.61). The P-value for the coefficient was 0.001 compared to the significance level $P < 0.05$ so the study concluded that the link between Capital Deduction and Performance of EPZ firms was statistically significant.

Table 4.13 further revealed that the **VAT incentives** correlates with the Performance of EPZ firms at 54.1% (R= 0.541). The P-value for the coefficient was 0.007 so $p < 0.05$ this implies that the link between VAT incentives and Performance of EPZ firms is statistically significant.

The correlation between **Corporate income tax incentive** and Performance of EPZ firms was 45.5% (R= 0.455) with a p value for the coefficient 0.002 $P < 0.05$, this concluded that the correlation between Income tax incentive and Performance of EPZ firms was statistically significant.

The correlation between firm size and Performance of EPZ firms was 61.2% (R= 0.612) with a p value for the coefficient 0.005 $P < 0.05$, this concluded that the correlation between firm size and Performance of EPZ firms was statistically significant.

4.7 Multiple Regression Analysis

The significance of the association between the dependent variable and all of the independent factors was determined using regression analysis. This analysis was used to determine how the independent variables interact with the dependent variable collectively, to what extent each independent variable interacts with the dependent variable in such a collective setting, and whether the effects on the dependent variable are statistically significant or not.

The intention of a multiple regression analysis is to find an equation that best predicts the y variable as a linear function of the x variables. These overall relationships were expressed in the following regression equation:

$$Y_{it} = \beta_0it + \beta_1X_{1it} + \beta_2X_{2it} + \beta_3X_{3it} + \epsilon_{it}$$

Where;

Y = Performance of EPZs;

X_{1it} = Capital Deductions of firm;

X_{2it} = VAT incentives of firm;

X_{3it} = Corporate Income Tax Incentives of firm;

β_0 = the constant term

The key research objective was to find out the effect of tax incentives on the performance of EPZs. Focusing on the effects of tax incentives on firms based in Mombasa county using data from a period of 10 years which runs from 2010 to 2019.

The regression analysis was conducted for tax incentive variables capital deduction, VAT incentive, Income tax incentives and the performance of the EPZ firms.

Table 4. 14: Model Summary table

The study used the coefficient of determination or R squared to identify the number of dependent variable data that falls within the results of the line formed by the regression equation. The overall results of the regression analysis are indicated on Table 4.14, which showed that using the adjusted R squared, 58.8% of the variations on performance of EPZ firms in Mombasa County are caused by the independent variables understudy which is capital deductions, VAT incentives and corporate income tax holidays. The link between the predictor and response variables is also positive. An adjusted R square value of 0.588 indicates that the independent variables in the model explained 58.8% of variations in performance of the EPZ firms. The remaining 41.2 % variation is caused by factors that were not included in the model. Some of the factors that could explain variations include excise and custom taxes that

are levied on EPZ firms. The foreign exchange policies and foreign trade policies could also determine the performance of EPZs firms in Mombasa County.

Kuria (2017) investigated the impacts of tax incentives on EPZ firm performance in Kenya and discovered that the excise duty incentive has a positive and significant impact on EPZ firm performance in Kenya. Kuria (2018) investigated the impact of customs duties on tax revenue collection among Kenyan Export Processing Zone (EPZ) firms and found a positive and substantial relationship between custom duties and EPZ company performance in Kenya.

Table 4. 15: ANOVA without control variable

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	1.514E+17	3	5.05E+16	95.19	0.00001
	Residual	1.039E+17	196	5.30E+14		
	Total	2.554E+17	199			

a. Dependent Variable: Performance of EPZ firms

b. Predictors: (Constant), Corporate Income Tax incentive , VAT incentives, Capital Deduction

Source: Research findings, (2021)

Table 4.16 ANOVA with control variable

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1.63E+17	4	4.09E+16	86.67	0.00001
	Residual	9.19E+16	195	4.72E+14		
	Total	2.554E+17	199			

a. Dependent Variable: Performance of EPZ firms

b. Predictors: (Constant), Corporate Income Tax incentive, VAT incentives, Capital Deduction

Table 4.17: Model Summary table with control variable

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.770 ^a	.593	.588	20073450.135

a. Dependent Variable: Performance of EPZ firm

The ANOVA with the control variable indicated that the r square was 0.64, compared to r square of 0.593 for the ANOVA without the control variable. Hence, the control variable, firm size is responsible for 0.047 or 4.7 percent increase in the changes in the dependent variables that are explained by the regression model. This result concur with Sritharan (2018) who studied the effect of the size of firm on the profitability of firms in Sri Lanka. The findings indicated that firm size is positively and significantly related to the profitability of firms.

The Analysis of variance (ANOVA) on Table 4.15 indicated $F= 95.19$ and a p value of 0.00001 which is $p<0.05$ indicating the difference in the means of independent variables is statistically significant. According to the ANOVA statistics, the independent variables, capital deduction, VAT incentives and corporate income tax jointly have a significant impact on financial performance of EPZs as their significance level is 0.00001 which is less than the level of significance of 0.05. So we can reject the null hypothesis that coefficient of capital deductions, VAT incentives and Corporate Income tax incentives are all equal to zero. So the regression model with a significance level of 0.00001 is significant in explaining the variances in the dependent variable.

Table 4.18: Regression Model Coefficients without control variable

Model	Unstandardized Coefficients		Standardized	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	76065514.897	15910386		4.781	.003
Capital Deduction	10.989	2.364	.524	4.648	.004
VAT incentives	1.983	.656	.302	3.025	.023
Corporate Income Tax incentive	2.340	.849	.318	2.757	.033

a. Dependent Variable: performance of EPZ firms

Source: Research findings, (2021)

Table 4.19: Regression Model with Control variable

Model		Unstandardized Coefficients		Standardized	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	69752077.16	13334367.65		5.231	.012
	Capital Deduction	10.077	.423	9.08	4.300	.019
	VAT incentives	1.818	.760	1.702	2.825	.031
	Corporate Income Tax incentive	2.146	.714	1.998	3.007	.035
	Firm Size	2.153	.812	2.123	2.65	.025

a. Dependent Variable: performance of EPZ firms

Source; Research findings, (2021)

Table 4.18 indicated that for every unit change in Capital Deduction there was a **10.989** increase on Performance of EPZ firms in Mombasa. **Table 4.18** also indicates that for every unit change in VAT incentives there was a **1.983** increase on Performance of EPZs. The model further indicates that for every unit change in Corporate Income Tax incentive there was a **2.340** increase in Performance of EPZs.

The overall multiple regression equation was expressed as Performance of Export Processing Zones = **76065514.897**+ **10.989** * Capital Deduction + **1.983** * VAT incentives + **2.340** * Corporate Income Tax incentive

4.8 Hypothesis Testing

Using data from a sample, hypothesis testing allows us to make predictions about population parameters. The hypotheses were tested using multiple linear regression.

Statistical hypothesis, according to Harlow (2010), is an assertion or assumption about one or more populations. We must investigate the entire population to verify that a theory is correct or wrong with absolute certainty. Concerns of hypothesis testing include how to use a random sample to determine whether or not there is evidence to support or refute the hypothesis.

The following hypotheses were examined in the study:

- i. **H₀₁**: Capital deductions do not have a statistically significant effect on the performance of export processing zones (EPZs) firms in Mombasa.
- ii. **H₀₂**: VAT incentives do not have a statistically significant effect on the performance of export processing zones (EPZs) firms in Mombasa.
- iii. **H₀₃**: Corporate income tax incentives do not have a statistically significant effect on the performance of export processing zones (EPZ) firms in Mombasa.

H₀₁ stated that Capital deductions do not have a statistically significant effect on the performance of export processing zones (EPZs) firms in Mombasa. According to the findings the P value was 0.004 $P < 0.05$ so the null hypothesis is rejected. This concludes that Capital deductions have a statistically significant effect on the performance of the export processing zones (EPZs) in Mombasa.

H₀₂ stated that VAT incentives do not have a statistically significant effect on the performance of EPZs firms in Mombasa. The findings found that VAT incentives had a P value of 0.023 so $P < 0.05$ and therefore the null hypothesis is rejected. Thus we concede that VAT incentives have a statistically significant effect on the performance of EPZs in Mombasa.

H₀₃ stated that corporate income tax incentives do not have a statistically significant effect on the performance of export processing zones (EPZ) firms in Mombasa.

The p value was 0.033, meaning $p < 0.05$ thus the null hypothesis is rejected and we therefore conclude that corporate income tax incentives has a statistically significant effect on the performance of export processing zones (EPZ) firms in Mombasa.

Table 4.20: Hypothesis Testing

Hypothesis	Objective	P-Value	Conclusion
H₀₁: Capital deductions do not have a statistically significant effect on the performance of export processing zones (EPZs) firms in Mombasa	Determine the influence of Capital deductions on Performance of Export processing Zones (EPZs) in Mombasa.	$P = 0.004 < 0.05$	Reject
H₀₂: VAT incentives do not have a statistically significant effect on the performance of export processing zones (EPZs) firms in Mombasa.	Determine the influence of VAT incentives on Performance of Export processing Zones (EPZs) in Mombasa	$P = 0.023 < 0.05$	Reject
H₀₃: Corporate income tax incentives do not have a statistically significant effect on the performance of export processing zones (EPZ) firms in Mombasa.	Determine the influence of Corporate income tax incentives on Performance of Export processing Zones (EPZs) in Mombasa	$P = 0.033 < 0.05$	Reject

Source: Research Data (2021)

4.9 Discussion of Findings

This section presents the results, interpretation and discussions of the hypothesis tests. The results of the hypotheses are discussed. The literature and findings are compared and the conclusions on the same explained. The discussion entails Capital Deduction, VAT incentives, Income Tax incentive and the performance of Export processing Zones.

4.9.1 Capital Deduction and Performance of EPZ firms

The first objective was to determine the influence of Capital Deduction on performance of Export processing zones in Mombasa. The study found that capital deduction increased gradually over the years. This is in line with Melville (2019) who

posits that wear and tear, as well as obsolescence, degrade the value of most capital assets employed in businesses, resulting in capital consumption expenses. Accounting and corporate tax systems allow companies to deduct costs of capital assets from their income over time.

The study also found that capital deduction correlates with the Performance of EPZ firms and that the link amid Capital Deduction and Performance of EPZ firms was statistically significant. The findings are supported by Chen et al. (2018) who note that Capital deductions are tax deductions that can be used to any type of capital investment. They could also be limited to certain types of equipment, such as machinery or technologically advanced equipment, or to capital expenditure in specific activities, such as research and development. They are given in addition to regular depreciation allowances, allowing the investor to write off a sum larger than the investment's cost. Calitz et al. (2020) have pointed out that the cost of capital is one of the most important factors influencing enterprises' capital investment decisions.

