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Master's Dissertation in International Studies(International Area Studies)

Violent Crime and Foreign Direct Investment: The South African Case

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Graduate School of Seoul National University

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THESIS ACCEPTANCE CERTIFICATE

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Acronyms

FDI	Foreign Direct Investment
VC	Violent Crime
SAPS	South African Police Service
UNODC	United Nations Office on Drugs and Crime
SA	South Africa
MNEs	Multinational Enterprises
TNCs	Transnational Enterprises
UNCTAD	United Nations Conference on Trade and Development
NVCS	National Victimization Crime Survey
ICVS	International Crime Victims Survey

Abstract

Violent Crime and Foreign Direct Investment: The South African Case

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South Africa has been seen over the years as a violent country. Violent crime has been a major factor contributing to that perception. Crime not only makes daily life more dangerous for citizens of a country, but can even challenge the viability of governments. Crime fighting efforts drain state resources, threaten the delivery of public services, and might have a negative influence on institutional stability and business environment.

This study examines the impact of violent crime on foreign direct investment (FDI) inflows into South Africa. Using time series data, ordinary least square (OLS) technic was employed to explore the relationship between these two variables. The analysis shows how the correlation between violent crime and FDI is both negative and significant. We therefore emphasize the need to evolve a safe business environment that allows capital flow through FDI which will generate spillover effect and a sustainable economic development.

The Security Strategic Management Approach and Models recommended to achieve this, are aimed at combating the creators and perpetuators of violent crime that lead to situations of insecurity, and simultaneously addressing and mitigating the sources of those situations and the involvement of all stakeholders both in public and private capacity-government, civil society, communities and individuals- to supply resources, expertise and information that are required to ensure a safe environment.

Keywords: foreign direct investment, violent crime, South Africa

Student Number: 2013-24015

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INTRODUCTION

The post-apartheid dispensation in South Africa has been marred by the escalating crime waves that have turned South Africa into one of the worst crime centres in the world. Repeatedly, public opinion polls have shown that the South African public regards crime together with unemployment to be the two most pressing problems facing the country (Luiz, 2000).

In fact, for the past ten years, South Africa has averaged more than 20,000 murders and 50,000 reported rapes and attempted rapes annually. The repercussions of this violent crime epidemic are potentially catastrophic and much has been written on the possible effects that crime may have on investor confidence and hence economic growth. (www.saps.gov.za).

Pion-Berlin and Trikunas (2011) highlight that high levels of criminal violence not only make daily life more dangerous for citizens of a country, but can even challenge the viability of governments. In fact, crime fighting efforts drain state resources and threaten the delivery of other public services (Pion-Berlin and Trikunas 2011). Furthermore, Soares and Naritomi (2010), highlight the impact of organized crime on institutional stability and business environment.

As Kynoch (2005) has noted, the popular explanations typically concentrate on the immediate environment, including poverty and joblessness, a new criminal-friendly constitution, a corrupt and ineffective national police force and the post-apartheid influx of African migrants. To the extent that history is considered, the roots of lawlessness and violent crime are often traced back to the 'political' violence of the 1980s and 1990s.

South Africa is often referred to as a post-conflict society, with the implicit understanding that the end of the struggle against apartheid in 1994 ushered in a new era. The violence of the apartheid period is seen almost entirely as a product of the struggle against the racist regime. However, unlike many other post-conflict societies, South Africa continues to suffer from horrific rates of violent crime (Bozzoli, 2004).

A historically grounded analysis suggests that South Africa differs from many other post-conflict societies by virtue of the level of violence township residents experienced before the outbreak of politicized hostilities in the mid-1980s. And also an historical examination of Witwatersrand townships reveals that decades of social and economic deprivation, combined with repressive policing, criminal predation and a corresponding reliance on vigilantism, produced environments in which violence frequently became a

normative means of pursuing material interests, resolving conflicts and seeking ‘justice’ (Van Onselen, 1982).

From an economic point of view, crime may be considered an additional risk (or cost) for business activities (Krkoska and Robeck, 2006). Crime, especially if of the Mafia type, tends to damage business in various ways: racketeering; retailing market limitations; forcing firms to take on suppliers of raw materials or being pressurized to employ workers; creating local monopolies and distortions to the markets. All in all, the presence of crime can be considered as one aspect of a somewhat unfavorable business climate: consequently, it represents a disincentive for foreign and national investments.

Besides having been pointed out many times by scholars, economic operators and politicians, the deterrent effect of crime on foreign investment has been amply confirmed in surveys conducted among national and foreign investors (Marini and Turato, 2002). In fact, increases in crime-related enterprise costs divert resources from business expansion and improvements. Crime also leads to greater uncertainty. In extreme cases, a high incidence of crime may induce enterprises to exit from the marketplace or relocate to safer locations.

A high level of crime, and in particular organised crime, can also have a detrimental effect on potential new entry of enterprises, both local and foreign companies, and their expansion.

In the World Bank's most recent Investment Climate Survey, 30 percent of enterprises in South Africa rated crime as a major or very severe constraint on investment, putting crime among the four most frequently mentioned constraints (World Bank, 2005).

1.1 The research problem

South Africa has witnessed an unprecedented level of violent crime which generates insecurity. This has made national security threat to be a major issue for the government and has prompted huge allocation of the national budget to security.

Nearly 50 murders are committed each day in South Africa (SAPS, 2010). In 2009, for instance, there were 18148 murders, 121392 robberies, 203777 assaults. From 2004-2012, 177.593 murder were committed (SAPS, 2013).

In order to ameliorate the incidence of crime, the government has embarked in installation of Computer-based Closed Circuit Television cameras in some parts of the country, enhancement of surveillance as well as investigation of criminal related offences, heightening of physical security measures around

the country aimed at deterring or disrupting potential attacks, strengthening of security agencies through the provision of security facilities and the development and broadcast of security tips in mass media (Arvanitis, 2009).

Despite these efforts, the level of insecurity in the country is still high. This situation has damage effects on business environment. For instance, although the South African Government has also tried to improve overall macroeconomic conditions and South Africa's advantages in terms of natural resources and market size, foreign investors have shown limited interest in acquiring, creating, or expanding domestic enterprises. Annual FDI inflows to South Africa, according to Arvaniti (2009) averaged less than 1½ percent of GDP during 1994–2002, compared with 2–5 percent in a group of comparator countries[1].

According to Stone (2006), the South Africa's reputation for violent crime is dampening the business climate, leading investors to withhold their capital and leading workers to withhold their labor.

The information above shows a picture that implies that violent crime in South Africa might have any effect on investment (domestic and foreign) and thereby on economic growth (GDP). The question is: to which extent the high rates of crime is affecting foreign direct investment in South Africa?

[1] Colombia, Costa Rica, Guatemala, Morocco, Panama, Philippines

1.2 Aims of the research

The main concern of this study was to examine the impact of violent crime (VC) on foreign direct investment (FDI) in South Africa.

Specifically, the research was concerned with the following objectives:

a) To ascertain if there is any relationship between violent crime and FDI in South Africa;

b) To analyze the impact of violent crime on FDI.

c) To recommend appropriate strategies for dealing with issues of crime.

1.3 Research questions

Three key questions guided the progress of this study towards the attainment of the study's objectives:

1. Does Violent Crime impact foreign Direct Investment in South Africa? If yes, how? If not, why?

2. To which extent does violent crime affect Foreign Direct Investment inflow to South Africa?

3. If violent crime acts as a deterrent on foreign direct investment, is it the only factor? Or there might be other hindrances?

1.4 Significance of the Research

Fear of crime is a major problem for developing countries around the world and South Africa is no exception. A recent UN Habitat survey found that fear of crime is driving investment (domestic and foreign) away from cities in developing countries and that more than half of urban dwellers in both rich and poor countries worry about crime all of the time or very often (UN-HABITAT, 2007).

In fact, one of the biggest challenges facing South Africa today is that of winning the war against crime. This devastating war remains a costly one which unfortunately seems likely to continue for years to come.

Although the identification and the estimation of crime costs have received wide attention in economic literature, the detrimental effect of crime to the (legal) economic activity is still neglected. Crime acts like a tax on the entire economy: it discourages domestic and foreign direct investments, reduces the competitiveness of firms, and reallocates resources, creating uncertainty and inefficiency (Detotto and Otranto, 2010). Therefore this study aims to bridge this gap by presenting an empirical analysis of the macroeconomic consequences of criminal activity in South Africa.

1.5 The Study Area

South Africa is situated at the southern tip of the continent of Africa. Ranging from west to east across its northern border are the neighboring countries of Namibia, Botswana, and Zimbabwe; Mozambique lies to the east, as does the small nation of Swaziland, which is nearly encircled by South Africa. Another small nation, Lesotho, lies entirely within the borders of South Africa, in the east central region.

Total land borders measure 4,750 kilometers (2,952 miles). South Africa has a coastline of 2,954 kilometers (1,836 miles), with the cold Atlantic Ocean on the west coast and the Indian Ocean on the east coast. The area of the Republic of South Africa is approximately 1,219,912 square kilometers (471,008 square miles), making it slightly less than twice the size of the state of Texas, or slightly bigger than Holland, Belgium, Italy, France, and Germany combined. The capital of Pretoria is located in the northeast central area of the country. Other major cities include Cape Town, Port Elizabeth, and Durban on the coast, and Johannesburg, Soweto, and Bloemfontein in the interior of the country. (Statistics of SA, 2010).

Figure 1: South African map

Source: Google maps

South Africa is the 25th-largest country in the world by land area, and with close to 53 million people, is the world's 25th-most populous nation. South Africa is a multiethnic society encompassing a wide variety of cultures, languages, and religions. Its pluralistic makeup is reflected in the constitution's recognition of 11 official languages, which is among the highest number of any country in the world. Two of these languages are of European origin: English and Afrikaans, the latter originating from Dutch and serving as the first language of most white and colored South Africans. Though English is commonly used in public and commercial life, it is only the fourth most-spoken first language (South Africa Fast Facts, 2009).

