

Vulnerability of Economies Facing Terrorism: Case of the Countries of the Sahel Belt

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Abstract

This article has helped with the construction of a Structural Equations Model (SEM) to measure the negative impact of terrorist targets on economic growth, investment and positive influences on the military and security spending in the economies of Sahel. The SEM also helped break down the impact of the terrorist attacks in the Sahel in direct and indirect effects. The increase in military spending and security results in lower investment and economic growth and undermining development efforts and fiscal consolidation. Moreover, the consequences of terrorist attacks are more intense for targets in industries whose economic weight is important. These targets increase the vulnerability of fragile Sahel and undiversified economies.

Keywords: Growth, Investment, military spending and security, Terrorism.

JEL Codes: E6, H1, H5, D74, O11

1. Introduction

Peace, tolerance, mutual respect, human rights, the rule of law and the global economy have all also suffered from terrorist acts (Koffi Annan). This quote shows the multidimensional impact of terrorism and terrorism. Sahel is not spared. Indeed, terrorist acts are making a legion in the Sahel and threaten the stability of the region. They constitute a significant geopolitical and economic risk for the Sahel. Apart from Senegal, which is under threat of an attack, the seven other countries that make up the Sahel belt are undergoing terrorist acts on various targets, threatening these fragile economies. Terrorism is multifaceted and evolves in time and space and its definition is not easy. Indeed, the actors (Boko haram, Ansardin, Mujahouetc .) evolve constantly, as quickly as their means and it is difficult to define this phenomenon. Schmid and Jongman (1988) have identified about 109 definitions and none of them is unanimous. International law itself can not give it a definition. A variety of economic activities is targeted by terrorists. They range from airports, tourist sites, to means of transport and the economic consequences are diverse. The attacks cause loss of life and destroy infrastructure. The economic costs of terrorist attacks in the Sahel are poorly known in terms of their socio-political impacts. Attacks on economic targets are basic strategies of terrorist groups to create change (Harmon 2001, J. Lutz & B. Lutz 2006). At the complexity of the phenomenon and its consequences on the economy, it is interesting to question the impact of terrorist targets on the economic activity of the countries of the Sahel belt?

This is of paramount importance because the economic damage resulting from terrorist acts is substantial: it ranges from lost revenue, growth points, to increased transaction costs. The impact of terrorism depends on the intended target nature. Indeed, terrorists target the busiest places and vital centers of the economy such as tourist sites and airports etc. The destruction of such infrastructure has a considerable economic and human cost and the protection of public places and vital infrastructure has therefore become a priority for the public authorities, generating additional military and security expenditures. The overall objective of this article is to measure the impact on economic growth, investment, and military and security spending of terrorist attacks on strategic targets. Specifically, we will determine the direct and indirect effects of terrorist targets on economic growth and investment. To achieve its goals, we will build a Structural Equation Model (MES). The choice of this model is justified by the possibility of taking into account the interactions between the different variables allowing then the decomposition in direct and indirect effect of the consequences of the terrorist attacks.

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The choice of the Sahel belt is explained by the proliferation of attacks in the region and the serious consequences they may have in the weakening of the economies of the region. This study is composed of three sections: the second section is devoted to the review of literature, the third describes the methodological approach, the fourth section is devoted to the source of the data and the variables of the model, the fifth section to the presentation and interpretation of the results and the fifth section to the presentation and interpretation of the results

2. Theoretical and empirical approaches to the consequences of terrorism on the economy

The literature on terrorism views terrorists as rational actors, maximizing their utilities given the benefits, costs, and constraints of their actions (Sandler and Enders 2004, Caplan 2006). They can affect economic activity through lower foreign direct investment due to insecurity. Indeed, foreign investment is a prime target, as it can contribute to employment, tax revenues and an improvement in the economy. According to Enders and Sandler (1996), terrorist attacks lead to lower levels of foreign investment. Abadie and Gardeazabal (2008) introduce terrorism as a disaster risk into an endogenous growth model and show that as the intensity of terrorism increases, so does foreign direct investment and hence economic growth. Hall and O'Sullivan (1996) shows that political instability and acts of terror have a negative impact on tourism, which accounts for a large share of GDP. Krueger and Maleckova (2003) show a correlation between economic factors such as GDP per capita or growth rate and terrorist acts. Terrorist acts can also depress trade by blocking the country's supply, thus lowering its production frontier. Indeed, most terrorist groups claim that one of their explicit aims is to harm the economies of the target countries (Enders and Sandler, 2012). Blomberg et al (2004) using a Markov process show that economic activity and terrorism are not independent of each other. Terrorist acts are linked to the business cycle. The periods of low growth coincide with a greater frequency of terrorist acts. Terrorists seek to damage the economy. They want to impose costs in order to meet their demands. Empirical research has shown that terrorist acts significantly reduce the number of tourists (Enders and Sandler (1991) in the case of Spain, Enders, Sandler and Parise (1992) and Drakos and Kutan (2001) for the Mediterranean countries. Terrorist attacks can force the government to redirect public spending to unproductive activities such as the absorption of damage.