The study also found that the null hypothesis that stated that capital deductions do not have a statistically significant effect on the performance of EPZs firms in Mombasa, was rejected since capital deductions affected the performance of export processing zones (EPZs) firms. The results concurred with Kari et al. (2018) who also found a positive effect of capital deductions on the performance of companies. Their findings indicated that the introduction of the capital deductions decreases the cost of capital and lowers the expenses of the firms and improves their performance. Slattery and Zidar (2020), who researched the effects of state and municipal business incentives in the United States, concur with the findings. They also discovered evidence of direct

job gains from luring a firm, but no clear evidence that firm-specific tax incentives boost state and local economic growth.

Obafemi et al. (2021), who investigated the influence of capital allowances on the growth of small and medium-sized firms in Kwara state, Nigeria stated that capital allowances incentives do have a major impact on the growth of small-scale industries by increasing sales revenue and profit growth. The findings are also in line with those of Olaleye (2015), who investigated the effects of capital allowances and foreign direct investment in Nigerian listed manufacturing companies. The data also suggests that capital allowance and foreign direct investment have a strong positive linear relationship. Kuria (2017) also looked into the impact of tax incentives on EPZ firm performance in Kenya. However, the study found no evidence of a link between EPZ enterprises' performance and their location.

The effect of investment allowance tax incentives on the growth in sales revenue of small and medium enterprises (SMEs) in Ondo and Ekiti states was investigated by Olayemi and Folajimi (2021). The study also concluded that tax incentives proxies, of investment allowance, tax holiday, tax credit and tax deferment were significant determinants of the growth in sales revenue of SMEs in Ondo and Ekiti States, Nigeria.

4.9.2 VAT incentives and Performance of EPZ firms

The second objective was to determine the effect of VAT incentives on the performance of export processing zone (EPZs) firms in Mombasa. The findings revealed that the VAT incentives could fluctuate over the period between 2010 and 2019. This finding is supported by Slemrod and Velayudhan,(2020) who noted that its adoption in Europe was partly due to the belief that it would be easier than a retail

sales tax to harmonize across countries. As of 2020, VAT has become a huge success in terms of ubiquity of adoption and revenue raised. It accounts for about 30 percent on average of total tax revenue in countries where it has been adopted. Madzivanyika and Kadenge (2015) notes that VAT incentives that made up of zero rating, VAT deferment, VAT refunds and VAT exemptions. A taxable supply could be either exempted or a zero-rated supply, and registered operators who make zero-rated supplies can claim the entire input tax credit for goods and services purchased to make the zero-rated service or goods.

The study also found that VAT incentives correlates with the Performance of EPZ firms. The results disagreed with Chuanwang et al. (2020) who studied VAT incentives in various types of new energy enterprises in China, and used the Difference-In-Difference (DID) approach to empirically study the effect of VAT incentives on new energy listed companies. The findings revealed that VAT refunds for the new energy business could reduce the experiment group's return on equity (ROE) by 4.7 percent, compared to the control group. This is primarily due to the tax incentives causing a twisted industrial chain, overcapacity, and a lack of innovation impetus. By evaluating the dynamic effects of VAT incentives, the study also demonstrated that policy influence has a temporal lag and fluctuates significantly over time. This study used firm-level data to provide new evidence on the effectiveness of tax incentives for the new energy industry.

The study also found that VAT incentives have a statistically significant effect on the performance of Export Processing Zone firms in Mombasa. The findings are also consistent with Blumkin et al. (2019), who argue that governments prefer tax incentives to other sorts of action since it is far easier to provide tax benefits than to

address legal system flaws or drastically alter a country's economic environment. As a public policy tool, tax incentives are justified if the economic, social and environmental benefits they bring about outweigh the costs they generate. These include fiscal costs, due to loss of revenue, as well as effects on efficiency, equality and transparency.

The results also correspond with Liu et al. (2019) who studied the effects of tax incentives on the performance of Chinese firms as measured by productivity. According to the data, VAT incentives increased investment and productivity in treated firms compared to control firms on average. Furthermore, Harju et al. (2019) investigated the impact of the VAT exemptions threshold on the performance of Finnish businesses. They discovered that at the sales-based threshold, both remitted VAT and compliance costs of frequent VAT report compilation change. The study used variations in both the VAT rate and reporting criteria to demonstrate that the big observed sales reaction is caused by VAT compliance costs rather than the VAT rate's level, emphasizing the importance of compliance costs among small businesses and entrepreneurs. This means that VAT incentives as measured by VAT zero rating has an effect on the performance of firms.

4.9.3 Corporate Income tax incentive and performance of EPZ firms

The third objective sought to determine the influence of corporate income tax incentives on Performance of export processing zones (EPZs) in Mombasa. The study found that corporate income tax incentives increased gradually from 2010 to 2019. This is in line with World Bank (2020) who also posited that corporate income tax incentives is the difference between the regular corporate income tax (CIT) rate and the tax incentive CIT rate as measured in percentage points. Increased competition to

attract foreign direct investment contributes to the growing popularity of corporate tax incentives (FDI). According to Chen et al. (2018), corporate income tax incentives can take the form of a total exemption from profits tax and, in some cases, it is a reduced rate of tax, or a mix of the two, such as a two-year exemption followed by three years at half the usual rate. In most cases corporate tax exemptions or discounts are only valid for a certain amount of time.

The study also established that corporate income tax incentives correlate with performance of EPZ firms in Mombasa. The study relates to that of Mersky et al., (2019) who studied the effectiveness of corporate income tax incentives on electric vehicle adoption in Norway. Access to electric charging infrastructure, proximity to large cities, and regional incomes were found to have the strongest predictive capacity for electric sales growth. Short-range cars, on the other hand, were found to be more sensitive to income and unemployment than long-range vehicles.

The study also rejected the null hypothesis and was able to prove that corporate income tax incentives had a statistically significant effect on performance of EPZ firms in Mombasa. The results were in concurrence with research done by In the Dominican Republic, Amendola et al. (2018) investigated the relationship between business tax incentives and chosen firm-level performance measures. Individual firm performance in the Dominican Republic was positively benefited by corporate income tax exemptions, according to the findings. Inequitable tax treatment of businesses, on the other hand, hampers competition in the industrial sector, lowering total economic productivity. The findings are similarly consistent with those of Twesige et al. (2020), who investigated the impact of corporate tax incentives on SMEs' growth in Rwanda.

The research found a substantial, positive, and significant link between tax incentives and economic growth.

Moreover, Twesige et al. (2020) investigated the relationship between corporate tax incentives and SMEs' growth in Rwanda. Tax incentives have a substantial, favorable, and significant association with the growth of small and medium firms in Rwanda, according to the study. Muli and Ombati (2020), who investigated the impact of capital gains tax on the profitability of real estate enterprises in Machakos County, agreed. Capital gains and firm performance were shown to have a strong positive association, while capital allowances and firm performance were found to have a non-significant positive relationship. The study found that, at a 5% level of significance, corporate income tax incentives had a positive and significant association with EPZ enterprises' performance as evaluated by ROA. Muli and Ombati (2020), who investigated the impact of capital gains tax on the performance of real estate businesses in Machakos County, discovered that corporate income tax incentives, as measured by a zero-rate corporate income tax holiday, have a positive and significant impact on EPZ firm performance in Mombasa.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter includes a review, conclusion, and summary of the findings, as well as debates and research recommendations. The extent to which the research objectives have been met is explained in this chapter. The research looked at how tax incentives affected the performance of export processing zone businesses in Mombasa.

5.1 Summary of Findings

First, this study established that Kenya provides capital deductions in the form of investment deductions, mining deductions, capital expenditure on agricultural land and wear and tear allowances to taxpayers who invest in capital projects. The study also established that Kenya offers VAT incentives to EPZs firms in the form of zero rating and exemptions. The study also established that Kenya also offers EPZs firms corporate income tax incentives in the form of a tax holiday for a period of ten years and a reduced rate of 25 percent income tax rate for an additional period of ten years.

The goal of the study was to examine how tax incentives affected the performance of export processing zone businesses in Mombasa. The study relied on secondary data to address the research question. The independent variables were Capital Deduction, VAT incentives, corporate income tax incentives while the Performance of EPZ firms was the dependent variables of measure.

5.1.1 Effect of Capital Deduction on the performance of EPZs firms

The first objective of the study was to establish the effect of Capital Deduction on the performance of Export Processing zones in Mombasa. The study found that a unit change in Capital Deduction yields a 10.989 positive change on the performance of

EPZ firms in Mombasa. With a p value of 0.004 means that the Capital Deduction has positive and statistically significant effect on the performance of EPZ firms in Mombasa.

5.1.2 Effect of VAT incentive on the performance of EPZs firms

The second objective of the study sought to determine the influence of VAT incentives on Performance of export processing zones firms in Mombasa. The study found that a unit change in VAT incentive yields a 1.983 positive impact on performance of EPZs in Mombasa. These changes, with p value of 0.023 were statistically significant, meaning that VAT incentives have a significant effect on performance of EPZ firms in Mombasa.

5.1.3 Effect of Corporate Income tax incentive on the performance of EPZs firms

The study's third goal was to examine how corporate income tax incentives affected the performance of export processing zone (EPZ) enterprises in Mombasa. According to the findings, a unit change in corporate income tax incentive has a 2.340 positive effect on EPZ company performance in Mombasa. The fact that the corporate income tax incentive has a positive and statistically significant influence on the performance of EPZ enterprises in Mombasa was because the p has a value of 0.033.

5.2 Conclusions

The study's goal was to determine the impact of tax incentives on EPZ enterprises' performance in Mombasa. According to the findings, the Capital Deduction had a positive and considerable impact on the performance of Mombasa's Export Processing Zone enterprises. This implies that Capital Deduction has a positive and meaningful impact on the performance of EPZ firms in Mombasa. So, Capital deductions as measured by investment deduction has a statistically significant effect on the

performance of EPZs firms in Mombasa. The conclusion from the study is that investments in buildings and machinery have a statistically significant effect on the performance of EPZ firms.

The study results further indicated that VAT incentive had a positive and statistically significant influence on performance of EPZ firms in Mombasa. This implies that VAT incentive affects performance of EPZ firms in Mombasa in an affirmative way. So, VAT incentives as measured by zero rating of VAT has a statically significant effect on the performance of EPZ firms in Mombasa. The study concludes that zero rating of VAT leads to increased sales and therefore additional net profit for the EPZ firms.

In addition, the results showed that corporate income tax incentive had a positive and statistically significant influence on performance of EPZs in Mombasa. This means that corporate income tax as measured by the ten year tax holiday has a positive impact on the performance of EPZ firms in Mombasa. The conclusion is that corporate income tax incentives have a statistically significant effect on net profit of EPZ firms.

5.3 Implications of the Study

The results of this study will help to improve the implicit assumptions that underpin theories that relate to capital deduction, VAT incentives and Corporate Income tax incentives and firm performance as measured in terms of net profit. The results will help the optimal tax theory, benefit theory of taxation and Q theory of investment to better explain existing empirical research that has been conducted on the effect of tax incentives and EPZ firm performance. The Optimal tax theory calls for designs of tax systems that maximize social welfare because the items taxed become less desirable.