About 80 percent of South Africans are of black African ancestry, divided among a variety of ethnic groups speaking different Bantu languages, nine of which have official status. The remaining population consists of Africa's largest communities of European (white), Asian (Indian), and multiracial (coloured) ancestry (South Africa Fast Facts, 2009).

1.6 Limitations of the study

Given the importance of FDI to Africa as a whole and South Africa, particularly, it is surprising that there is a dearth of research on the factors that affect FDI inflow to South Africa. A search on database using ‘foreign direct investment’ and ‘South Africa’ as keywords yielded very few journal articles on the determinants of FDI to Africa. It is even more interesting the lack of availability of studies about this issue because surveys of multinational corporations operating in Africa reveal that corruption, political risk, crime and investment policies are important determinants of FDI.

Another challenge associated with this study is the limited availability of time series data. For instance, World Development Indicators dataset does not provide enough number of observations for FDI index even Exchange Rate variable. That’s why we had to collect data from other sources as mentioned above.

The official crime data come from police reporting activity, and they suffer from the under reporting and under recording bias (Mauro and Carmeci, 2007). In other words, official data represent only the tip of the crime iceberg. Moreover, in long period analysis we have to take into account the changes in reporting that come from technical innovations, police efficiency, depenalisation or, conversely, law intervention. So to mitigate this problem we decide to use United Nation Office on Crime and Drugs (UNOCD) dataset as well as South Africa Police Service (SAPS) dataset. The first one collects data not only from the police services but also conduct international victimization crime survey which are more reliable than the second source. The second dataset was used to fill some gaps detected from the first dataset.

2. LITERATURE REVIEW

2.1 Concepts Basic and Conceptualization

The following terms (concepts) are broadly defined (although they will be conceptualized and discussed in details in various chapters) to show their relevance to the present study and also to eliminate any uncertainties and possible distortions that might prevail. But before that we start with brief background about violent crime in South Africa.

2.1.1 Background of Violent Crime in South Africa

South Africa is crippled by crime. The country experiences approximately 43 murders a day, comparable with the United States and China, but with the latter countries having populations six and 30 times greater than South Africa's (Breetzke, 2012).

Approximately 220,000 people have been murdered in the past decade: a figure that is four times larger than the total number of deaths of Americans for a 10-year period during the Vietnam War. Since the US invasion of Iraq in March 2003, there have been 4282 fatalities of the American military (end-2009) (Global Security, 2010) and in the same period of time over 120,000 people have been murdered in South Africa. Little wonder that South Africa has been labeled as a 'country at war with itself' (Altbeker, 2007).

Typical explanations for the current high crime levels in the country include the post-apartheid influx of black African migrants (Berg & Schaarf, 2004), and the culture of violence borne out of the nature of apartheid and the anti-apartheid struggle (Elder, 2003). Other explanations cite a faulty and ill-equipped criminal justice system (Leggett, 2004), rising inequality (Breetzke & Horn, 2006), and the ready availability of drugs and firearms (Maree, 2003)

2.1.2 Crime

In ordinary language, the term **crime** denotes an unlawful act punishable by a state**.** The term crime does not, in modern criminal law, have any simple and universally accepted definition, though statutory definitions have been provided for certain purposes. The most popular view is that crime is a category created by law (i.e. something is a crime if applicable law says that it is) (Farmer, 2008).

The idea that acts like murder, rape and theft are prohibited exists all around the world. What precisely is a criminal offence is defined by criminal law of each country. The state (government) has the power to severely restrict one's liberty for committing a crime. Therefore, in modern societies, a criminal procedure must be adhered to during the investigation and trial. Only if it found guilty, the offender may be sentenced to punishment such as

community sentence, imprisonment, life imprisonment or, in some jurisdictions, even death (Martin, 2003).

According to Jackson (1995) a normative definition views crime as deviant behavior that violates prevailing norms, cultural standards prescribing how humans ought to behave normally. This approach considers the complex realities surrounding the concept of crime and seeks to understand how changing social, political, psychological, and economic conditions may affect changing definitions of crime and the form of the legal, law-enforcement, and penal responses made by society.

The Positivist and Classical Schools of Thought take a consensus view of crime that a crime "is an act that violates the basic values and beliefs of society" (Deflem, 2006). Those values and beliefs are manifested as laws that society agrees upon. However, there are two types of laws:

- Natural laws are rooted in core values shared by many cultures. Natural laws protect against harm to persons (e.g. murder, rape, assault) or property (theft, larceny, robbery), and form the basis of common law systems.
- Statutes are enacted by legislatures and reflect current cultural mores, albeit that some laws may be controversial, e.g. laws that prohibit

cannabis use and gambling. Marxist criminology, Conflict criminology and Critical Criminology claim that most relationships between state and citizen are non-consensual and, as such, criminal law is not necessarily representative of public beliefs and wishes: it is exercised in the interests of the ruling or dominant class. The more right wing criminologies tend to posit that there is a consensual social contract between State and citizen.

Crime can refer to a wide range of activities, which include violent personal crimes, property crimes, organized crime and political crimes. Van der Walt, Cronje and Smith (1985) as cited by Van Velzen (1998) distinguish between crime defined juridically and crime defined in a non-juridical sense.

Juridically (legally), crime can be defined as a contravention of the law, to which a punishment is attached and imposed by the state (Van Velzen et al. 1998). In other words, crime is an act, which is forbidden by the law, and if detected, is likely to be punished.

Non-juridically (criminologically), crime can be viewed as an act of anti-social behavior, which inf1uences the quality of life of the individual, his/her community and society at large. Van der Wait et al. 1985 (Van Velzen 1998) define crime in a non-Juridical sense as an ant-social act entailing a threat to,

and a breach or violation of, the stability and security of a community and its individual members.

Society is a network of interacting persons, groups and institutions. Interaction involves establishing relations between these individuals, groups and institutions. So in this research Crime must be understood as an act, which violates these social relations, and it is this violation which harms the individual and society at large. Therefore, crime in its non-juridical sense (that is, when it is perceived as a personal threat) leads to feelings of fear and mistrust.

2.1.3 Violent Crime

A **violent crime** or **crime of violence** is a crime in which the offender uses or threatens to use violent force upon the victim. This entails both crimes in which the violent act is the objective, such as murder, as well as crimes in which violence is the means to an end, (including criminal ends) such as robbery. Violent crimes include crimes committed with weapons. A violent crime may end with injury or death, both on the part of victim and offender. Today violent crimes are considered the most heinous whereas historically, crimes against property were equally important (Dedo, 2013).

In his discussion of violent crime, Stanko, et al. (2002) states that violent crime can be viewed as application, or threats, of physical force against a person, which can give rise to criminal or civil liability, whether severe or not and whether with or without a weapon. When more severe such violence may be associated with intimate violations of the person or the potential to cause serious physical pain, injury or death. This is, therefore, a legal definition of violence.

The legal framework that underpins this definition is the legal framework in contemporary South Africa that has common law and statutory elements and now also increasingly shows the influence of the South African Constitution, reflected, for instance, in a strong emphasis on equality. Violence as discussed in this paper is therefore criminal violence but does not include crimes that do not involve violence. For the purposes of this study, violent crime comprises of murder and attempted murder, sexual crimes, robbery with aggravating circumstances, assault with the intent to inflict grievous bodily harm and kidnap.

2.1.4 Foreign Direct Investment

Foreign Direct Investment (FDI) can be broadly defined as a physical investment made by a company in a foreign country (Durlauf & Lawrence, 2008). The country to which the investment is directed is referred to as the

host country and one from which the investment originates is known as the resident country. Companies that invest in a foreign country through different types of FDI are known as multinational enterprises (MNEs) or transnational enterprises (TNCs) or simply multinationals. MNEs are seen by economic liberals as an effective instrument that brings about change in technology and production efficiency in the world (Balaam & Veseth, 1996).

The United Nation (UN) in their Conference on Trade and Development (UNCTAD, 1999) defines FDI as a means of obtaining an interest by a resident entity in an entity resident in an economy other than that of the investor. Minima (2003) defines FDI in line with the UNCTAD definition, as an investment in which a large shareholding interest is acquired (at least 10% of voting shares and minimum of 10% of equity share), in an enterprise residing in foreign country. Rezin et. al (1999) argued that MNEs will seek a majority shareholding (51% and above) in an entity because it gives them an information advantage over foreign portfolio investors and domestic savers.

UNCTAD (1999) makes a differentiation between two categories of foreign investment namely Foreign Direct Investment and Foreign Portfolio Investment (FPI). UNCTAD (1999) defines FPI as an investment by a foreign entity in instruments that are traded or tradable in organized and foreign financial markets such as bonds, equities and money market. These

assets are short term in nature and are referred to as flight capital. These inflows can leave a country as fast as they came in. FPI on the other hand includes assets as, real estate, equity capital, reinvested earnings shares and owning of productive assets such as factories as land.

Therefore an analysis of FDI definitions brings across two important attributes of classifying an investment as FDI, the investment must be significant so as to allow the foreign investor influence in the management of the domestic company and the investment objective must be to establish a long-term relationship with the host country.

2.2 Determinants of FDI inflows

The location choices of multinational firms are influenced by several factors. At the national level, empirical studies show how a large share of FDI involves countries with large market dimensions and geographical proximity; other factors, such as common borders and a common language, tend also to influence the investment flows (Barba and Venables, 2004).

Studies referring to the European Union show how the location of foreign firms is guided mainly by the firms' specific characteristics and, to a lesser extent, by observable national or regional factors. Broadly speaking, the determinants of FDI location can be classified in four groups: expected

market demand, factor costs, the presence of agglomeration economies, and public policies capable of influencing the firms' activities (Pelegrin and Bolancé, 2008).