If economic assets are targeted, they reduce the resources available to the government for productive activities, following the assignment for counterterrorism. Hess and Orphanides (2004) showed, on 177 countries, relatively modest average effects of international terrorism between 1968 and 2000, since per capita GDP growth only decreased by 0.048% per year. Smaller developing countries pay a heavier toll than rich countries. In Colombia, for example, terrorism caused far more damage. In the Basque country, it cost more than 10% of GDP per capita at the most critical period (Subhayu Bandyopadhyay, Todd Sandler and Javed Younas, 2001). Gaibulloev and Sandler (2009) on 42 Asian countries containing 7 developed countries and 35 Developing countries have shown that terrorism has not significantly slowed growth in the first group, so each additional attack (per million population) linked to international terrorism lowered the rate of growth of the developing economy in question about 1.4%. This confirms the hypothesis that small developing countries are economically more vulnerable to terrorism than wealthier countries with a diversified economy. Rose et al (2008), using the multi-regional cross-sectoral relations model called REMI, showed a reduction in US GDP of at least US \$ 1.4 trillion, that is, about 10.5%. Sandler and Gaibulloev (2008) show on Western Europe the negative impact on growth of political violence and transnational terrorism over the period 1971-2008. The impact is explained with a simultaneous equation model on panel data composed of the economic growth rate and the investment rate. Domestic terrorist attacks reduce growth by 0.15%, while transnational attacks lead to a 0.4% decline in growth.

The coefficient of domestic terrorism is relatively low and statistically insignificant. A similar result is found by Blomberg, Hess, and Orphanides (2004) and Tavares (2004) for different periods and country samples. Gordon, Moore and Richardson (2008) present the different operational models of economic analysis of terrorist acts. In the case of Southern California, an inter-sectoral planning model based on transaction flows between intermediate and final producers is used to measure regional economic impacts. They trace all the economic effects, especially those of intra-regional and inter-regional shipments, generally at a high level of sectoral disaggregation. These models most often obey variations in demand, but there are certain applications in which supply is decisive. Park et al (2008) describe the National Interstate Economic Model (NIEMO), which is an operational version of the Chenery-Moses cross-sectoral multi-sectoral relationship model for 50 US states and 47 sectors, driven by shifts in demand. or those of the offer. This model measures the effects of terrorist attacks on corporate purchases and sales and the short-term consequences. In one of the few studies on Nigeria (Edobor, 2012) reveals that terrorism does not directly impact GDP and foreign direct investment in the short term. It leads to a reduction in business activity that affects GDP in the long run.

Moody's service investors (2015) shows from a sample of 156 countries that the type and frequency of terrorist events in 2013, in the top 10 ranked by the value of its terrorism index, immediately weakens GDP growth by 0.51. at 0.80pps. GDP growth further deteriorates between 0.37pps and 0.59pps after one year of attack, and by 0.05pps and 0.07pps after three years. This means that in the absence of terrorist events, a country's GDP could be 1.1% to 1.7% higher. The results also show that one-year events affect investment and investment. government's cost of borrowing. Investment growth decreases the year of the attack and leaves the investment level between 1.8% and 1.8%.2.8% lower. Yavuz&Türker (2017) show that the increase in terrorist activity at the national and international levels and the measures taken against them have led to an in-depth analysis of the economic consequences of terrorism. Terrorism causes significant changes in the base building blocks of the national and global economy by influencing the activities, behaviors and expectations of citizens economic units. Terror negatively affects the development and growth of countries. Sana &Shafi (2018) developed a "negative binomial regression model" to study the extent and importance of counterterrorism effectiveness. They also use the ARDL test to examine the causal link between economic growth and the effectiveness of counterterrorism. The result shows that there are long-term impacts of anti-terrorism policies on economic growth. The results also imply that counterterrorism strategies may not be able to limit violence if strong political support is lacking.