The findings of the study supports the optimal tax theory because the study concludes that capital deduction incentives, VAT incentives and Corporate income tax incentives have a statically significant effect on the performance of EPZ firms. In other words, by reducing the taxation levels for EPZ firms their activities become more desirable and as a result their performance is enhanced. Therefore the results of the current study support the optimal tax theory because they indicate that capital deduction incentives, VAT incentives and corporate income tax incentives will boost the performance of EPZ firms.

The findings of the study also supports the benefit theory of taxation which states that the amount of tax paid by an individual or firm should equal the benefits, it receives from the state. So the tax incentives received by the EPZs firms are compensated through generation of other taxes to the government such as PAYE as well increased taxes by their suppliers of goods and services. So, in the end, both government and EPZ firms benefit from each other as the taxes generated by EPZ firms directly and indirectly equal to the services received by the EPZ firms from the government.

The findings of the study also support the Q theory of investment. The findings indicated that capital deductions have a positive and statistically effect on the performance of EPZ firms. This means that firms are incentivized to increase their capital expenditures in the form of buildings and machinery in order to benefit from the tax deductions. This in turn will lead to q becoming smaller than 1, which makes the EPZ firms more attractive to investors who want to buy shares of the firms because it is undervalued by investors. In addition, the findings indicate that VAT incentives and Corporate Income tax incentives have a statistically significant effect

on the performance of EPZ firms as measured by net profit. These findings support the Q theory of investment which notes that increase in profits leads the q value becoming smaller than one which makes the EPZ firms more attractive to investors who want to buy shares of the firms because it is undervalued by investors.

This study will provide valuable data to EPZ firms on how to structure their operations in order to maximize their performance. This is because in order to take advantage of particular tax incentives, firms have to develop business models that optimize the tax incentives. Therefore the implications of the study are that EPZ firms will have to invest heavily in modern manufacturing facilities and machineries in order to take advantage of capital deductions. This will enable the EPZ firms to enhance their performance and boost their net profits.

For policy makers, the implications of the findings is that governments are incentivized to enhance the amount of capital deductions incentives, VAT incentives and corporate income tax incentives that they offer to EPZ firms. Currently EPZ firms are entitled to capital deductions of 100 percent of their capital expenditure on plants and machinery. Based on the findings the government could enhance the capital deductions allowable. Based on the findings, policy makers should enhance VAT incentives beyond zero rating and introduce VAT rebates in order to enhance the performance of EPZ firms.

The study generates new knowledge in the area of tax incentives and their effect on the performance of EPZ firms by filling the contextual, conceptual and methodological gap that existed. The findings indicate that capital deductions boosts performance of EPZ firms. This means that investment in buildings and machinery leads to greater net profit. This implies that EPZ firms would be necessitated to stay at

the export processing zones for long periods after the expiry of the 10 year corporate income tax holiday in order to recoup their investment. This findings contrast the findings of Kuria (2017) which indicated that EPZ firms leave before the expiry of the 10 year tax holiday so as to avoid paying taxes.

5.4 Recommendations

The study found that capital deduction had a positive and statistically significant effect on performance of EPZs in Mombasa. The study therefore recommends for the government to enhance the level of capital deductions given to EPZs given its proven positive effect on the performance of the firms. Currently EPZ firms are allowed to deduct up to a maximum of 100 percent of capital expenditure against their profits or gains. The study recommends that government enhances the figure. This will increase the investments of EPZs firms in buildings and machinery which will in turn spur more production in Kenya. This will ensure that Kenya benefits from more advanced machinery and manufacturing plants that will boost the competitiveness of Kenyan made products in the international markets. The enhanced capital deductions will also incentivize the EPZs firms to remain in Kenya even after the expiry of their 10 year period because they will seek to recoup and fully utilize their buildings and machinery to gain additional profits.

The study found that corporate income tax incentive had a positive and statistically significant relationship with the performance of Export processing zones in Mombasa. Currently, EPZ firms enjoy a ten year tax holiday where they don't pay any corporate income tax against their gains or profits. The study recommends that the government extends the tax holiday period so as to entice the EPZ firms to remain in Kenya and continue producing goods for the export market. The corporate income tax foregone

by the government will be recouped through continued employment of locals who will pay taxes to the government. Currently, the EPZ firms pay a 25 percent rate of corporate income tax against the prevailing rate of 30 percent for a further period of ten years after the lapse of the 10 year tax holiday. The study also recommends that the government lowers the rate for EPZ firms from the current level of 25 percent so as to entice the EPZ firms to remain in Kenya and not shift their operations to other countries.

The study found that VAT incentive had a positive and statistically significant relationship with the performance of EPZ firms in Mombasa. The study indicated that VAT zero rating positively and statistically influences the performance of EPZ firms because it also allows companies to claim VAT tax credits for inputs. The study recommends that in addition to the zero rate of VAT, the government should provide additional VAT credits through rebates based on their performance. This will encourage the EPZ firms to boost their production and hence more economic benefit to the country.

5.5 Suggestions for Further Studies

The study recommends that additional research be undertaken given that the current study only focused on the influence of capital deductions incentives, VAT incentives and corporate income tax incentives on the performance of EPZ firms in Mombasa. The study recommends that a similar study can be carried out on EPZs firms but focuses on other independent variables such as employment income tax incentives.

Further studies should also focus on other potential determinants that would affect performance of EPZ firms other than tax incentives. Some of the potential determinants of performance of EPZ firms are the infrastructure development level in

a country which reduces the cost of transporting raw materials to EPZ firms and transporting finished products from EPZ firms to the market or level of human skills in a country, economic and political stability, profitability of local production and exchange rate policies. Additional potential determinants of the performance of EPZ firms include foreign trade policies.

In addition, this study used only three variables to examine the factors that influence the performance of EPZ firms in Mombasa County. There are many possible factors that may affect performance of EPZ firms in Mombasa that other researchers may seek to unearth. The study showed that 58.8 percent of variations in performance of the Export processing zones were explained by the capital deductions, VAT incentives and corporate income tax incentives. A further research should be undertaken to identify other tax determinants of the performance of EPZs firm in Mombasa. The additional studies may also examine other strategies such as use of modern technologies that can be used to enhance the performance of EPZs firms.

REFERENCES

- ActionAid (2012). *Still racing toward the bottom? Corporate tax incentives in East Africa*. Tax Justice Network Africa.
- Adu-Gyamfi, R., Asongu, S., Mmusi, T., Wamalwa, H., & Mangori, M. (2020). *A comparative study of export processing zones in the wake of sustainable development goals: Cases of Botswana, Kenya, Tanzania and Zimbabwe*, No 20/025, Working Papers of the African Governance and Development Institute., African Governance and Development Institute.
- Agostini, K., Claudio, P. & Jorratt, M. (2017). *Política Tributaria para Mejorar la Inversión y el Crecimiento en América Latina*, in Gomez Sabaini, Juan Carlos et al. (eds), *Consensos y Conflictos en la Política Tributaria de América Latina*.
- Agustin, H., Henri, M., Mercy, A, Grum, C., Bensun, Q, & Oriol, J. (2018). Taxes incentives a tool for development. *American Journal of Taxes*, 37(1): 109-117.
- Amendola, A., Boccia, M., Mele, G. & Sensini, L. (2018). *Fiscal incentives and firm Performance: evidence from the Dominican Republic*, Policy Research Working Paper Series 8382, World Bank.
- Andersen, M., Kett, B., & von Uexkull, E. (2018). *Corporate Tax Incentives and FDI in Developing Countries*. In *Global Investment Competitiveness Report 2017/18*. Washington, DC: World Bank.
- Arksey, H. & Knight, P. (1999). *Interviewing for Social Scientists: An Introductory Resource with Examples*. London: Sage Publishers.
- Atkinson, A. & Stiglitz, J. (1976). The design of tax structure: direct versus indirect taxation. *Journal of Public Economics*, 6(2): 55-75.
- Aue, A. (2019). *Testing for stationarity of functional time series in the frequency domain*. Cornell University. arXiv:1701.01741
- Baissac, C. (2004). *Maximizing the developmental impact of EPZs: A comparative perspective in the African context of needed accelerated growth*, a presentation at the Johannesburg EPZ Symposium October 15-16.
- Baranzini, M. (2012). Modigliani's life-cycle theory of savings fifty years later. *PSL Quarterly Review*, 66(5): 154-157.
- Belghitar, Y., Clark, E. & Kassimatis, K. (2019). A measure of total firm performance: new insights for the corporate objective. *Ann Oper Res* 281, 121–141. <https://doi.org/10.1007/s10479-018-2983-z>.
- Bell, A., Fairbrother, M. & Jones, K. (2019). Fixed and random effects models: making an informed choice. *QualQuant* 53, 1051–1074. <https://doi.org/10.1007/s11135-018-0802-x>

- Belloc, M., Maio, D. & Michele, R. (2017). Survey of the Literature on Successful Strategies and Practices for Export Promotion by Developing Countries. *Economic Review*, 58(2), 9-22.
- Bendell, A., Jem, C., Miller, S., Anthony, K., Weber, T., Joerg, C., Zhan, D., & James, K. (2015). *Enhancing the contribution of Export Processing Zones to Sustainable Development Goals: Analysis of 100 EPZs and a framework for sustainable economic zones*. United Nations Conference on Trade and Development (UNCTAD). UNCTAD/DIAE/IPB/2015/ United Nations Publication.
- Bharadwaj, A., Bharadwaj, S., & Konsynski, B. (1999). Information Technology Effects on Firm Performance as Measured by Tobin's Q. *Management Science*, 45(7), 1008-1024.
- Bhasin, M. L. (2016). Voluntary Reporting of Corporate Governance Information in Annual Reports: An Empirical Study of an Asian Country. *International Journal of Management Sciences and Business Research*, 5(7), 71-95
- Blumkin, T., Margalioth, Y., Sadka E. & Sharoni, A. (2019). *Charitable Contributions by Businesses: A Tax Policy Perspective*, CESifo Working Paper Series 7836, CESifo.
- Boerger, L. (2016). The Perspectives of Pluralist Economics. Exploring economics.org. Retrieved April 10, 2021, from <https://spam.exploring-economics.org/en/orientation/neoclassical-economics/>
- Boiteux, M. (1956). Sur la gestion des monopoles publics astreints à l'équilibre budgétaire, *Econometrica*, 24, 229-240. Published in English as: On the management of public monopolies subject to budgetary constraints, *Journal of Economic Theory*, 3, 219-240.
- Bolton, P., Chen, H. & Wang, N. (2011). A Unified Theory of Tobin's q, Corporate Investment, Financing, and Risk Management. *The Journal of Finance*, 66(5), 1545-1578. Retrieved October 14, 2020,
- Brainard, W. & Tobin, J. (1968). Pitfalls in Financial Model Building. *The American Economic Review*, 58(2), 99-122.
- Brazys, S. & Regan, A. (2021). *The Role of Corporate Tax in Ireland's Foreign Direct Investment Growth Model*. Greens/EFA. Brussels.
- Broadstock, D.C., Shu, Y. & Xu, B. (2011). *The heterogeneous impact of macroeconomic conditions on firms' earnings forecast*, Proceedings of Macao International Symposium on Accounting and Finance, Macao.
- Burggraeve, K., Jeanfils, P., Van Cauter, K. & Van Meensel, L. (2008). *Macroeconomic and fiscal impact of the risk capital allowance*, Economic Review, National Bank of Belgium, issue iii, 7-47, September.
- Calitz, E, Muwanga-Zake, E, Sithole, A. & Steyn, W. (2020). *Depreciation allowances in South Africa*. UNU-WIDER