At the sub-national level, the location decisions of foreign investors are influenced by several factors and regional-specific factors (Basile et al., 2009). For example, a study on the location factors conducted by the European Commission (2006), on a sample of approximately 100,000 foreign companies, showed how, in the European Union context, FDI tend to locate in regions with:

- a large presence of previous foreign investors;
- good infrastructure and accessibility;
- a highly educated workforce and a high level of R&D expenditure;
- the presence of agglomeration economies, determined by a large presence of competitors, clients and suppliers within the firm's industry.

Foreign investments can represent a propulsive factor for regional development. They contribute towards raising employment and income levels, to transfer technologies and generate spill-over that produces positive effects on sector productivity (Konings, 2004; Devereux et al., 2007). For

these reasons, many countries, including South Africa, offer incentives or subsidies to foreign companies that invest in their less developed areas.

A recent strand of literature has been devoted to the investigation of how FDI is influenced by cross-country differences in the political, institutional and legal systems. There are several reasons for which the quality of institutions may be important for FDI. The first reason is that, according to the studies on long-term growth determinants, efficient institutions improve productivity prospects and, consequently, this attracts investors. The second reason is that a poor institutional environment can bring about additional costs for firms: this can be the case with crime and corruption (Broadman and Recanatini, 2000; Wei, 2000). A further reason is that – due to high sunk costs – FDI is highly exposed to uncertainty, including that stemming from poor government efficiency, graft, or the weak enforcement of property rights and of the legal system (Bénassy- Quéré et al., 2005).

Studies generally confirm that a "good" institutional environment is an important determinant of FDI inflows. This institutional environment includes, for instance, the ease of creating companies, government effectiveness, the security of property rights, the efficiency of the judicial systems and a lack of corruption (Globerman and Shapiro, 2002; Habib and Zurawicki, 2001). The World Bank (2001) has emphasized how the

attraction of investments is greater in areas where the public institutions are perceived as being more credible by the community of investors. This means that they are considered capable, and that they intend to put into practice the policies undertaken, as well as having administrative and judicial approaches consistent and foreseeable, together with acceptable levels of crime and corruption. Some case-studies, such as those for Central American countries (United Nations, 2007) and Russia (Broadman and Recanatini, 2001), further suggest that violence and crime deter foreign investors.

From the international literature it emerges quite clearly, therefore, how the quality of the institutional system and the business climate influence decisions regarding the location of foreign firms.

2.3 Theoretical Explanation of Crime in Relation to Foreign Direct Investment

2.3.1 Crime and Investment

Crime imposes significant costs on society. There are those relative to protection and prevention, those sustained by the victims as a consequence of crime and those for the response to crime. They correspond to monetary payments that fall directly both on private individuals and on the community. Estimating these costs is a complex but useful operation, both for designing

strategies to fight crime and for evaluating the effectiveness of the measures applied (Brand and Price, 2000; Czabanski, 2008).

Not always, however, does the social cost of crime correspond to a monetary disbursement. Since a high incidence of crime is detrimental to legal economic activities, it implies a loss in employment and investments, affecting economic development negatively (Peri, 2004; Bonaccorsi di Patti, 2009). For instance, by analyzing the relationship between crime and the enterprise sector in a range of countries with different levels of development, Krkoska and Robeck (2006) have indicated how crime, especially organized crime, has a deterrent effect on business, particularly enterprises entry and expansion, while the perception of crime results as a serious obstacle to the willingness of foreign investors to enter a country.

In the South African case, the effects of violent crime on the economic outcomes have been widely examined from the sociological and historical points of view, but far less from the economic viewpoint. Often, in fact, economists have focused more on the determinants of criminality than on the effects that it produces on the economy (Marselli and Vannini, 2003; Buonanno, 2006).

Dunnes and Vougas (1999) reveal that from 1995-1999 the criminal activity in South Africa was focused on kidnapping entrepreneurs most of them

foreigners. As a result the investment (domestic and foreign) declined substantially which might have influenced the economic growth. Foreign investment has been and still vital to economic growth in South Africa.

Altbeker (2005) evaluates the costs of violent crime on business in SA and finds that 76.38% of firms pay for security. Resources are allocated towards buying and installing alarm systems, electric fences, barbed wire, steel gates, armed response, indoor and outdoor beams etc. Households that are forced to go to these extremes save less. Cape Town firms are less likely to have experienced a crime than firms in either Johannesburg or Durban.

Some recent studies in Italy have, however, shown how organized crime can have relevant effects on both economic growth and on the quality of the local institutional systems. For instance, Centorrino and Ofria (2008) have proved the negative effect of crime on the rate of growth of labors productivity, in particular in the Southern regions. Peri (2004), examining the economic performance of the Italian provinces over the period 1951- 1993, found a strong and negative correlation between the incidence of organized crime (measured as a high murder rate) and economic development.

Recently, Bonaccorsi di Patti (2009) has analyzed the relationship between the terms of bank loans and crime rates, using a survey of over 300,000 bank-firm relationships. The results are striking: where the crime rate is

higher, borrowers pay higher interest rates and pledge more collateral than in low-crime areas; furthermore, the access to bank credit is negatively influenced by crime. Since less credit implies lower investment, the economic growth of those Italian regions lagging behind is negatively affected.

There are many ways in which crime conditions the legal economy. One of the most evident is the racket of extortion (Daniele & Marine, 2010). The activity of extortion is typical of the criminal organizations of the Mafia type. It has two main aims: to ensure a sufficiently steady income, generally directed at financing other illegal activities, and to permit the criminal clans to exercise a widespread control over the territory.

Criminal organizations of the Mafia type also practice other forms of control over the local economy. Often, in fact, the clans force legal firms to purchase raw materials from specific suppliers, to hire personnel that are linked to the same organizations or impose limitations to sales markets (Confesercenti, 2007).

Zamagni, (1993) points out that, in general, crime increases the risks for (and the costs of) investment, and therefore has a depressive effect on the economy. In particular, crime discourages investment by raising the economic risks to companies, deriving from possible attacks, the destruction

of property and intimidation. Insurance against such risks implies financial expense, both in the case of acquiescence (the payment of bribes, being obliged to purchase raw materials from firms with criminal connections), and in the case of self- defense (private police and security measures).

A further depressive effect on the economy derives from the operations of the same “entrepreneurs of crime”. Through the use of violence or corruption to impose monopolies, the “criminal ‘firms” condition the functioning of the markets and local institutions, distorting the allocation of resources and capturing a part of public expenditure, including European funds for regional development (CPI, 2008).The result is that the functional capabilities of local market and institutional systems are compromised negatively affecting the development of the economy (Centorrino and Signorino, 1993).

3. THE SOUTH AFRICAN CASE STUDY

3.1 Crime Situation and Foreign Direct Investment in South Africa

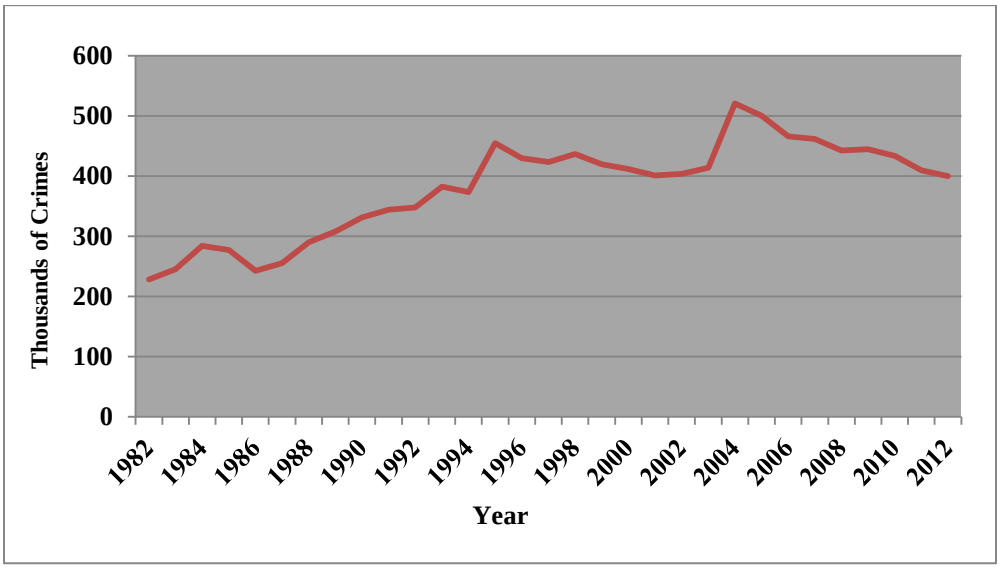
This chapter focuses on trend of crime and foreign direct investment in South Africa. And also it tries to explore possible correlation between these two variables.

3.1.1 Crime Situation in South Africa

The South African Police Service's (SAPS, 2010) crime data show that overall crime rates rose steadily from 1987 to 2004. After that, levels remained fairly constant for some years, and then decreased after 2005/06.

More precisely data collected from SAPS, and United Nation Office on Drugs and Crime (UNODC) indicate that violent crime rose steadily from the 1987 to 1995, and began decreasing slightly during seven years (1995-2003), and rose again from 2003 to 2005 and after began decreasing up to 2012. The violent Crime rate reached its zenith in 2004, with a dramatic rise of about 520784 crimes. Fig.2 summarizes criminal activity (violent crime) in SA during this period.