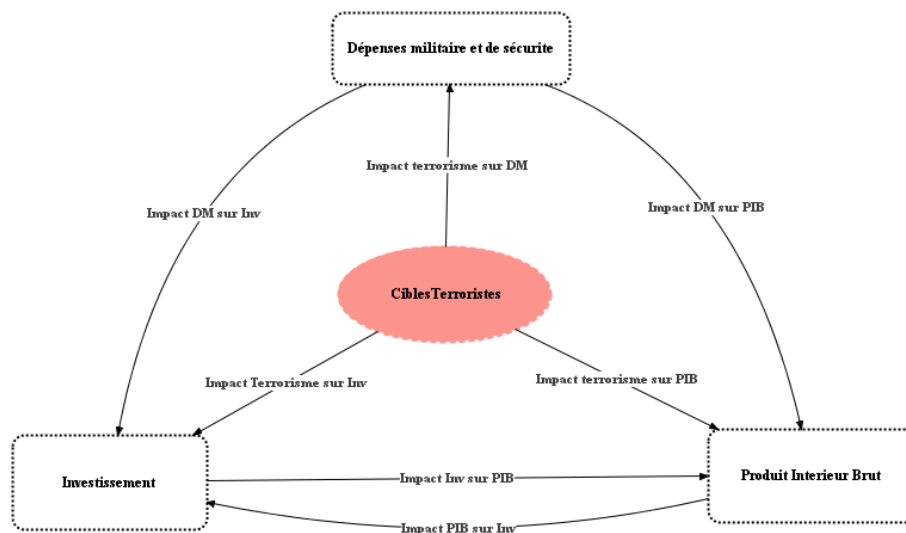
3. Methodological

3.1. The theoretical model

We constructed a model describing the mechanisms by which terrorism influences economic activity. The goal is to study the network of existing relationships between the measured variables. The use of such a model makes it possible to take into account the direct and indirect effects of terrorism on economic activity. This makes it possible to define the notion of total effect which is the sum of the direct and indirect effects. The variables involved in the model are military expenditures as a percentage of GDP (DM / GDP), terrorist targets grouped in the terrorism variable, foreign direct investment (FDI) as a ratio of GDP (FDI / GDP) and gross domestic product. (GDP). The concept map below describes the direct and indirect effects of terrorism on GDP.

We assume that terrorist attacks on targets increase military spending (DM), decrease foreign direct investment (FDI) and GDP due to insecurity. Investments and DMs also have direct effects on GDP. The indirect effects of terrorism on GDP include the induced decline in investment and the crowding out of private investment by rising military spending, and this increase has negative effects on GDP. In the concept map below, the unidirectional arrows illustrate the regression relationships: "explanatory variable" to "Variables to explain" present in the model. The double arrows illustrate the covariation that can exist between two variables of the model (or of a variable with itself, that is to say, its variance).

Structural Equation Model: Impacts of Terrorist Targets



Source : Author

3.2. The empirical model

The equation system below describes a composite error model. We assume that terrorism is measured through targets that affect public spending, especially military spending, investment, and economic growth (Blomberg, Hess, and Orphanides (2004) and Sanddler and Gaibulloev, 2008). . The system of equations we are going to estimate is:

$$TCGDPIB_{it} = \alpha_0 + \alpha_1 (\text{Depmilit}/\text{GDP})_{it} + \alpha_2 * (\text{Inv}/\text{GDP})_{it} + \sum_{i=1}^8 \mu_i (\text{terrorist target})_{it} + u_{it} \quad (1)$$

$$(\text{Inv}/\text{GDP})_{it} = \delta_0 + \delta_1 TCGDP_{it} + \delta_2 (\text{Depmilit}/\text{GDP})_{it} + \sum_{i=1}^8 \varphi_i (\text{terrorist target})_{it} + \varepsilon_{it} \quad (2)$$

$$(\text{Depmilit}/\text{GDP})_{it} = \theta_0 + \sum_{i=1}^8 \theta_i (\text{terrorist target})_{it} + \omega_{it} \quad (3)$$

The first equation represents economic growth in terms of military and security spending, the investment rate (Inv/GDP) available in the economies, and targets targeted by terrorists. Equation 2 (Inv/ GDP) represents the investment rate that changes with the growth rate of GDP and terrorist targets. Equation 3 describes the evolution of the share of the military and security according to the GDP growth rate. The Target Terrorist variable represents the targets targeted by terrorists in the different countries of the Sahel. The estimation of these three equations makes it possible to have the impacts of terrorism on the economic activity of the Sahel countries. The targets of the terrorists selected are recorded in the appendix.