- Cameron, A. & Trivedi, P. (2010). *Microeconometrics Using Stata*. Stata Press.
- Chan, L. (2019). The impact of value added tax on manufacturing performance in ASEAN. *International Journal of Business, Economics and Law*, 17 (1), 56-95.
- Chandra, P., & Long, C. (2013). VAT rebates and export performance in China: Firm-level evidence. *Journal of Public Economics*, 102(8): 13-22.
- Chen, Y. (2016). *Spatial Autocorrelation Approaches to Testing Residuals from Least Squares Regression*. PLoS ONE 11(1): e0146865. <https://doi.org/10.1371/journal.pone.0146865>
- Chen, D., Harris, A. & Zolt, E. (2018). *Design and assessment of tax incentives in developing countries Tax Incentives*. United Nations.
- Chen, S. & Lee, J. (1995). Bayesian inference of threshold auto regressive model. *Journal of Time Series Analysis* 16(5), 121-137.
- Chuanwang, S., Yanhong, Z. & Gang, D. (2020). Can value-added tax incentives of new energy industry increase firm's profitability? Evidence from financial data of China's listed companies. *Energy Economics*, 86(4): 104-154.
- Cooper, D. & Schindler, P. (2010). *Business Research Methods*, 8th Edition, New Delhi: Tata McGrawHill.
- Corlett, W. & Hague, D. (1953). Complementarity and the excess burden of taxation, *Review of Economic Studies*, 21(7), 21-30.
- Cremer, H., & Gahvari, F. (2017). Restoring Ramsey tax lessons to Mirrleesian tax settings: Atkinson–Stiglitz and Ramsey reconciled. *Social Choice and Welfare*, 49(1), 11–35. <http://www.jstor.org/stable/45094326>
- Creswell, J. (2018). *Educational Research: Planning, Conducting and Evaluating Quantitative and Qualitative Research* (4th ed.). London: Pearson.
- Deaton, A. S., & Modigliani, F. (2005). Life Cycle Theory of Consumption. Available at SSRN: <https://ssrn.com/abstract=686475>
- Dellipriscoli, J. (2013). *Can Neoclassical Trade Theory Explain Congressional Voting?* Master's Theses. 69. <https://repository.usfca.edu/thes/69>
- DeMarzo, P, Michael F, Zhiguo H, & Neng W. (2010). Dynamic agency and the q theory of investment, *Journal of Finance*, *Brookings Papers on Economic Activity* 1, 141-195.
- Dermawan, E.S. & Indrajathi, M.D. (2017). The Quality of Operating Profit and Other Comprehensive Income; Evidence from Indonesia Stock Exchange. *International Journal of Economic Perspectives*, 11(4): 1545-1557.

- Diamantopoulos, A. & Schlegelmilch, B. (2006). Sampling techniques and designs. *International Journal of Economics, Commerce and Management*, 2(11), 201–243. <http://ijecm.co.uk/> ISSN 2348 0386.
- Diane, K. (2019). *Petroleum Industry Tax Incentives and Energy Policy Implications*. Available from: <https://www.austaxpolicy.com/petroleum-industry-tax-incentives-energy-policy-implication>.
- Economic Commission for Latin America and the Caribbean (ECLAC)/Oxfam International. (2020). Tax incentives for businesses in Latin America and the Caribbean. Summary. Project Documents (LC/TS.2020/19).
- Egbunike, C. & Okerekeoti, C. (2018). Macroeconomic factors, firm characteristics and financial performance: A study of selected quoted manufacturing firms in Nigeria, *Asian Journal of Accounting Research*, 3(2), 142-168.
- Engman, M., Onodera, O. & Pinali, E. (2007). *Export processing zones: Past and future role in trade and development*. OECD Trade Policy Working Paper 53.
- EPZA (2017). *Annual Performance report 2017*. Export Processing Zones Authority. Nairobi.
- EPZA (2019). *Annual Performance Report, 20*. Export Processing Zones Authority. Nairobi.
- FAO (2017). *Multiple uses of the coastal zone*. Rome ASIT Advisory Studies
- Farole, T. (2010). *Investment Climate and Performance in Africa's Special Economic Zones*. World Bank Publication.
- Fazzari, S., Hubbard, R., Petersen, B., Blinder, A., & Poterba, J. (1988). Financing Constraints and Corporate Investment. *Brookings Papers on Economic Activity*, 1988(1), 141-206. doi:10.2307/2534426.
- Field, A. (2009). *Discovering Statistics Using SPSS*. (3rd ed.), Sage Publications.
- Fisher, C. (2009). *Researching and Writing a Dissertation: A Guidebook for Business Students*. Essex, England: Pearson Education Limited.
- Fleurbaey, M., & Manique, F. (2018). Optimal Income Taxation Theory and Principles of Fairness Effects of optimal income tax theories. *Journal of Economic Literature* 2018, 56(3), 1029–1079.
- Ford, R. & Poret, P. (1991). *Business investment: recent performance and some implications for policy*. OECD Economic Studies No. 16.
- Fraenkel, R. & Wallen, N. (2007). *How to Design and Evaluate Research in Education*. New York: Mcgraw-Hill Companies Inc.
- Frick, S., A., Rodríguez-Pose, Andrés, W, Michael D. (2018). Towards economically dynamic Special Economic Zones in emerging countries. *Journal of Economic Geography*, 37(1): 109-117.

- Gahvari F. (2016). *Restoring Ramsey tax lessons to Mirrleesian tax settings: Atkinson-Stiglitz and Ramsey reconciled.*
- Galea, M., Paula, G. A., & Cysneiros, F. J. A. (2005). On diagnostics in symmetrical nonlinear models. *Statistics & Probability Letters*, 73(4), 459–467. <https://doi.org/10.1016/J.SPL.2005.04.033>
- Gamble, J. (2018). Financial performance and federal tax incentives. *J Labor Res* 19, 529–541. <https://doi.org/10.1007/s12122-998-1045-8>
- Gibbon, P., Jones, S. & Thomsen, L. (2008). An Assessment of the Impact of Export Processing Zones and an Identification of Appropriate Measures to Support their Development, 1(1), 11–39.
- Gum, C. (2014). Free Tradezones in Closed Developing Economies: An Examination of EPZ Success in Mauritius. *Indian Journal of Economics and Business*, 21 (1), 51-65.
- Harju, J. & Matikka, T. (2019). *Compliance Costs vs Tax Incentivizes: Why do entrepreneurs respond to size based regulations?*
- Harlow, L. (2010). On Scientific Research: The Role of Statistical Modeling and Hypothesis Testing, *Journal of Modern Applied Statistical Methods*, 9(2): 4-45.
- Hayashi, F. (1982). Tobin's Marginal q and Average q: A Neoclassical Interpretation. *Econometrica*, 50(1), 213-224. doi:10.2307/1912538
- Haywood, R. (2004). *Economic realities and free trade zones Flagstaff Arizona.* World Export Processing Zone Authority. The Flagstaff Institute.
- Herranz, E. (2017). Unit root tests. Wiley Interdisciplinary Reviews: *Computational Statistics*, 9(3), 111–139. <https://ieakenya.or.ke/download/citizen-handbook-on-taxation-in-kenya/>
- Hunermund, P., & Louw, H. (2020) On the Nuisance of Control Variables in Regression Analysis *Academy of Management Journal*. 1(9): 623-632.
- ICTD (2019). *Taxing Africa. The right policy choices.* Summary brief Number 21.
- IEA (2012). *A citizen's handbook on taxation in Kenya.*
- Income Tax Act (2018). National Council for Law reporting.
- International Monetary Fund (IMF), Organisation for Economic Co-operation and Development (OECD), World Bank (WB), and United Nations (UN) (2015). Options for Low Income Countries' Effective and Efficient Use of Tax Incentives for Investment. *Report to the G-20 Development Working Group.*
- Sebastian, J. (2009). *Incentives and Investments: Evidence and Policy Implications.* World Bank, <https://openknowledge.worldbank.org/handle/10986/27875> License: CC BY 3.0 IGO.

- Jati, K. (1994). Empirical Tests of New Growth Theory: Openness and Growth. *Journal of Economic Integration*, 1(1): 62-69.
- Jauch, H. (2002). Export Processing Zones and the Quest for Sustainable Development: A Southern African Perspective. *Environment and Urbanization - Environ Urban*, 14(2), 101-113. 10.1630/095624702101286142.
- Jayanthakumaran, K. (2003). Benefit-Cost Appraisals of Export Processing Zones: A Survey of the Literature. *Development Policy Review*, 21 (1): 51-65.
- Joonsen, G. (2019). Value Maximization, Stakeholders Theory, and the Corporate Objective Function. *Journal of Applied Corporate Finance*, 3(8), 481-524.
- Julien, G., Stéphanie, M. & Sandra, P. (2014). *Incomplete VAT rebates to exporters: how do they affect China's export performance?* Working Papers 2014-05, CEPII research center.
- Kaguri, W.A. (2013), *Relationship between firm characteristics and financial performance of life insurance companies in Kenya*, unpublished Master's thesis, University of Nairobi.
- Kari, S., Laitila, J., & Ropponen, O. (2018). Investment Incentives and Tax Competition under the Allowance for Growth and Investment (AGI), *Working Papers 110*, VATT Institute for Economic Research.
- Keynes, J (1936). *The general theory of employment, interest and money*. Cambridge: Macmillan Cambridge University Press.
- Kim, J.O., Traore, M.K., & Warfield, C. (2006). The Textile and Apparel Industry in Developing Countries, *Textile Progress*, 38:3, 1- 64.
- Klemm, A. (2019). *Causes, Benefits, and Risks of Business Tax Incentives*. IMF Working paper WP/09/21
- KNBS (2019). *Kenya Population and Housing Census (KPHC) Volume IV Report*
- Kogan, L., Jun, L. & Xiaotuo, Q. (2020). *Asset Growth Effect and Q Theory of Investment*. Available at SSRN: <https://ssrn.com/abstract=3734333>
- Kothari, C. (2014). *Research Methodology; Methods and Techniques*. New Delhi: New Age International Publishers.
- Krishna, R., Maithreyi R ,Surapaneni, K. (2010). Research Bias: a review for medical students. *journal of clinical and diagnostic research*, 5(4):2320-2324.
- Kuria, J. (2018). Effect of vat incentives on the performance of epz firms in Kenya. *American Journal of Finance*, 3(1), 31 - 45.
- Kuria, D. J. (2017). Effects of corporate income and value added tax incentives on the performance of export processing zone (epz) firms in Kenya. *European Journal of Business and Strategic Management*, 2(8), 17–37. Retrieved from <https://www.iprjb.org/journals/index.php/EJBSM/article/view/522>