Figure 2: General trend of violent crime in South Africa

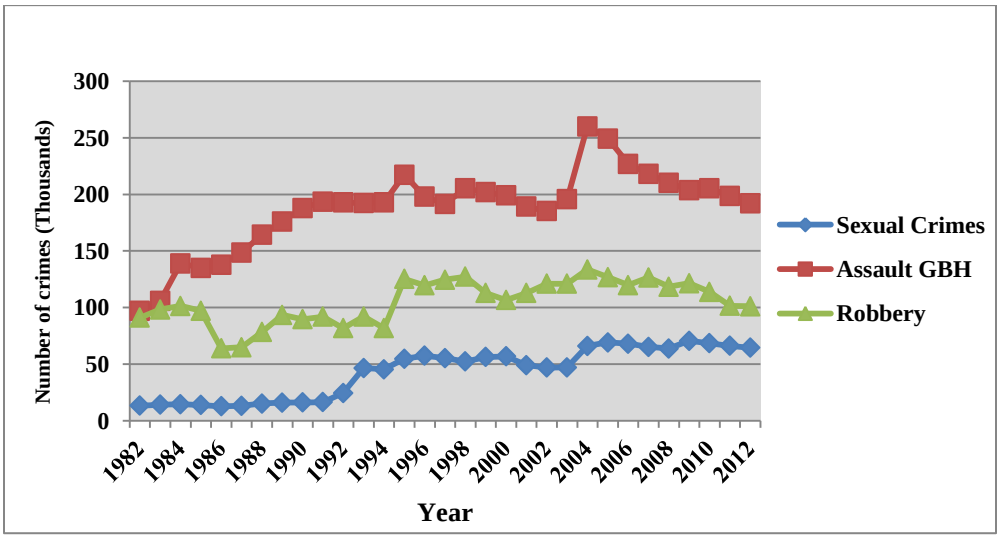


Source: Author's elaboration using data from UNODC, SAPS

Robbery is regarded as a crime which comes at a particularly high cost to society given that it tends to affect both rich and poor, occurs in a wide range of locations and times (and is thus difficult to prevent), involves the use of violence against individuals (mostly by strangers) and evokes high levels of public fear. In South Africa, armed robberies in the form of car hijackings, bank robberies, robberies of cash-in-transit vehicles, robberies on farms, and more recently robberies in busy shopping centers receive widespread media coverage and epitomize what many fear most about crime in the country (Burtoon, 2004).

After 1993/1994, the aggravated robbery rate increased from 164 per 100 000 to 288 per 100 000 in 2003/04 (an increase of 76%). In 2000/01, however, the sexual crimes dropped slightly for the first time in 8 years. The trends for assault and sexual crimes (rape) show that assault increased steadily from 1988 up to 1994. Again from 2001/02 it started to increase by short period of time after which begun to decline. In 2004/05, 45% of the victims of murder, attempted murder, rape, assault GBH, indecent assault and common assault were women, and 14% were children. Among these violent crime categories, the most concerning was that 41% of all rape victims were children, as were 48% of all victims of indecent assault (SAPS, 2005). The following fig.3 shows in details the trend.

Figure 3: Trend of Sexual Crime, Assault GBH and Robbery recorded by SAPS

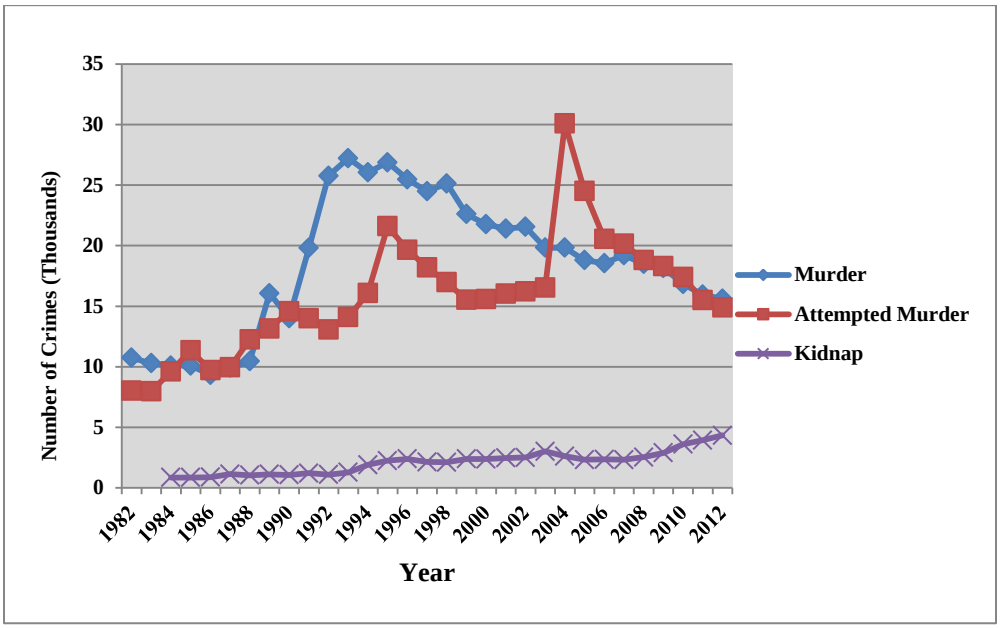


Source: Author's elaboration using data from UNODC, SAPS

Murder rates are regarded as the most reliable indicator for cross-country comparisons. In 1998 the average murder rate for the 111 countries referred to on Interpol's website was 8 per 100 000. By comparison, South Africa's murder rate in 2010/11 (the lowest annual rate since 1994) was 40 per 100 000. Of the countries that submitted data to Interpol in that year, South Africa had the third highest murder rate in the world, after Colombia and Honduras (Louw, 2006).

In addition, around one third of all crimes recorded by the police in this country are violent – which translates into hundreds of thousands of offences in a country with a population 52,981,991 of million people (SAPS, 2005). The following fig.4 highlights the trend of three violent crime indicators in South Africa.

Figure 4: Trend of Murder, attempt Murder, and Kidnap



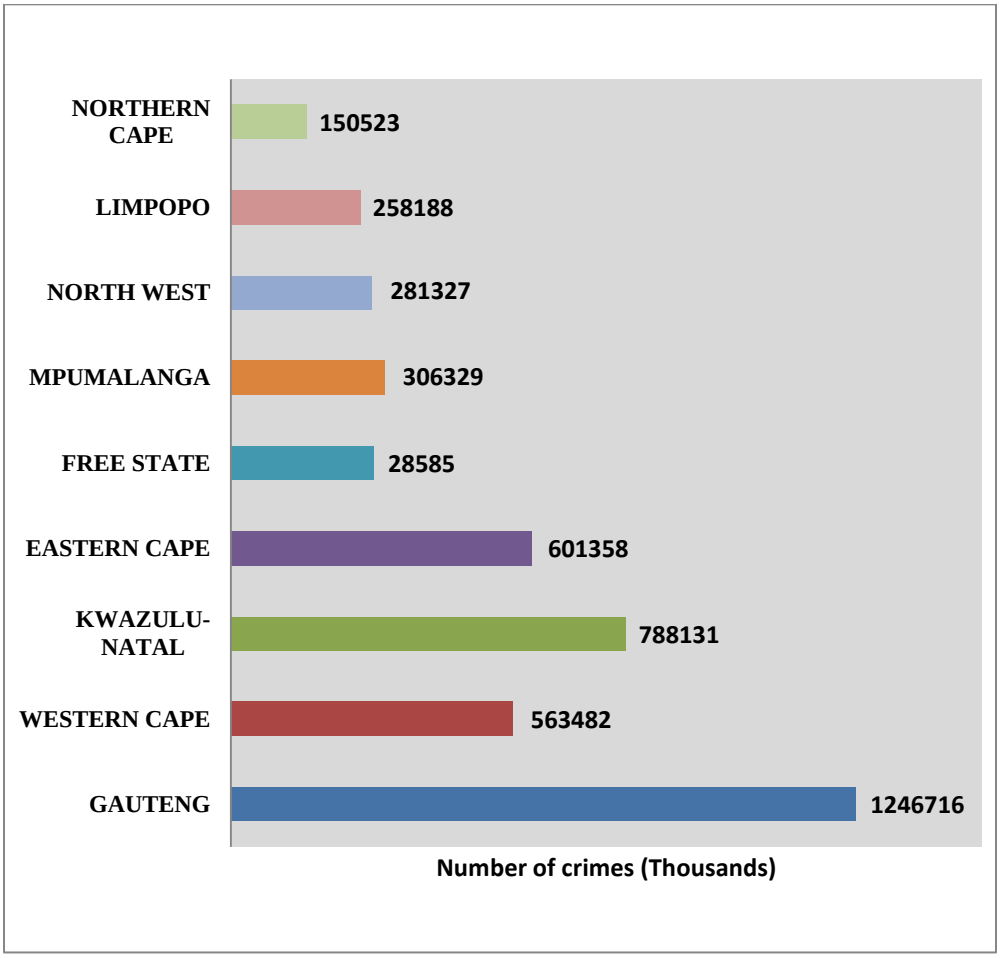
Source: Author's elaboration using data from UNODC, SAPS

The South African statistics variation in rates of violent crime at provincial level shows that Gauteng has the highest national rates of crimes (1.246716) and Northern Cape being the province less affected by crime (150523). All categories of crime that frequently involve violence between people.

The explanation for the far higher crime rates in Gauteng may have something to do with the fact that it has high rates of assault GBH but also a gang culture associated strongly with drug usage and trade, which probably also contributes to the high murder rate in that province (SAPS, 2010).

Gauteng also has the highest rates for aggravated robbery, a crime that is also known to be a contributor to overall murder rates. Figure 5 summarizes the provincial violent crime situation.

Figure 5: Provincial variation in rate level of violent crime



Source: Author's elaboration using data from UNODC, SAPS

3.2 Public Perception about Crime in South Africa

Several national surveys conducted in South Africa by different organisations provide useful insights into the issue, and when compared, serve to confirm the main trends. Recent survey results indicate that nearly half of all South Africans recognise that crime levels are no longer increasing ((Burton et al, 2004). The extent to which public views on the issue have been moderated is evident when considering results from a 2001 national survey, in which most South Africans (75%) believed violent crime had increased since 1994 (Daniel and de Vos,2002).

Despite the public's more positive assessment of crime trends, and the fact that both official and independent sources on crime statistics show an improvement, South Africans nevertheless felt less safe in their neighbourhoods in 2003 than they did in 1998. Of greater concern is that more than double the percentage of people in 2003 than in 1998 felt 'very unsafe' walking in their area after dark (Burton et al., 2004).

Firms were asked to comment on whether the area in which their business was located (Johannesburg, Soweto, Durban) was seen to be a high crime area, a moderately high crime area, or a low crime area. Thirty five percent of respondents described themselves as being located in high crime areas, 43

percent in moderately high crime areas, and 22 percent in low crime areas (Burton et al., 2004).

International comparisons show more clearly the extent of fear of crime in South Africa. The 23% of South Africans in the National Victimization Crime Survey (NVCS) who felt either 'very' or 'fairly safe' at night is well below the averages for cities surveyed by the International Crime Victims Survey (ICVS) in Africa (60%), Latin America (56%), and Asia (55%) (Alvassi del Frate and van Kesteren, 2003).

Directly comparable questions have also been asked in the EU, and results similarly show that South Africans feel much less safe than citizens of the EU member countries. In Greece, Italy and the United Kingdom, the countries with the lowest safety ratings in the EU, 57% of respondents said they felt safe walking alone at night. Denmark was at the top end of the EUs 'safety scale', with 85% of people feeling safe at night (Eurobarometer 58.0, 2003).

Of most concern, however, is the extent to which South Africans fear for their safety in their own homes. In 2004, a majority of South Africans (57%) said they feared crime in their own home during the past year (Afrobarometer Briefing 1, 2005). The situation is also worse in South Africa than most other countries surveyed on the continent: only 34% of all those

interviewed by Afrobarometer in 15 countries between June 2002 and November 2003 said they worry about being a victim of crime in their own home (Bratton et al., 2004).

3.3 Foreign Direct Investment in South Africa

Foreign companies have a long and complex history in South Africa. Their presence pre-dates the discovery of diamond and gold deposits in the late 19th century, but was accelerated sharply by those events. Foreign direct investment by British, European and US companies played a leading role in the development of secondary industry from the 1920s until the 1970s. By this time, foreign investors were identified as substantial beneficiaries of South African economic growth, at the expense of the black majority, by the growing international anti-apartheid campaign. However, due to deterioration of security and political environment during the 1980/90s, new foreign investment in South Africa disappeared almost entirely, and many companies – by some estimates, over 350 – exited the country (Gelb, 2001).

Since then FDI inflow has remained at relatively low levels compared with other emerging market countries and is fluctuating. Despite an improvement in overall macroeconomic conditions and South Africa's advantages in terms of natural resources and market size, foreign investors have shown limited interest in acquiring, creating, or expanding domestic enterprises. Annual

FDI inflows to South Africa averaged less than 1½ percent of GDP during 1994–2002, compared with 2–5 percent in a group of comparator countries (Arvanitis, 2009).

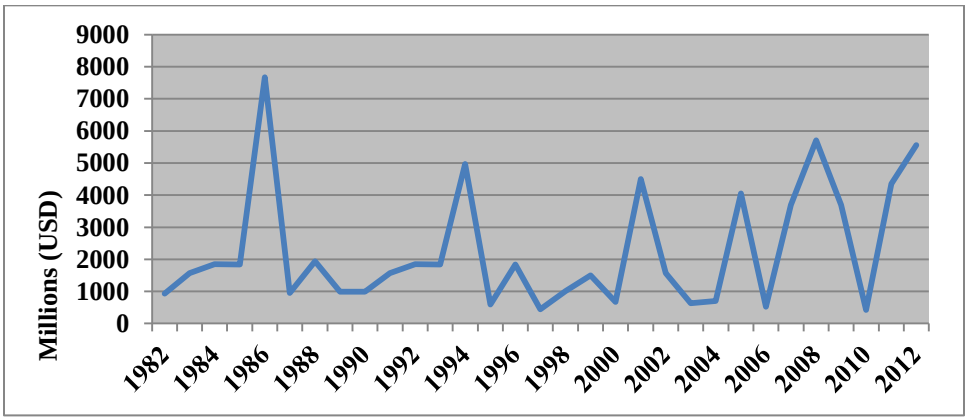
It is generally considered that foreign investment can act as a catalyst for investment and economic development in South Africa. The significance of FDI for engendering growth was particularly stressed in the Growth, Employment and Redistribution Strategy (1996) and has been restated in official statements since then. As private investment has been inhibited by South Africa's low saving rates, foreign investment can help address the saving deficiency and promote economic growth. The role of FDI is also buttressed by developments in the growth literature that highlight the dependence of growth on the rate of technological progress and the empirical observation that FDI, by triggering a diffusion of new technologies and management practices to host countries, can support a faster pace of economic growth (Borensztein & Lee, 1995). However, against such potential benefits, South Africa has several comparative disadvantages that negatively affect its attractiveness: Recent business surveys have identified crime as the leading constraint on investment, followed by the cost of capital, labor regulations, and skills shortages (Arvanitis, 2009).

3.3.1Trends and Characteristics of FDI

Over the last quarter of a century, South Africa has not attracted very much foreign investment (Figure 6). For much of the time, this was due to the political environment: the imposition of trade and financial sanctions in the mid-1980s, the rising of crime rates, the tightening of capital controls, and the declaration of a moratorium on payments to external creditors, which effectively cut South Africa off from the international capital markets (Nowak, 2001).

FDI increased, with two major events dominating this period: the partial sale of government shares in Telkom in 1993/94 and the takeover of De Beers by Anglo American in 2008. Overall, however, FDI has stayed at relatively (Arvanitis, 2009). The following fig. 6 shows the trend of FDI inflow to SA.

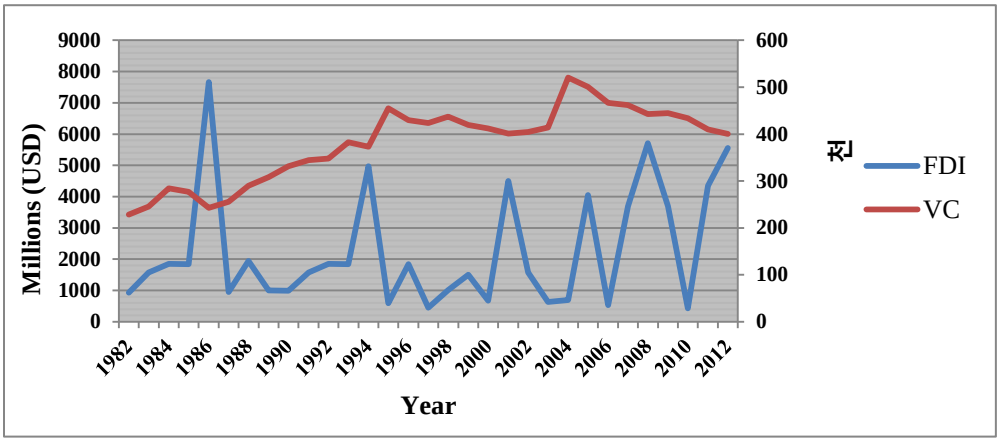
Figure 6: FDI inflow to South Africa



Source: Author's own elaboration using data from OECD

The relationship between foreign direct investment and violent crime (fig.7) shows that as time went by FDI tended to decrease whereas VC was increasing until 2005 when the crime rates in South Africa started to slow down. The following figure shows in detail the relationship between these two variables.

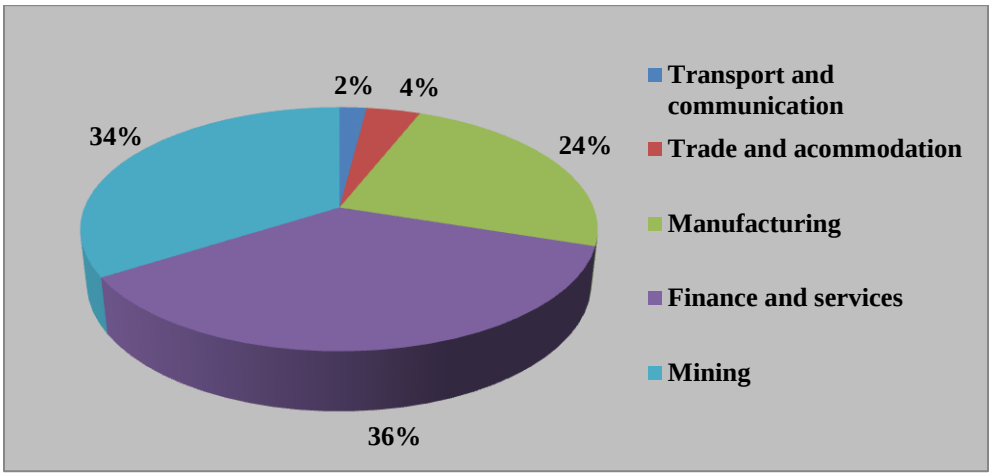
Fig. 7: Violent crime and foreign direct investment in South Africa



Source: Author's own elaboration using OECD and UNOCD&SAPS databases.

In terms of sectoral distribution, the FDI inflows have been relatively diversified. Contrary to what one would expect, the role of natural resources became less important despite South Africa's large mineral reserves. Nonmining activities have drawn more than two-thirds of the FDI inflows, suggesting that the main aim of foreign investment in South Africa has been to capture domestic and regional markets (Fig. 7) (Arvanitis, 2009).