- Kuria, D. J. (2018). Effect of custom duty incentives on the performance of epz firms in Kenya. *International Journal of Finance*, 3(1): 1–13. <https://doi.org/10.47941/ijf.226>
- Kuria, J., Omboi, B., & Achoki, G. (2017). The effect of corporate income tax incentive on the performance of epz firms in Kenya. *International Journal of Finance and Accounting*, 2(5): 43–55.
- Kyari, A. (2020). The Impact of Petroleum Tax Incentives on Foreign Direct Investment Inflow: Evidence from Nigeria. *International Journal of Energy Economics and Policy*, Econjournals, 10(4): 516-524.
- Lang, L., & Stulz, R (1994). Tobin's q, Corporate Diversification, and Firm Performance. *Journal of Political Economy*. 102 (6): 1248-80.
- Lavrakas, P. (2008). *Encyclopedia of survey research methods* (Vols. 1-0). Thousand Oaks, CA: Sage Publications, Inc. doi: 10.4135/9781412963947
- Lebens, M. & Euske, K. (2006). *A conceptual and operational delineation of performance. Business Performance Measurement*. Cambridge University Press.
- Liapis, J., Politis, D., Ntetsos, D., & Thalassinos, T, (2020). Investigating the Relationship between Tax Revenues and Tax Ratios: An Empirical Research for Selected OECD Countries. *International Journal of Economics & Business Administration (IJEBA)*, VIII, (1): 215-229.
- Liargovas, P., & Skandalis, K. (2008). *Factors Affecting Firms' Financial Performance: The Case of Greece*, No 0012, Working Papers, University of Peloponnese, Department of Economics, <https://EconPapers.repec.org/RePEc:uop:wpaper:0012>.
- Lindahl, E. (1919). *Just Taxation ñ A Positive Solution* (E. Henderson, transl.) in *Musgrave, Richard A. and A.T. Peacock, Eds, Classics in the Theory of Public Finance*. Macmillan.
- Liu, Y. & Jie M. (2019). How Do Tax Incentives Affect Investment and Productivity? Firm-Level Evidence from China. *American Economic Journal: Economic Policy*, 11 (3): 261-91. DOI: 10.1257/pol.20170478
- Lucas, E. & Prescott, C. (1971). Investment under Uncertainty, *Econometrica*, 39:5 659-681.
- Madani, D. (1999). *A review of the role and impact of export processing zones*. Policy Research Working Paper No. 2238. Washington D.C.: World Bank.
- Madzivanyika, E., & Kadenge, P. (2015). VAT Incentives and their effects on VAT refunds: the case of Zimbabwe (2009-2012). *Public and Municipal Finance*, 4(3), 37-44

- Martinez, J, Serna, M., & Montoya, N. (2019). Dimensions of learning orientation and its impact on organizational performance and competitiveness in smes. *Journal of Business Economics and Management*, 21(2): 395–420.
- Mascagni, G., Dom, R. & Santoro, F. (2021). The VAT in practice: equity, enforcement and complexity. *ICTD working paper 117*. Institute of Development Studies in Institute of Development Studies 2021 ISBN: 978-1-78118-759-3 DOI: 10.19088/ICTD.2021.002
- Mayende, S. (2013). The Effects of Tax Incentives on Firm Performance: Evidence from Uganda. *Journal of Programming Languages*, 6, 85-95.
- McGaghie, W. C., Bordage, G., & Shea, J. A. (2001). Problem statement, conceptual framework, and research question. *Academic Medicine*, 76(9), 923-924. <https://doi.org/10.1097/00001888-200109000-00021>
- Melville, A. (2019). *Taxation: Melville's Taxation: Finance Act 2019*, (25th ed.) New York: Pearson
- Mersky, A., Sprei, F, Samaras C. & Qian, Z. (2019). Effectiveness of incentives on electric vehicle adoption in Norway. *Transportation Research Part* 46(1), 56-68. DOI: 10.1016/j.trd.2016.03.011.
- Mirrlees, J. A. (1971). An Exploration in the Theory of Optimum Income Taxation. *The Review of Economic Studies*, 38(2), 175–208. <https://doi.org/10.2307/2296779>
- Mombasa county government (2018). Second County integrated development plan. Mombasa County.
- Morisset, J. & Neda, P. (2001). *How tax policy and incentives affect foreign direct Investment*. Policy Research Working Papers.
- Mugenda, O. & Mugenda, A. (2003). *Research Methods, Quantitative and Qualitative Approaches*. Nairobi: ACTS Press.
- Mulaa, J., Aosa, E., Awino, Z & Wainaina, G. (2014). Management Participation and Firm Performance *American Journal of Industrial and Business Management*, 4(3): 109-117.
- Mule, R., & Mukras, M. (2015). Financial leverage and performance of listed firms in a frontier market: panel evidence from Kenya. *European Scientific Journal*, ESJ, 11(7): 55-75. Retrieved from <http://eujournal.org/index.php/esj/article/view/5339>.
- Muli, J. & Ombati, R. (2020). The effect of capital gains tax on performance of real estate businesses in Machakos County. *International Journal of Economics, Commerce and Management*. 8(2): 154-157.
- Musgrave, R. (1959). *The Theory of Public Finance*. New York: McGraw Hill.
- Mutunga, J. (2006). *The response of trade unions to challenges posed by conditions of works at EPZs in Kenya*. Master's Thesis, University of Nairobi.

- Mwangi, M., Macharia, D. I., & Kibet, D. Y. (2019). Effect of Tax Holiday on Tax Revenue Collection among Export Processing Zone Companies in Kenya: (A Case Study of Export Processing Zone Athi River). *Journal of Finance and Accounting*, 3(4), 57 - 65.
- Ngece, N., & Gichora, M. (2020). Financing for Resilient and Green Urban Solutions in Mombasa, Kenya. *The Initiative on Financing for Resilient and Green Urban Global Solutions (FRUGS) UN-Habitat*
- Ngechu, M. (2004). *Understanding the research process and methods: An Introduction to research Methods*. Nairobi: Acts Press.
- Ngumo, K., Collins, K. & David, S. (2017). Determinants of financial performance of microfinance banks in Kenya. *Research Journal of finance and Accounting*, 8(16): 1-8.
- Nikoloski, K. (2016). *Neoclassical Economics: Some Marshallian Insights*, Annals - Economy Series, Constantin Brancusi University, Faculty of Economics.
- Njeru, D. (2012). *The effect of tax incentives on the investments of export processing zone firms in Kenya*. Master's thesis. University of Nairobi. Unpublished.
- Njuru, S., Ombuki, C., Wawire, N. & Okeri, S. (2013). Taxation and private investment: evidence for Kenya. *International Journal of Economics and Management Sciences*, 2 (11): 78-93.
- Obafemi, T., Araoye, F., & Ajayi, E. (2021). Impact of tax incentives on the growth of small and medium scale enterprises in Kwara state. *International Journal of Multidisciplinary Research and Growth Evaluation*, 86(4): 104-154.
- Odhiambo, N. (2021). Is export-led growth hypothesis still valid for Sub Saharan African countries? New evidence from panel data analysis. *European Journal of Management and Business Economics*, 21(7), 21-30.
- OECD (2019). *OECD Investment Policy Reviews: Southeast Asia* www.oecd.org/investment/oecd-investment-policy-review-southeast-asia.htm
- Olaleye, M., Memba, F. & Riro, G. (2015). Capital allowances and Foreign Direct Investment in Listed Manufacturing Companies in Nigeria. *Research Journal of Finance and Accounting International Journal on Data Science and Technology*, 6(24): 141-195.
- Olayemi, B., & Folajimi, A. (2021) Tax Incentives and the Growth in Sales Revenue of Small and Medium Enterprises (SMEs) in Ondo and Ekiti States, Nigeria, *International Journal on Data Science and Technology*, 7(1): 1-16. doi: 10.11648/j.ijdst.20210701.11
- Onakoya, A., Afintinni, O. & Grace, O. (2017). Taxation revenue and economic growth in Africa. *Journal of Accounting and Taxation*. 9(2): 11-22. 10.5897/JAT2016.0236.

- Prihatiningtias, J., Yeney, C., Julianto, H., & Sofyan, M. (2020). Strategic performance measurement system on employee performance through the three moderating variables in the Indonesian ministry of finance. *Journal of Economics, Business, & Accountancy*, 29(1): 51-67, DOI: 10.1080/09537287.2017.1381887
- Raffoni, A., Visani, F., Bartolini, M., & Silvi, R. (2018). Business Performance Analytics: Exploring the potential for Performance Management Systems. *Production Planning & Control*, 29(1): 51-67. DOI: <https://doi.org/10.1080/09537287.2017.1381887>
- Ramsey, F. (1927). A contribution to the theory of taxation, *Economic Journal*, 37(145): 47-61.
- Redonda A., Sarralde, S., Hallerberg, M., Lise Johnson., Melamud A., Rozemberg E., Schwab, J., & Haldenwang, C. (2018). *Tax expenditure and the treatment of tax incentives for investment*. Economics Discussion Papers, No 2018-57, Kiel Institute for the World Economy.
- Richard J, Devinney T, Yip G, Johnson G. (2009) Measuring Organizational Performance: Towards Methodological Best Practice. *Journal of Management*, 35(3): 718-804. doi:10.1177/0149206308330560
- Robinson, K. A, Saldanha, J., & Mckoy, A. (2011). *Frameworks for Determining Research Gaps During*. Systematic Reviews.
- Salinger, M. & Summers, L. (1983). *Tax Reform and Corporate Investment: A Microeconomic Simulation Study*, NBER Chapters, in: Behavioral Simulation Methods in Tax Policy Analysis, 247-288, National Bureau of Economic Research, Inc.
- Samuelson, P. A. (1954). The Pure Theory of Public Expenditure. *The Review of Economics and Statistics*, 36(4): 387-389. <https://doi.org/10.2307/1925895>
- Samuelson, P. A. (1955). Diagrammatic Exposition of a Theory of Public Expenditure. *The Review of Economics and Statistics*, 37(4): 350-356.
- Saunders, M., Lewis, P. & Thornhill, A. (2009). *Research Methods for Business Students*. New York: Pearson.
- Schrank, A. (2001). Export Processing Zones: free market islands or bridges to structural changes? *Development Policy Review*, 19(2): 223-242.
- Sekaran, U. (2003). *Research Methods for Business: A Skill-Building Approach*. 4th Edition, New York: John Wiley & Sons.
- Sheytanova, T. (2014). *The Accuracy of the Hausman Test in Panel Data: a Monte Carlo Study*, Örebro University School of Business Master's program Applied Statistics.