Figure 8: FDI by Sector

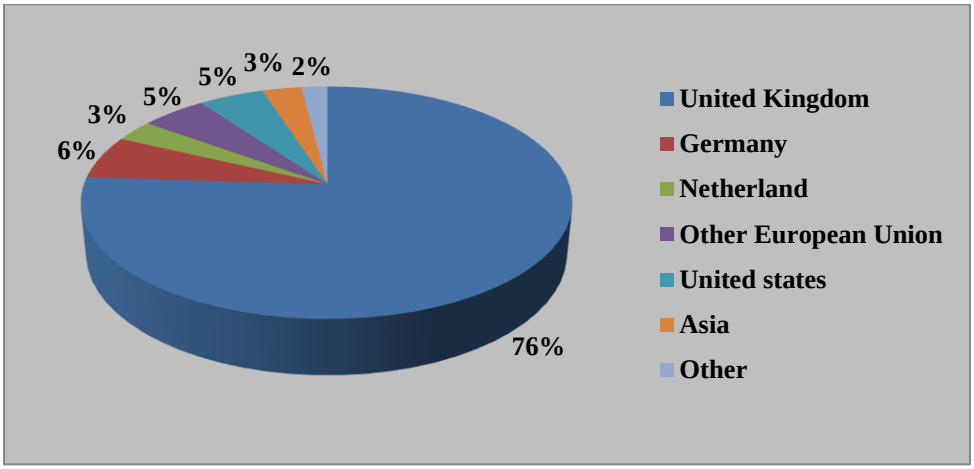


Source: Adapted from (Arvanitis, 2009)

As regards the origin of investments, the European Union (EU) has been the largest investor, accounting for about 90 percent of total FDI inflows. Investment from the United Kingdom outstrips investment from all other countries and accounts for three-quarters of the total (Fig.8). The United States and Asian countries complete the list of investors in South Africa. In terms of the forms of FDI, a large part is investment in existing assets. Cross-border mergers and acquisitions are increasingly prominent, accounting for more than 60 percent of the total.

The restructuring and divestiture of state assets has been an important lever to attract FDI, as evi- denced by the sale of government shares in Telkom in 2005 and the sale of South African Airways in 2007.

Figure 9: FDI by Origin



Source: Adapted from (Arvanitis, 2009)

4. DATA AND METHODOLOGY

This section details the methods that will be used to study the relationship violent crime and foreign direct investment, and specifies the model that will be tested.

4.1 Data

To build the country time series for this study data for violent crime (VC) were collected from United Nations Office on Drugs and Crime (UNODC) and also from South African Police Service (SAPS) from 1982-2012. For foreign direct investment (FDI) data were collected from Organization of Economic for Cooperation and Development (OECD). Other explanatory variables were collected from The Global Economy with the exception of index of Economic Freedom (EF) which was collected from Fraser Institute and GDP gathered from WDI.

4.2 Methodology

The study makes use of qualitative and quantitative methods. A qualitative analysis of relevant materials and statistics that were used to provide answers to the basics research questions. The quantitative analysis is used to assess the results obtained from the qualitative analysis. This is done through

regression analysis. The regression results serve as a basis for empirical analysis and conclusions.

4.3 Description of variables

This section presents the economic rationale for the variables included in the model. The focus of this study is on the relationship between violent crime and foreign direct investment. Therefore, the variable that takes most of our attention is violent crime. It is not easy to quantify violent crime. Data are often lacking and the number of observations tends to under-report the effective dimension of the problem. Notwithstanding these limitations, the variable violent crime (VC) is quantified using data from United Nations Office on Drugs and Crime (UNODC) and South African Police Service (SAPS).Violent crime has an important negative impact on institutional stability and business environment. Therefore, it follows that when companies perceive high costs associated with crime, the levels of foreign direct investment should be lower. It would be expected that the coefficient of this variable is negative.

The lagged log of real GDP (LGDP) is used as proxy of South African's potential market size because foreign investors make their investment decisions based on expectations generated, in part, by what the level of real GDP was in the preceding year. This variable was lagged to avoid the

simultaneity problem that might arise when incorporating this variable as a regressor (Ramirez 2010). It would be expected that the coefficient of this variable is positive.

The real exchange rate (REX) is included in the model because it relates economic policy and international competitiveness. According to Ramirez (2010), a real depreciation of the domestic currency should increase the profitability of these sectors and, *ceteris paribus*, induce FDI flows to them. A real depreciation of the domestic currency reduces the (dollar) value of the profits and dividends sent back to the host company, thereby reducing the real rate of the investment. The variable is lagged because the decision to invest in capital in a foreign country takes time due to implementation and institutional-legal delays (Ramirez 2010). It would be expected that the coefficient of this variable is negative.

Since the location of companies also tends to be influenced by an area's accessibility, we considered an index of total infrastructural endowment (Infrastructure). It is hypothesized that countries with better infrastructure are more attractive to foreign investors because they tend to have lower transportation costs. It would be expected that the coefficient of this variable is positive.

Government expenditures on education (GED) as a percentage of GNI are included as proxy for human capital. It would have been preferable to use the secondary or tertiary enrollment ratio, but these variables were not available for every year of this study. The rationale for using this variable is that the higher the level of education, the more attractive it is to foreign investors both from a cost standpoint (lower unit labor costs) and a demand-side perspective (greater purchasing power and more informed consumers) (Ramirez 2010). It would be expected that the coefficient of this variable is positive.

The credit channeled by the banking system to the private sector as a percentage of GDP (CR) is expected to have a positive impact on foreign direct investment flows (positive coefficient). The credit constraint can be problematic in terms of financing the construction of new plant, machinery, and equipment (Ramirez 2010).

The variable corruption (CO) is quantified using data from The World Global Economy. When companies perceive high costs associated with corruption, the levels of foreign direct investment should be lower. It would be expected that the coefficient of this variable is negative.

The Index of Economic Freedom (EF) is a composite index, designed by the Fraser Institute, which ranges from 0 to 100. It is based on an aggregation of

10 equally weighted component measures of freedom: business freedom, trade freedom, monetary freedom, freedom from government, fiscal freedom, property rights, investment freedom, financial freedom, freedom from corruption and labor freedom. This variable can help us assess whether the country has conditions consistent with economic liberalization that are perceived as incentives for business activity, and are thus attractive to investors. It would be expected that the coefficient of this variable is positive.

It goes without saying that the variables mentioned so far are not the only factors affecting Foreign Direct Investment. Many other factors such as political stability, good governance and maintenance of the rule of law can also be related to FDI. However, in view of the limited number of available observations (31 observations), for various reasons, it would be impractical to include all possible covariates in one model. Thus, including all covariates in one model may significantly decrease the number of observations entering the regression. Furthermore, if we include every explanatory variable and the associated interaction terms, we would be estimating a model with many regressors. With only 31 observations, this would do little more than increase the R^2 without revealing much about the relationship between the variable.

To mitigate this problem, we include additional explanatory variables one at a time, along with the appropriate interaction term and compare the resulting estimates and R^2 with those obtained using the benchmark model.

4.4 Unit root test

When working with time series data, it is important to ensure that the data is stationary and weakly dependent. In a highly influential 1974 paper, Spurious Regression in Econometrics, Granger and New bold show that OLS regressions using the levels of non-stationary time series data often produce spurious results, with significant t-statistics and high degree-of-fit (as measured by R^2), coupled with low Durbin Watson statistics, indicating high serial correlation in the error terms. It is clear that such regressions do not in any way represent the true relationship between the variables, regardless of the value of the t-statistics or R^2 (Granger & Newbold, 1974).

Ensuring stationarity of time series data becomes especially crucial when we consider that with time series data, one typically finds a very high serial correlation between adjacent values,...with changes being small in magnitude compared to the current level" (Granger & Newbold, 1974). This implies that many time series are not stationary in the levels and often contain unit roots.

To test for the presence of unit roots in the time series, we use the Augmented Dickey-Fuller (ADF) test in Said and Dickey (1984), which expands on the original Dickey-Fuller (DF) test proposed by Dickey and Fuller (1979) to allow for the inclusion of trends, and lags to correct for serial correlation in the error terms. Lag selection is particularly important in the ADF test. When lag length k is too small, the errors may still be autocorrelated, biasing the test statistic, while an overly large value of k reduces the power of the test. In order to avoid arbitrary lag selection, we rely on the Schwarz criterion, (SC). The ADF tests the null hypothesis that the *series contains a unit root*, against the alternative that the *series is stationary*. If a unit root is detected in the levels, we difference the series and run the ADF test again.

Table 1: Unit root test

Variables		Z[a]	Conclusion[b]
FDI	Level	-4.621***	I(0)
CO	leve	-3.473***	I(0)
CR	Level	-2.096	I(1)
	1st difference	-3.558**	
GDP	Level	-1.480	I(1)
	1st difference	-3.429***	
LGED	level	-3.356*	I(0)
POP	level	-0.980***	I(0)
REX	Level	-1.091	I(1)
	1st difference	-4.430***	
AIRT	Level	-1.485	I(1)
	1st difference	-5.235***	
VC	Level	-1.984	I(1)
	1st difference	-5.498***	

[a]*** p<0.001, ** p<0.01, *p<0.05

[b]A series is integrated of order n if it must be differenced n times before it becomes stationary. I(1) series are difference-stationary; stationary series are trivially, I(0).

Table 1 shows the series that are I (1) in the levels become stationary when differenced, at the 5% level. The series of first differences can now be used in regressions without the risk of spurious results.

4.5 Model

In the ADF tests for unit roots reported in Table 2, we confirm that the series that are I(1) in the levels become stationary when differenced. With stationary data, OLS can be used without the risk of spurious results detailed in Granger and Newbold (1974).

In this research Ordinary Least Square (OLS) is employed to estimate the impact of violent crime on foreign direct investment in South Africa.

Following Barro (1996) we use the following equation with modification in this study:

$$FDI_t=\alpha_0 + \beta_1(LGDP)_{t-1}+\beta_2REX_t+ \beta_3INFR_t +\beta_4CR_t+ +\beta_5VC_t+ \beta_6GED + \beta_7CO+ \beta_8EF + \varepsilon_t$$

Where:

FDI is the ratio of FDI inflows to real GDP (constant 2005 US$); LGDP is the lagged log of real GDP (constant 2005 US$); LREX is the lagged real exchange rate; INFR as an index of total infrastructural endowment; CR is the credit channeled by the banking system to the private sector as a percentage of GDP; Government expenditures on education (GED) as a percentage of GNI ; corruption (CO) as a proxy of corruption; The Index of

Economic Freedom (EF); VC is a proxy for Violent crime; and α is the unknown intercept and ε is the error term.

When first looking at a dataset, it is wise to use descriptive statistics to get some idea of what your data look like. They provide simple summaries about the sample and the measures. Moreover, Descriptive statistics give a first view of the dataset: the mean is a measure of central tendency, while the variance and range measure the dispersion of the data. Table 2 shows descriptive statistics for time series regression.

Table 2: Descriptive statistics for time series OLS regression

Variables	Mean	Std. Dev.	Min	Max	N
FDI	45.23	4.92	100.9	953	31
VC	380.23	1.437	288.2	520.7	31
REX	4.972	2.66	10.54	154.1	31
CR	53.62	2.03	0	78.33	31
CO	41.25	1.017	0	51	31
GED	16.42	3.93	8.4	23.45	31
GDP	206.7	49.83	151.6	307.3	31
EF	6.36	0.66	5.3	7.3	31
AIRT	8.14	3.97	3.83	17.08	31

Table 3 shows the correlation statistics of violent crime series with the time series of other explanatory variables determinant of FDI.

Table 3: Correlations for South African time series

	VC	*REX*	*CR*	*CO*	*GED*	*GDP*	*EF*	*AIRT*
VC	1	-	-	-	-	-	-	-
REX	0.753	1	-	-	-	-	-	-
CR	0.425	0.441	1	-	-	-	-	-
CO	0.277	0.195	0.794	1	-	-	-	-
GED	0.589	0.668	0.234	0.106	1	-	-	-
GDP	0.685	0.625	0.341	0.028	0.505	1	-	-
EF	0.634	0.652	0.528	0.317	0.679	0.665	1	-
AIRT	0.671	0.777	0.304	0.011	0.499	0.988	0.656	1

5. RESULTS AND ANALYSIS

The results of the econometric analysis are summarized in Table 4. Four different specifications were estimated (1), (2), (3) and (4). Violent crime variable is negative and very significant (at a 1% level) in regressions (1), (3) and (4). This result is consistent with our prediction because one would expect that if companies perceive high costs associated with violent crime, then the levels of foreign direct investment would be lower. According to these results, *ceteris paribus*, violent crime is a significant determinant of flows of foreign direct investment to South Africa. Violent crime usually generates insecurity which discourages investment as it makes investment unattractive to business people. This is because it increases the cost of doing business either through direct loss of goods and properties or the cost of taking precautions against business risks and uncertainty. These costs could have a negative impact on business development and progress.

Evidently, there has been a decline of foreign direct investment in South Africa. Foreign Direct Investment (FDI) is usually investment targeted at building new factories or investing in actual production activities which create jobs. Foreign investors in the South African economy are moving away from starting new companies or production plants and are buying up shares of quoted companies instead. Figures from the 2010 Central Bank of

South Africa (CBSA) annual report show a steep 78.1 percent decline in foreign direct investment while also showing a significant 87.2 percent increase in portfolio investment into the South Africa economy to take advantage of the depression in the South Africa stock market due to low economic activities.

The South African insecurity situation can, and in many cases, actually halted business operations during the periods of violence and also caused the outright closure of many enterprises especially in the areas or zones where incidences of insecurity is rife and are on daily occurrence, in a bid to protect lives of operators and business property. Generally, if there is no peace and security, it is extremely difficult for businesses to survive. Ordinary citizens having small and medium scale businesses cannot open shops for business transactions. Violent crime everywhere is a risk factor which business owners and managers dread and wish to avoid by relocating their businesses elsewhere. In the case of South Africa, there is also evidence of some businessmen and manufacturing companies having to relocate particularly from the North in recent time, to other peaceful parts of the country (Bende-Nabende, 2002). In addition, some firms may shift their operations to other countries like Mozambique which is deemed to be more peaceful. Apart from outright closure of a business enterprise, an existing business can also

be affected in the four functional areas of business, according to Achumba and Ighomereho, (2013). These include production, marketing, finance and human resource (H/R):

5.1 Production

Business enterprises rely on availability and regular supply of raw materials for production. Security problems can cut off supply of such raw materials. When a firm is unable to access raw materials needed for production due to insecurity in the source, it can disrupt production activities. There is no doubt that businesses whose source of raw materials are in Johannesburg, Soweto (Gauteng), Durban (Kwazulu-Natal) would be faced with that threat, if the insecurity situation becomes worse.

5.2 Marketing

It is not only that a business enterprise must get raw materials for production; it also must dispose of their output. Insecurity limits market availability. In addition to the fact that areas pruned to insecurity will not be attractive for marketers from outside, there will be restrictions on mobility. Besides, Migration of people from the areas to other parts of the country or outside as a result of insecurity will affect the customer base of businesses operating in the environment where the insecurity exists.

5.3 Finance

Insecurity also increases security spending by business organizations. This emanates from the cost of taking precautions and payment for private security services. From general observation, most business organizations operating in South Africa maintain security personnel as well as security infrastructure in order to ensure the security of their properties and the lives of their staff and customers. It could also result to the loss of capital through burning of business buildings and properties. Beyond these, it also limits sources of fund to the business.

5.4 Human Resource

When there is a high level of insecurity in a particular area or region, there will be migration of people which could lead to a dearth in skilled labour. Insecurity affects the general human security of the people as the situation promotes fear, while at the same time limiting the peoples' ability to work effectively. There are also circumstances when employees of a business enterprise become victims of attack and the firm losses its experienced staff through death or injury. As such, workers resign to run away from such areas and fresh people do not want to go there for employment. The implication is manpower shortage for the business which ultimately affects the success and survival of the business. This exerts pressure on the business for manpower

at any cost. Due to the impact of insecurity on businesses, we support the position of Danile and Ugo (2010) that the government must ensure the availability of public security at all times. This is crucial because if businesses fold up and investors are no longer forthcoming, then the future is bleak.

Our findings in this regard are also consistent with the Krkoska & Robeck (2006) results in their study about the impact of crime on enterprises conducted in 34 countries in Europe and Asia during 2002 and 2005. They found that crime has deterrent effect on FDI inflows and job creation, especially in less advanced transition countries, providing empirical evidence to substantiate the importance of the fight against crime for economic development. Moreover, they found that a high level of crime, and in particular organised crime, can also have a detrimental effect on potential new entry of enterprises, both local and foreign companies, and their expansion. This paper finds empirical evidence of a higher incidence of crime in countries with lower FDI inflows at the country level, as well as a negative relationship between crime and job creation and sales growth at the firm level.

The results show also that the lagged log of real GDP (LGDP), the air transport freight as ratio to country size (AIRT), and the real exchange rate

(REX), *all else held constant*, are important determinants of FDI flows in South Africa as we have expected. LGDP has a positive and significant (at a 5% level) effect on FDI flows in column (2). Real exchange variable is negative and very significant (5% level of significance). And air transportation freight as ratio to country size also is positive and significant in regressions 5%. Further, the real GDP is used as proxy of South African's potential market size, and as expected, the observed coefficient is positive. The bigger the potential market size, the more likely a country is to receive flows of foreign direct investment.

CR has a negative but not significant effect on FDI flows. This result contradicts the expected coefficient; it was expected for it to be positive and significant. It could be argued that this result is reflecting the possibility that credit in South Africa is not being adequately used for financing production related activities, like the construction of new plants, machinery, and equipment and so forth.

Government expenditures on education as a percentage of GNI (GED) are negative and significant (at 5% level) in column (3). This finding contradicts the theory because, according to Ramirez (2010) the higher the level of education, the more attractive it is to foreign investors both from a cost standpoint (lower unit labor costs) and a demand-side perspective (greater

purchasing power and more informed consumers). Therefore it was expected to be positive and significant. Moreover, this result implies that the South African government does not invest enough resources for education of human capital which is viewed as a deterrent of capital inflow to South Africa. Furthermore, the literature in this regard points out that during the apartheid regime education system was designed to fever more white people than other races. So this can the way the human resources lack of education.

The estimations made by Bengoa and Sanchez-Robles (2002) in Latin American case, show that the index of economic freedom has a positive and very significant effect on capital flows. As we have mentioned before, this variable can help us assess whether the country has conditions consistent with economic liberalization that are perceived as incentives for business activity, and are thus attractive to investors. However, the results presented in Table 4 contradict their findings. Economic freedom is not significant and it is even negative in specification (2).

Table 4: OLS estimation of Violent Crime on Foreign Direct Investment

Dependent Variable: Foreign Direct Investment (FDI)				
Variables	(1)	(2)	(3)	(4)
C	-102.619 (51.993)	6.055 (9.780)	-93.139 (36.591)	5.356 (8.209)
Violent Crime (VC)	-0.021*** (0.006)	-0.613 (0.122)	-0.296*** (0.009)	-0.097*** (0.001)
Infrastructure (INFR)	0.031 (0.223)	0.089*** (0.009)	0.031** (0.018)	0.028*** (0.007)
Exchange Rate (REX)	-0.022*** (0.007)	-0.104** (0.018)	-0.016** (0.075)	-0.012** (0.045)
Credit (CR)	0.045 (0.125)	-0.001 (0.217)	-0.047 (0.160)	-0.005 (0.114)
Gross Domestic Product (GDP)	0.051 (0.289)	0.376** (0.036)	0.021 (0.210)	0.076 (0.149)
Economic Freedom (EF)		-0.077 (0.162)		
Government Expenditure in Education (GED)			-0.252** (0.035)	
Corruption (CO)				-0.207** (0.036)
R^2	0.565	0.535	0.531	0.519
No. Observation	31	31	31	31

*Notes: p-Values are in parentheses and ***, ** and * denote significance at 0.01, 0.05 and 0.10 levels respectively.*

The corruption variable (CO) is negative and significant (at 5% level) column (4). This finding is consistent with our expectations. In fact, when companies perceive high costs associated with corruption, the levels of foreign direct investment should be lower. In other words, this shows that, *all else held constant*, 1% increase in corruption it decreases by 20.7% of FDI inflow to South Africa.