- Siepel, J. & Dejardin, M. (2020). *How do we measure firm performance? A review of issues facing entrepreneurship researchers*. Science Policy Research Unit (SPRU)
- Simons, H. (1938). *Personal Income Taxation: the Definition of Income as a Problem of Fiscal Policy*.: University of Chicago Press, 49
- Slattery, C. & Zidar, C. (2020). Evaluating State and Local Business Incentives. *Journal of Economic Perspectives*, 34 (2): 90-118. DOI: 10.1257/jep.34.2.90.
- Slemrod, J. & Velayudhan, T. (2020). *The VAT at 100: A Comprehensive Health Assessment, With a Plan of Care and Suggestions for Diagnostic Tests*, unpublished.
- Smirlock, M., Gilligan, T., & Marshall, W. (1984). Tobin's q and the structure performance relationship. *American Economic Review*, 74(5), 1051-1060.
- Sritharan V (2018). Firm size influence on profitability of Sri Lankan diversified holdings firms. *International Journal of Advanced Research Management and Social Sciences*
- Stein, H. (2008). *Africa, Industrial Policy and Export Processing Zones: Lessons from Asia*. Paper Prepared for Africa Task Force Meeting, Addis Ababa, Ethiopia 10-11 July, 2008
- Stewart, M. (2015). *Tax State, Benefit and legitimacy*. The Australian National University. Tax and Transfer Policy Institute TTPI - Working Paper 1/2015 August 2015.
- Stiglitz, J. E. (2000). The Contributions of the Economics of Information to Twentieth Century Economics. *The Quarterly Journal of Economics*, 115(4), 1441–1478. <http://www.jstor.org/stable/2586930>
- Stiglitz, J. (2015). Inequality and Economic Growth. *Political Quarterly*, 86, 134 – 55
- Tahir, S. (2020). Organizational performance: what it is and how to measure and improve it. *Economic Review*, 58(2), 99-122.
- Tamura, R., Kobayashi, K., Takanoc, Y., Miyashiro, R., Nakatae, K. & Tomomi, M. (2020). Mixed Integer Quadratic Optimization Formulations for Eliminating Multicollinearity Based on Variance Inflation Factor. *Journal of Business*, 17 (1), 56-95.
- Taouab, O. & Issor, Z. (2019). Firm Performance: Definition and Measurement Models. *European Scientific Journal*, 102(8): 13-22.
- Tekere, M. (2000). *Export development and export-led growth strategies: Export Processing Zones and the Strengthening of Sustainable Human Development*, Africa Meeting Discussion Notes, ICTSD Globalisation Dialogues – Africa, Windhoek, 10-12 May 2000.

- Tembur, N. (2016). *Effect of tax incentives on financial performance of export processing zone firms in Kenya*. [Doctoral dissertation, University of Nairobi]
- Thuita, G. (2017). An Investigation of the Effect of Tax Incentives on the FDIs: A Case of EPZs in Athi River Kenya. *Journal of Accounting, Finance and Auditing Studies* 3(1): 17-36
- Tobin, J. (1969). A general equilibrium approach to monetary theory. *Journal of Money, Credit, and Banking*, 1(5), 15-29.
- Trung, T., Tan & N. (2020). Tax incentive policy and firm performance: evidence from Vietnam. *Investment Management and Financial Innovations*, 17(2), 277-296. doi:10.21511/imfi.17 (2).2020.22.
- Twesige, D., & Gasheja, F. (2019). Effect of tax incentives on the growth of small and medium-sized enterprises (SMEs) in Rwanda: A case study of SMEs in Nyarugenge District. *Journal of Accounting and Taxation*, 11(5): 89-98.
- Twesige, D., Gasheja, F. & Barayendema, J. (2020). Tax Incentives and Growth of SMEs in Rwanda: A Case Study of Small and Medium Enterprises in Nyarugenge District. *Rwandan Economy at the Crossroads of Development*. Springer, 16(5), 121-137.
- Tyler, W., Negrete, A., & Carolina, A. (2009). *Economic Growth and Export Processing Zones: An Empirical Analysis of Policies to Cope with Dutch Disease from LASA 2009 congress Conference*. Rio de Janeiro, Brazil 11-14 June 2009
- UN (2017). *United Nations Model Double Taxation Convention between Developed and Developing Countries 2017 Update*. Department of Economic & Social Affairs. ST/ESA/PAD/SER.E/213
- UNCTAD (2000). *Tax Incentives and Foreign Direct Investment Global survey*. Geneva ASIT Advisory Studies No. 16.
- UNCTAD (2015). *Enhancing the Contribution of Export Processing Zones to the Sustainable Development Goals An analysis of 100 EPZs and a Framework for Sustainable Economic Zone*.
- UNCTAD (2020). *Beyond uncertainty*. Annual report for 2019.
- Uwaoma, I, & Ordu, P. (2014) The impact of Tax incentives on economic development in Nigeria (evidence of 2004 – 2014). *International Journal of Economics, Commerce and Management* 4(3).
- Uyanto, S. (2020). *Power Comparisons of Five Most Commonly Used Autocorrelation Tests*.
- VAT Act 2015. National Council for Law reporting.

- Vaisey, S., & Miles, A. (2017). What You Can—and Can't—Do with Three-Wave Panel Data. *Sociological Methods & Research*, 46(1), 44–67. <https://doi.org/10.1177/0049124114547769>
- Vanegas, L. H. & Paula, G. A. (2016). An extension of log-symmetric regression models: R codes and applications. *Journal of Statistical Simulation and Computation* 86(7): 1709-1735.
- Vintila, G.& Nenu, E. (2015). An Analysis of Determinants of Corporate Financial Performance: Evidence from the Bucharest Stock Exchange Listed Companies. *International Journal of Economics and Financial Issues*. 5(5): 732- 739.
- Warr, P. (1987). Export Promotion Via Industrial Enclaves: The Philippines' Bataan Export Processing Zone in *Journal of Development Studies*, 23(2): 220-241.
- Warr, P. (1989). *Export Processing Zones - The Economics of Enclave Manufacturing in the World Bank Research Observer*, 4 (1), 65-88.
- Waters, J. (2013). Achieving World Trade Organization Compliance for Export Processing Zones While Maintaining Economic Competitiveness for Developing Countries, 63 *Duke Law Journal*, 3(8),481-524.
- Wernerfelt, B. & Montgomery, C. (1988). Diversification, Ricardian Rents, and Tobin's q. *Rand Journal of Economics*, 1(9): 623-632.
- Wolfgang, W., Artner, R., & Eye, A. (2017). Heteroscedasticity as a Basis of Direction Dependence in Reversible Linear Regression Models, *Multivariate Behavioral Research*, 52(2): 222-241, DOI: 10.1080/00273171.2016.1275498.
- World Bank (1983). *World Development Report. World Economic Recession and Prospects for Recovery*; Management in Development; World Development Indicators. World Bank Publication.
- World Bank (1989). *From Crisis to Sustainable Growth: A Long Term Perspective Study*. World Bank Publication.
- World Bank (2012). *Kenya economic update: storm clouds gathering – the economy facing strong headwinds with a special focus on public participation (English)*. Kenya economic update, edition no. 12 Washington, D.C. : World Bank Group Publication. <http://documents.worldbank.org/curated/en/758021467995351269/Kenya-economic-update-storm-clouds-gathering-the-economy-facing-strong-headwinds-with-a-special-focus-on-public-participation>
- World Bank (2017). *Caribbean nation's development challenges*. Washington D.C.
- World Bank (2020). *Finance, Competitiveness and Innovation*. Washington D.C.

- World Bank Group (2015). *Kenya economic update*, available at: www-wds.worldbank.org/external/default/WDSContentServer/WDS/IB/2015/10/14/090224b08314473e/1_0/Rendered/PDF/Kenya0economic0public0participation.pdf
- World Bank (1992). *Export Processing Zones. Policy and Research Series Paper 20.* Industry and Energy Department, Washington, D.C.
- Yin, R. K., (1994). *Case Study Research Design and Methods: Applied Social Research and Methods Series.* Second edn. Thousand Oaks, CA: Sage Publications Inc
- Zaid, D. & Ahmad, I. (2020). Impact of firms specific on the financial performance of Indian firms. *Studies in Economics and Business Relations*, 21 (1): 51-65. DOI : 10.48185/sebr.v1i1.7
- Zhang, T., Zhou, A., & Liu, X. (2020). Reliability analysis of slopes using the improved stochastic response surface methods with multicollinearity. *Engineering Geology*, 86(4): 104-154. 105617, ISSN 0013-7952.
- Zheng, M. (2020). VAT reduction and corporate investment – Based on the civil engineering firm. *E3S Web of Conferences* 198, 03034 (2020) ISCEG

APPENDICES

Appendix I: List of EPZ firms in Mombasa


1. Wondernut International (EPZ) Ltd
2. Farm Gate East Africa (EPZ) Ltd
3. Empire Kenya EPZ Ltd
4. Gold Crown Foods (EPZ) Ltd
5. Imperial Teas (EPZ) Ltd
6. Hantex Garments EPZ Ltd
7. Mega Apparels EPZ Ltd
8. Mega Garments EPZ Ltd
9. Mombasa Apparels EPZ Ltd
10. Sajan Trading EPZ Ltd
11. Simba Apparels EPZ Ltd
12. Africa Marine Oil and Gas(EPZ) Ltd
13. Alpha Logistics Services (EPZ) Ltd
14. Hunting Alpha (EPZ) Ltd
15. Hauwen Foods EPZ Ltd
16. Kenya Marine Contractors EPZ Ltd
17. Navios Services (EPZ) Ltd
18. Supply Base EPZ Ltd
19. Africa Marine EPZ Ltd
20. Alpha Logistics EPZ Ltd
21. Ammar EPZ Ltd
22. Ashton EPZ Ltd
23. Changamwe Holding EPZ Ltd
24. Comarco (EPZ) Ltd
25. Gold Crown EPZ Ltd
26. Halai Brothers EPZ Ltd
27. House of Smart EPZ Ltd
28. Laburnum EPZ Ltd

Sources EPZA (2019)


Appendix II: Data Collection Sheet

Year	Performance of Export processing Zones in terms of net profit (Ksh)	Capital Deduction in Millions in terms of investment deduction (Ksh)	VAT incentives in terms of VAT zero rating (Ksh)	Corporate Income Tax incentive in terms of tax holidays Millions (Ksh)	Total assets (Kshs)
2010					
2011					
2012					
2013					
2014					
2015					
2016					
2017					
2018					
2019					

Appendix III: Letter of Clearance



Kenya School of Revenue
Administration



KENYA REVENUE
AUTHORITY

ISO 9001:2015 CERTIFIED

REF: KESRA/NBI/036

26th February, 2021

TO WHOM IT MAY CONCERN

RE: REQUEST FOR RESEARCH PERMIT:
RONALD NJOROGE - REG. NO. MU/KESRA/105/0025/2019


This is to confirm that the above named is a student at Kenya School of Revenue Administration (KESRA) Nairobi Campus pursuing Masters in Tax and Customs Administration.