6. CONCLUSION AND POLICY IMPLICATIONS

6.1 Conclusion

The main aim of this research was to study the effect of violent crime on foreign direct investment, focusing on the case of South Africa. Using time series data, ordinary least square method was employed to examine the relationship between these two variables. In this study, we contend that when there is wide spread insecurity, it could affect business investment, the entire business organization or some aspects of its operations which include production, marketing, finance and human resource. We recall the key research questions that guided the progress of this study:

1. *Does Violent Crime impact foreign Direct Investment in South Africa? I yes, how? If not, why?*

The results confirm that violent crime impacts foreign direct investment inflow to South Africa; this may happen through several channels: crime diverts resources that could have been used in more productive ways, crime increases security costs for businesses, it decreases health, it represents a threat to private property, and it discourages domestic and international investment because the investment climate deteriorates. Moreover, our model shows that, *ceteris paribus*, a higher presence of violent crime significantly reduces foreign direct investment inflow. In other words the

result suggests that the presence of crime, a strong disincentive related to the socioeconomic environment, tends to reduce the effectiveness of development policies.

2. To which extent does violent crime affect Foreign Direct Investment inflow to South Africa?

Our findings suggest that if 1% of violent crime increases, *all else held constant*, then FDI inflow will decrease in 0.021% (1). This situation has the damaging consequence of giving signal to the international community that South Africa is not a safe and secure place and as such not suitable for investment and business activities. In that case, foreign firms and entrepreneurs would decline to invest and this is particularly important in view of the efforts being made to create the desired atmosphere to attract foreign direct investment. So, it is a strong disincentive to business investment as it scares away potential investors. This is because such environments or economies are considered high risk zones due to the high level of uncertainty about the safety of investment and lives of the managers and their staff.

3. If violent crime acts as a deterrent on foreign direct investment, is it the only factor? Or there might be other hindrances?

As already shown, our analysis does not indicate the presence of crime as the main or the sole reason for the low attractiveness of the South Africa. FDI inflows are, in fact, influenced by different economic and institutional determinants such as corruption, low skill labor and so forth.

Our results are consistent with some surveys conducted in South Africa that contains the opinions of potential foreign investors about opportunities for investing in South Africa. Said surveys indicate, in fact, how the presence of violent crime is perceived by businessmen as a powerful block to investments in Johannesburg, Soweto (Gauteng), Durban (Kwazulu-Natal). Furthermore, studies in various countries have demonstrated the negative impact of crime on business development. A 2002 study assessing the impact of crime on firm performance in Latin America, for example, found that 67 percent of firms cited violent crime as an obstacle to doing business - substantially reducing the overall economic performance of private enterprises, and sales growth in particular.

Our analysis does not exclude that a high incidence of crime, other than discouraging investment, can also be perceived as a signal of a socio-institutional system unfavorable for business activities. This “signal effect” can be particularly important to potential foreign investors, who are generally less informed in respect to national investors. The magnitude of the

effect of crime on firms' location decisions is, probably, amplified by investors' perceptions about the business climate quality in regions with a comparatively higher incidence of crime.

6.2 Policy Implications

Violent crime has been identified as one of the obstacles to economic development through FDI in flow to South Africa. Development is the primary goal of every well-meaning government and it is essentially dependent on the level of economic activities in a country; the level of economic activities is in turn enhanced by peaceful coexistence by people. It is people who interact to carry out economic activities through their businesses. Businesses are the vehicle for economic activities that would lead to national economic development. It therefore follows that businesses play a great role in the process of development and such role can be hampered in the absence of adequate security as we now find in South Africa.

Security and development are also related in the sense that being a public good, the imperative to maintain security competes with other public goods such as education, health and infrastructure for public funds. Expenditures on security are therefore an essential component of the development process. For instance, the use of resources to strengthen a country's security system could have been useful in other relevant areas. Insecurity therefore, becomes

a drain on local and national resources at the expense of development and peoples' well-being thereby, having adverse consequences on economic growth and development (Nwagboso, 2012).

Thus, in the absence of any real threats to security, expenditures on security can be reduced significantly, allowing national and local governments to channel more resources to other public goods to improve the quality of life of the people.

Having considered and understood the implications of violent crime in South Africa for FDI inflow and business operations now it is time to present possible strategies to address insecurity issue generated by violent crime. Given the magnitude of the situation there is a need for a solution set that urgently addresses the problem and which has an immediate impact on the situation, in view of the revelation from the analysis of the dimension and levels of insecurity in the country. We therefore propose a security management approach that accommodates both long term solutions and immediate ways to address the problem.

In the long- term:

i. *Good governance*

According to Oluwarotimi (2012), good governance is the panacea for the insecurity challenge in South Africa. She states that the war against violent crime would be won only by raising governance standards that is, cultivating the culture of good governance where the government is responsible and accountable to the people. In her view, security engagement cannot be separated from good governance. Many others have also linked security to governance system. The general view is that peace and security is determined by good governance. However, as Oluwa (2012) has pointed out, good governance is a function of effective, visionary, transparent, trustworthy and credible political leadership whose driving force is an improvement in the collective wellbeing of the citizens through well-conceived, effectively implemented economic policies and human development programmes. The underlying principle of good governance is the focus on people as the ultimate objective of governance.

ii. *Mitigation of Corruption and entrenchment of social justice*

Corruption is viewed by everybody as the cog in the South Africa wheel of progress and development. It is both a social and economic monster. It is the

cause of inequality and inequitable distribution of the nations' wealth among its citizens, a situation that is the root cause of disaffection among the citizens. It is theorized by many that fighting corruption and winning the war will bring about an egalitarian society, where fairness, social justice and equal right for all will reign supreme; where rights will not be privileges for some people, and for others, privileges are their rights: where every people will be treated and accorded position not based on tribe and sect, but on merit defined in terms of the content of his character, mental capacity and ability to deliver; where there will be no discrimination.

iii. *Development of a more balanced security strategy to counter violent crimes*

This is one of the views of Taekyoon (2009). By this, she must have meant a strategy that is all inclusive and involving a combination of methods that would not only break their communication and interactive network, but also disarm them of resources by tracking their information inflow and resource mobility through higher technology that can also help to locate their base, their sponsors and intelligence power houses and systems (intelligence sources), identifying and isolating them for easy pick.

6.2.1 The Security Strategic Management Approach and Models

This approach is for short-term and consists of a combination of two models, that is, the two way approach model, and the composite approach model (Achumba and Ighomereho, 2013). The two-way approach model aims at combating the creators and perpetuators of situations of violent crime, and simultaneously addressing and removing the causes or sources of those situations. The composite approach model aims at involving all stakeholders, both in public and private capacity - government, communities, civil society and individuals – to supply resources, expertise and information that are required to ensure a safe environment.

6.2.1.1 The two-way approach model

This model is two part model. One part is to remove the factors which cause people to engage in acts of violent crime causing insecurity, and the other part is to combat the perpetuators of insecurity situation. The first part considers and entrenches all of the solution methods from the various views presented above, under solution to insecurity in South Africa. The second part is to combat the criminals both with the long arm by the police forces. This is meant to stop or prevent criminals from creating and perpetuating insecurity. It involves being prepared at all times and being proactive, and pursuing them wherever they are. The objective is to protect innocent

citizens from harm. A major strategy in this regard is to identify and map out black spots on physical insecurity.

6.2.1.2 The Composite approach model

This model contrast with the traditional assumption that national security is solely the responsibility of government. While we agree with the view that security of lives and property is a primary responsibility of government (Ogbeche, 2012), we hold the view however, that the insecurity challenge in South Africa is too enormous to be left for government alone. Therefore, there is need for other stakeholders to be actively involved in ameliorating insecurity in the country. There is the challenge therefore to rethink and improve on the policies and institutional means of dealing with security concerns arising in the country. The roles of the stakeholders in the security management model are discussed below:

i. *The Role of the Government*

To overcome insecurity generated by violent crime there is need for intelligence gathering and surveillance so that law enforcement agents could be proactive and reasonably predict potential crime with near perfect accuracy rather than being reactive. As noted by Adagba, et al (2012) the menace of insecurity no doubt calls for a new approach that will be founded on credible intelligence gathering. Government must not only continue to

engage the security personnel, it must, more than ever before, recognise the need to devote more attention to security intelligence, capacity building to meet the global best practice standard and acquisition of modern technology. Policies that focus solely on single governmental agencies, such as security agencies or enactment of laws are unlikely to succeed. Instead, a coordinated preventive measure is necessary in addition to military strategies and judicial institutions.

The formulation and effective implementation of policies and programmes capable of addressing the root causes of violent crime in South Africa are crucial, especially with regard to poverty; unemployment, social inequality, injustice, corruption, and small arms proliferation.

ii. *The Role of Civil Society*

There is need for civil society to advance the importance of security in South Africa. With the active involvement of civil society in security management, there should have less violence, human rights abuses and social injustice. One of the roles of civil society is to convince other stakeholders that action is better than inaction and that violent crime does not have to be accepted as a necessary evil. They have to play the roles of critic, catalyst and advocate of those interests. It is also essential to raise public awareness, to awaken society to the disastrous effects of insecurity and to get across the message

that fighting it is possible. In many countries, civil society is the watchdog and the vanguard to warrant that other stakeholders respect their boundaries. They also play a major in the area of raising public awareness as well as in lobbying for concrete change or in helping to initiate and carry out a process of reforming national integrity.

iii. *The Role of Communities*

It is important to note that security management can be significantly aided by the cooperation of local communities. Depending on our perceptions and sincere feelings as regards our collective responsibilities towards lasting peace in South Africa, communities should strive to live peacefully with other communities. They should also be vigilant of strangers in their localities to ensure that criminals do not have easy access to their communities.

iv. *The Role of Individuals*

Security should be seen as everybody's business. As individuals we need to cultivate the habit of security consciousness and to report any security situation to the appropriate authority (not only the police) immediately. Every individual must evince a high level of security awareness and alertness. This is because individuals understand their communities better and any

report of suspicious behavior or activity could lead to actionable intelligence leading to disruption of attacks. Through the early detection of impending crime and its prevention, it will help to provide a safe and enabling environment for the people to operate in, and the flow of capital through FDI for economic development.

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