The named student is undertaking Research on TOPIC: *"Effects Of Tax Incentives On The Performance Of Export Processing Zones Firms In Mombasa"*.

The purpose of this letter is to request your good office to assist the above student with the information to enable him work on his project.

Your support to KESRA in this regard will be highly appreciated.


Thank you.






Dr. Marion Nekesa PHD,
Head Academic Research
KESRA


P. O. Box 48240 – 00100, Nairobi Email: kesratraining@kra.go.ke Tel: +254715877535/9




Tulipe Ushuru, Tujitegeme!




Appendix IV: Research License


REPUBLIC OF KENYA


**NATIONAL COMMISSION FOR
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This is to Certify that Mr.. ronald Njorge of Moi University, has been licensed to conduct research in Mombasa on the topic: EFFECT OF TAX INCENTIVES ON THE PERFORMANCE OF EXPORT PROCESSING ZONES FIRMS IN MOMBASA COUNTY IN KENYA for the period ending : 11/May/2022.

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Appendix V: Data Set

Year	Company	Performance	CAP	VAT	CIT	Asset	Firm Size
2010	1	197,682,300	6,871,018	17,918,218	1,276,326	2,154,732,978	9.33
2011	1	195,369,900	6,908,120	15,810,019	8,762,151	9,424,599,013	9.97
2012	1	206,877,500	7,012,015	18,219,098	10,988,000	2,195,318,339	9.34
2013	1	217,322,200	7,912,067	18,312,019	11,125,971	565,545,879	8.75
2014	1	226,052,220	8,179,917	18,262,142	11,265,711	3,044,430,317	9.48
2015	1	232,715,330	8,271,513	18,564,017	12,213,716	5,182,908,736	9.71
2016	1	244,956,330	9,118,218	19,065,109	12,251,761	2,642,234,161	9.42
2017	1	238,105,550	9,271,261	18,634,980	12,915,271	333,584,116	8.52
2018	1	303,156,660	10,251,218	28,813,871	13,100,201	2,919,814,718	9.47
2019	1	275,666,660	11,982,122	19,210,019	20,172,615	32,213,968	7.51
2010	2	252,175,693	11,040,571	16,211,708	8,229,928	211,510,132	8.33
2011	2	253,262,155	11,511,506	17,855,606	3,265,127	4,228,644,925	9.63
2012	2	213,980,048	8,969,848	16,221,731	18,922,661	3,665,832,994	9.56
2013	2	260,077,517	8,186,535	19,107,243	15,594,482	3,902,976,544	9.59
2014	2	238,400,741	10,898,094	16,008,466	16,376,186	5,127,541,792	9.71
2015	2	217,408,955	10,847,868	17,249,154	3,472,620	287,170,570	8.46
2016	2	207,243,051	8,648,243	16,552,183	19,114,593	682,215,546	8.83
2017	2	276,708,882	10,571,281	18,490,933	8,833,141	609,946,052	8.79
2018	2	230,231,043	9,842,299	17,757,367	10,042,362	5,053,460,174	9.7
2019	2	295,956,071	7,613,223	16,083,047	13,308,323	242,240,562	8.38
2010	3	225,626,019	10,705,766	18,385,184	3,844,163	713,687,745	8.85
2011	3	209,707,658	7,175,699	18,581,339	19,811,111	3,744,979,747	9.57
2012	3	256,239,409	7,570,755	18,299,590	10,678,687	204,622,277	8.31
2013	3	240,191,158	9,587,598	16,904,183	3,478,347	818,277,174	8.91
2014	3	265,924,069	8,787,958	17,222,110	4,482,138	5,384,607,138	9.73
2015	3	214,436,960	6,919,111	19,104,644	4,778,694	2,542,617,638	9.41
2016	3	273,139,779	9,850,141	16,774,631	18,661,970	2,601,062,232	9.42

2017	3	258,360,272	9,799,481	18,542,191	13,443,726	1,383,399,185	9.14
2018	3	261,088,041	10,403,950	18,244,104	5,314,083	9,276,245,213	9.97
2019	3	200,219,827	11,604,292	16,098,221	6,186,148	2,645,678,089	9.42
2010	4	301,762,442	7,830,121	16,816,370	18,094,370	6,195,085,140	9.79
2011	4	195,702,821	11,162,210	18,241,059	12,045,180	5,011,285,227	9.7
2012	4	226,463,041	11,874,685	16,784,336	17,068,566	3,122,447,994	9.49
2013	4	217,944,419	11,502,623	18,858,149	8,824,305	3,651,548,643	9.56
2014	4	229,002,816	10,111,019	16,786,540	13,375,891	3,730,250,157	9.57
2015	4	254,820,280	8,968,661	17,477,033	19,446,763	1,003,401,523	9
2016	4	230,428,255	7,423,686	17,995,821	10,137,773	1,321,938,325	9.12
2017	4	220,872,674	11,822,390	16,955,847	17,747,260	3,059,373,080	9.49
2018	4	270,046,252	11,493,134	18,794,641	15,607,446	1,395,903,291	9.14
2019	4	212,402,480	7,391,571	16,465,965	2,908,020	5,621,336,177	9.75
2010	5	245,998,567	10,585,873	16,202,656	6,057,683	1,083,724,509	9.03
2011	5	245,668,148	7,954,739	16,835,758	5,768,240	3,831,342,852	9.58
2012	5	269,900,140	11,944,938	17,370,430	10,189,822	2,843,412,511	9.45
2013	5	297,220,094	7,661,576	17,645,401	10,539,988	6,163,888,456	9.79
2014	5	281,489,888	10,716,832	18,352,616	3,772,442	2,477,084,592	9.39
2015	5	286,848,226	8,826,392	17,665,036	10,634,017	3,643,357,394	9.56
2016	5	238,301,482	9,209,275	17,470,437	17,445,662	3,569,127,511	9.55
2017	5	246,956,305	8,530,682	16,256,519	2,184,374	3,494,897,627	9.54
2018	5	222,249,402	9,181,112	18,593,946	13,297,054	3,420,667,744	9.53
2019	5	296,235,502	10,256,857	17,781,552	16,244,514	5,531,265,466	9.74
2010	6	299,727,346	6,955,133	18,568,772	13,868,000	5,865,473,920	9.77
2011	6	297,822,939	8,835,486	19,029,777	11,623,869	5,946,408,271	9.77
2012	6	279,855,226	11,818,379	17,492,552	3,707,629	6,429,915,889	9.81
2013	6	247,837,648	9,504,743	17,844,488	4,447,690	6,913,423,506	9.84
2014	6	286,508,815	7,273,387	17,177,483	9,210,048	7,396,931,124	9.87
2015	6	211,221,915	10,510,793	18,839,253	10,861,635	5,880,438,742	9.77

2016	6	254,596,452	9,029,105	18,985,428	13,049,123	8,363,946,359	9.92
2017	6	241,123,207	11,841,484	18,441,122	10,161,745	8,847,453,977	9.95
2018	6	234,299,699	7,028,461	18,954,788	19,415,941	9,330,961,594	9.97
2019	6	200,798,651	9,195,549	18,446,670	17,214,858	9,814,469,212	9.99
2010	7	196,382,919	10,234,664	16,574,681	5,665,777	6,931,873,621	9.84
2011	7	283,637,094	10,463,444	16,972,561	7,470,052	8,088,601,880	9.91
2012	7	241,283,801	8,261,569	16,671,036	13,833,776	1,621,824,935	9.21
2013	7	205,125,005	9,142,891	16,814,443	6,671,042	3,162,585,115	9.5
2014	7	290,240,814	8,619,811	17,802,274	7,726,122	1,065,410,696	9.03
2015	7	198,720,980	7,922,638	18,226,305	1,940,719	1,701,724,053	9.23
2016	7	261,437,232	11,651,116	16,168,213	6,460,206	2,466,487,892	9.39
2017	7	268,487,384	7,658,382	18,438,102	4,597,381	1,029,257,471	9.01
2018	7	257,795,556	9,800,689	16,517,969	8,535,138	2,747,183,896	9.44
2019	7	299,171,312	9,097,310	16,362,949	16,151,642	1,860,462,619	9.27
2010	8	281,369,473	10,140,225	18,527,442	17,840,364	2,379,195,310	9.38
2011	8	216,714,631	11,453,965	17,774,166	10,076,284	2,541,321,274	9.41
2012	8	251,714,673	7,167,275	17,726,212	6,008,863	2,703,447,237	9.43
2013	8	249,245,046	10,795,474	18,620,553	15,499,001	1,813,095,370	9.26
2014	8	299,141,227	8,102,516	16,935,827	8,038,907	1,368,987,673	9.14
2015	8	205,914,948	9,128,400	16,839,702	14,444,215	1,004,270,452	9
2016	8	234,140,727	11,467,353	16,378,854	1,690,454	1,501,679,550	9.18
2017	8	213,776,825	8,512,656	15,919,942	17,596,066	4,018,798,475	9.6
2018	8	228,045,115	9,515,611	18,335,821	4,941,511	1,300,427,024	9.11
2019	8	279,737,428	9,305,277	18,169,216	17,912,492	3,926,077,350	9.59
2010	9	258,210,031	9,808,224	16,243,368	16,496,722	1,758,522,365	9.25
2011	9	195,852,291	7,217,279	16,222,677	19,120,101	3,557,734,465	9.55
2012	9	215,763,658	8,586,164	18,647,795	9,063,827	2,944,187,128	9.47
2013	9	199,843,222	7,405,423	16,954,852	7,936,743	1,318,335,447	9.12
2014	9	291,274,168	9,624,071	18,957,886	2,197,882	2,486,939,523	9.4

2015	9	213,640,108	7,254,520	18,451,349	16,391,255	4,636,056,250	9.67
2016	9	291,482,574	8,604,665	17,017,082	10,870,822	1,501,340,456	9.18
2017	9	290,332,735	8,437,601	17,567,311	16,037,453	1,139,251,217	9.06
2018	9	199,681,475	8,860,389	16,870,660	17,471,835	2,861,531,452	9.46
2019	9	272,847,106	7,773,879	17,548,484	18,208,387	4,074,547,713	9.61
2010	10	230,253,898	10,495,611	16,598,678	17,073,492	3,540,770,741	9.55
2011	10	195,888,442	8,647,339	18,963,587	12,113,911	5,153,599,078	9.71
2012	10	300,942,434	10,332,750	16,170,945	7,012,101	4,821,285,681	9.68
2013	10	251,628,167	9,642,650	16,873,127	4,018,440	5,589,914,880	9.75
2014	10	259,498,875	8,013,822	16,076,118	6,987,495	6,089,770,862	9.78
2015	10	271,357,404	7,103,710	15,891,118	13,856,982	6,589,626,845	9.82
2016	10	222,067,072	9,429,412	17,460,666	3,835,172	7,089,482,827	9.85
2017	10	280,040,162	8,070,653	19,138,894	6,198,089	7,589,338,809	9.88
2018	10	205,153,371	11,652,936	16,792,904	3,872,059	2,237,620,365	9.35
2019	10	232,008,169	8,965,852	19,010,506	5,218,809	1,181,955,918	9.07
2010	11	207,817,425	10,176,600	17,421,536	16,850,399	2,713,285,035	9.43
2011	11	294,459,445	8,274,403	15,852,177	4,677,928	2,372,919,031	9.38
2012	11	203,806,509	9,761,539	18,289,319	18,842,669	4,795,568,375	9.68
2013	11	238,511,473	7,763,746	17,831,093	2,557,385	2,945,013,706	9.47
2014	11	261,507,032	9,156,259	18,191,032	13,305,567	1,132,681,263	9.05
2015	11	244,893,644	9,072,930	15,971,254	9,140,195	5,020,928,394	9.7
2016	11	259,007,803	7,537,167	18,242,288	13,521,264	3,760,094,183	9.58
2017	11	229,059,591	10,012,923	16,881,513	12,713,153	3,930,578,435	9.59
2018	11	273,989,635	9,761,344	17,258,195	8,825,199	1,962,508,840	9.29
2019	11	214,003,866	11,118,965	19,197,736	13,613,201	3,082,791,964	9.49
2010	12	223,827,983	11,078,536	19,061,258	8,706,216	1,267,789,188	9.1
2011	12	267,516,227	10,969,583	16,271,972	16,191,530	2,924,571,555	9.47
2012	12	281,952,096	9,861,673	15,935,471	8,946,252	2,936,478,533	9.47
2013	12	263,830,906	10,772,350	18,815,216	18,337,642	2,948,385,512	9.47

2014	12	220,578,773	9,611,903	17,221,275	10,913,480	2,960,292,490	9.47
2015	12	254,915,833	8,542,492	16,528,066	14,110,290	2,972,199,469	9.47
2016	12	300,322,203	10,161,470	16,549,632	19,323,527	2,984,106,447	9.47
2017	12	205,692,631	8,726,236	16,058,402	14,261,188	2,996,013,426	9.48
2018	12	301,652,800	8,239,862	18,542,287	2,157,079	3,007,920,404	9.48
2019	12	250,626,906	7,628,454	18,156,059	8,830,729	3,019,827,383	9.48
2010	13	213,704,453	7,561,373	18,324,601	15,112,742	1,503,141,895	9.18
2011	13	228,694,374	8,486,086	18,757,831	6,517,642	2,569,275,882	9.41
2012	13	232,546,200	10,059,835	18,912,374	3,045,382	1,340,800,451	9.13
2013	13	220,997,945	7,626,953	16,400,606	17,935,652	1,295,294,847	9.11
2014	13	287,239,124	9,316,370	17,953,575	8,133,867	2,977,903,878	9.47
2015	13	211,096,768	11,254,153	16,237,444	17,833,551	2,660,512,909	9.42
2016	13	232,841,423	7,122,105	16,343,708	15,598,033	2,348,122,753	9.37
2017	13	232,414,750	8,389,223	16,349,381	4,406,119	3,173,499,716	9.5
2018	13	300,511,519	8,238,830	17,090,387	12,840,618	1,615,996,750	9.21
2019	13	213,727,270	10,901,107	18,920,962	9,370,841	1,093,049,605	9.04
2010	14	239,840,631	10,500,230	16,208,871	6,068,537	2,112,453,353	9.32
2011	14	250,330,694	9,571,882	18,701,787	9,376,772	2,122,397,623	9.33
2012	14	283,578,321	8,953,120	18,935,515	5,348,624	2,132,341,893	9.33
2013	14	196,618,563	9,579,239	16,658,983	16,792,953	4,145,746,941	9.62
2014	14	279,547,649	9,851,929	18,274,672	9,139,671	3,812,978,770	9.58
2015	14	249,523,645	9,463,875	16,393,630	4,722,518	3,340,479,394	9.52
2016	14	200,978,250	11,103,224	17,989,679	8,814,398	4,266,927,532	9.63
2017	14	243,192,944	7,032,142	16,404,146	13,552,653	4,644,792,637	9.67
2018	14	246,693,670	10,441,693	17,535,618	11,948,512	5,022,657,743	9.7
2019	14	294,655,449	7,414,627	15,894,814	7,270,301	5,400,522,848	9.73
2010	15	257,720,845	10,401,022	16,629,500	1,332,082	5,778,387,954	9.76
2011	15	217,553,672	7,621,350	18,232,641	6,112,729	1,121,236,827	9.05
2012	15	239,692,072	9,269,581	15,910,372	10,772,364	1,865,549,035	9.27

2013	15	211,467,695	7,181,993	18,764,130	16,984,199	4,713,899,679	9.67
2014	15	274,734,235	8,696,335	17,851,745	5,325,112	4,689,279,638	9.67
2015	15	245,085,834	11,595,007	17,596,842	14,633,731	4,849,860,930	9.69
2016	15	237,401,313	9,834,827	17,961,330	8,406,492	5,010,442,221	9.7
2017	15	213,599,420	10,787,671	18,182,117	4,573,785	3,658,192,774	9.56
2018	15	222,348,614	7,410,863	19,192,100	9,536,909	5,706,439,510	9.76
2019	15	219,408,044	10,690,244	16,336,288	6,990,338	6,207,747,205	9.79
2010	16	216,133,535	9,277,930	19,075,930	12,251,000	1,850,395,754	9.27
2011	16	284,175,754	9,750,319	17,944,172	13,566,847	1,498,373,380	9.18
2012	16	262,663,361	7,513,701	17,924,090	9,322,266	1,146,351,006	9.06
2013	16	287,912,517	10,545,866	15,900,604	4,846,424	2,794,328,632	9.45
2014	16	231,534,360	10,818,806	15,835,091	7,581,873	8,416,746,876	9.93
2015	16	284,011,518	9,108,427	18,934,238	6,995,545	3,657,101,367	9.56
2016	16	287,961,788	9,025,914	16,162,771	18,476,888	2,023,756,350	9.31
2017	16	238,460,894	9,077,112	17,636,308	8,184,843	4,834,268,020	9.68
2018	16	294,009,271	10,996,391	16,423,031	9,327,984	5,285,170,425	9.72
2019	16	250,497,519	10,827,287	16,839,120	4,581,140	5,736,072,830	9.76
2010	17	240,594,858	10,641,004	17,740,737	17,815,278	6,186,975,235	9.79
2011	17	297,125,958	9,562,299	18,063,588	14,599,212	6,637,877,640	9.82
2012	17	238,594,174	7,851,647	18,642,627	15,735,085	7,088,780,045	9.85
2013	17	209,122,152	6,988,500	16,081,251	2,059,095	2,387,436,510	9.38
2014	17	198,422,792	10,403,844	17,671,571	4,298,960	3,752,895,535	9.57
2015	17	206,313,581	8,391,177	19,051,999	13,780,092	3,703,015,222	9.57
2016	17	205,774,473	10,713,031	17,246,776	3,485,518	2,557,301,611	9.41
2017	17	229,847,264	9,622,510	16,226,402	15,121,241	1,050,344,904	9.02
2018	17	213,418,064	10,779,595	16,410,050	17,135,469	2,918,861,015	9.47
2019	17	203,197,620	10,354,916	17,361,410	8,360,518	7,213,915,459	9.86
2010	18	280,892,365	8,349,254	16,159,636	16,215,305	1,497,949,512	9.18
2011	18	240,038,272	9,335,639	17,482,586	4,740,202	1,644,183,972	9.22

2012	18	239,062,067	9,179,892	16,794,404	8,982,255	2,773,337,498	9.44
2013	18	221,325,159	7,332,825	18,916,337	9,238,181	2,734,096,026	9.44
2014	18	271,435,089	9,752,734	18,116,116	9,455,797	2,694,854,553	9.43
2015	18	229,880,926	9,843,201	16,032,988	16,843,856	3,914,420,980	9.59
2016	18	294,302,899	9,430,322	17,921,926	17,572,154	4,333,201,679	9.64
2017	18	298,573,049	8,750,970	16,669,920	9,631,493	1,913,658,053	9.28
2018	18	219,263,524	9,363,720	17,769,810	8,912,782	1,093,473,473	9.04
2019	18	218,160,471	8,245,128	18,056,661	19,793,235	1,743,443,260	9.24
2010	19	266,945,330	9,357,683	15,848,755	18,749,534	1,208,447,668	9.08
2011	19	224,542,330	10,003,148	16,199,934	9,457,993	2,417,404,013	9.38
2012	19	276,849,764	7,516,529	15,842,401	14,272,669	1,935,434,271	9.29
2013	19	245,493,111	10,489,134	16,631,118	13,431,918	1,236,211,022	9.09
2014	19	276,194,614	9,135,972	16,904,931	9,578,961	1,201,983,681	9.08
2015	19	236,668,515	7,719,223	17,107,785	19,610,078	2,945,967,409	9.47
2016	19	215,959,878	10,339,355	16,783,125	12,392,354	2,664,730,955	9.43
2017	19	288,276,071	9,861,786	16,539,847	6,655,313	3,448,558,311	9.54
2018	19	219,850,108	7,607,851	19,088,499	7,033,779	1,269,908,528	9.1
2019	19	256,627,279	9,992,991	17,049,553	16,229,878	2,112,558,112	9.32
2010	20	214,296,624	7,063,448	18,875,627	6,919,294	2,359,596,341	9.37
2011	20	262,280,600	11,657,939	16,905,271	4,560,859	2,404,121,024	9.38
2012	20	221,040,910	8,902,735	18,776,534	19,014,268	2,818,828,167	9.45
2013	20	227,073,390	7,959,632	17,492,629	1,333,998	4,616,876,223	9.66
2014	20	228,419,977	9,313,145	18,729,996	10,175,153	3,250,133,352	9.51
2015	20	219,052,672	6,971,493	18,913,857	4,522,426	1,195,625,661	9.08
2016	20	236,787,183	11,614,054	17,404,821	9,718,175	2,646,281,977	9.42
2017	20	274,519,628	8,169,386	16,941,648	19,389,729	4,368,489,575	9.64
2018	20	261,250,339	11,291,120	18,764,348	13,040,865	4,479,541,752	9.65
2019	20	239,456,770	9,777,587	19,178,496	19,712,268	3,838,063,353	9.58