4. Sources of data and variables used in the model

4.1. Sources of data

The data used in this study come from Global Data of Terrorism (GDT) 2015 and World Economic Outlook (WEO) (2015) from the International Monetary Fund for the period 1970-2015. We collected information on the Sahel belt of eight countries (Burkina Faso, Cameroon, Chad, Mali, Mauritania, Niger, Nigeria and Senegal). The economic variables (economic growth rate, total investment rate and the share of military expenditure in GDP) come from WEO. The variables representing terrorist targets come from SLM. These include airports, education centers, food depots, embassies, journalists, military, government, private and public bodies, terrorist attacks, tourists and transport infrastructure.

4.2. The variables used in the model

The GTD (2015) defines a terrorist attack as the unlawful use of force and violence to achieve a political, economic, religious, or social purpose by coercion or intimidation in order to scare. In practice, to regard an incident as a terrorist act, the GTD retains the following three criteria: the incident must be intentional and is the result of a conscious calculation by the author; the incident must include some level of violence or immediate threat of violence; perpetrators must be national actors. The database does not include acts of state terrorism. To be selected as a terrorist attack, at least two of the following three criteria must be present for an incident to be detained:

Criterion 1: The act must aim to achieve a political, economic, religious or social objective. In terms of economic objectives, the exclusive pursuit of profit does not meet this criterion. It must involve the deep pursuit of economic and systemic change.

Criterion 2: There must be evidence of an intent to coerce, intimidate or convey another message to a wider audience than the immediate victims. The terrorist act is considered in its entirety as long as one of the planners or decision makers behind the attack intended to compel, intimidate or make known meets the test of intentionality.

Criterion 3: The action must be outside the context of war activities. In other words, the act must be outside the norms authorized by international humanitarian law (in particular the prohibition against targeting deliberately or non-combatants civilians).

1- Government

The Government variable represents attacks by organs or members of the government. It also includes members of political parties, convoys, events sponsored by political parties.

2- Military

It includes attacks on military units, convoy patrols, checkpoints and airplanes. Also, this variable does not include attacks by militias, rebels and guerrillas that are included as Terrorism / Militia / Guerilla. This variable includes attacks by peacekeeping troops.

3- Airport

These are attacks against planes and airports, against employees of airlines.

4- Diplomatic representations

These are attacks against diplomatic missions, including embassies, consulates etc. The variable also takes into account cultural centers that have diplomatic status, attacks against diplomats and their families. The United Nations is a target.

5- Educational institution

These are attacks against schools, teachers, the security service responsible for protecting schools and school buses. It also includes attacks against university professors and against religious schools. If the attacks are not specifically directed against schools, universities and educational institutes, they are coding as targeting private and citizen property. Attacks against military schools are excluded.

6- Food Depot

These are the attacks against the reserves of water and food. It takes into account the attacks of infrastructures intended for the manufacture of food.

7- Journalists

It includes attacks on reporters, assistants, photographers, headquarters and offices. The attacks against the facilities of transmission are ranked in the variable "telecommunication" below.

8- Citizens and Private Properties

This variable takes into account individual targets and victims who can be identified by their names, ages, occupation, gender or nationality. This value includes ceremonies. It includes a significant number of attacks against students. If the attacks are not specifically directed against schools and Universities and other educational institutions, these attacks are recorded in this variable. It also takes into account incidents of political party activists and police informants.

9- Religious institutions.

This value includes attacks against religious leaders (Imans, Pastor, Faithful) religious institutions (Mosques, Church), places of pilgrimages. It takes into account the attacks of organizations affiliated with religious entities that are not non-governmental organizations or schools.

10-Telecommunications

It takes into account the transmission infrastructures. More specifically, this value includes the transmission antennas of mobile phones, television, radios.

11- Tourists

This variable includes targets such as tourists, hotels. Tourists are people who travel for pleasure and to have fun. Government tourism offices are included in this variable. Attacks must be clearly targeted at tourists, not the assault on the transportation system used by tourists or a business.

12- Transportation (other than airplanes)

Attacks on the public transport system are included in this variable (minibus bus, trains, bridges and roads) The GTD contains a number of attacks referred to generically as "cars" or "vehicles". supposedly carried out against the private.

13- Violence on the political parties

This variable contains attacks by groups engaged in political parties.

5. Results and implications

The model fits well to the data. The p-value (0.62%) of the chi-square statistic that reflects the difference between the network of relationships theoretically specified between the variables of the model and the network of relationships in the data between the different variables observed is greater than 5%.

The coefficients of determination of the three equations (GDP Growth Rate, Investment / GDP, Military and Security Expenditure on GDP) are respectively equal to 36.8%; 34.3%; 36.2%. The Structural Equation Model made it possible to estimate the direct, indirect and total effect of terrorism on the growth rate of gross domestic production (TCPIB), the investment rate (I / GDP) and the military and defense expenditures security (DMSEC).

5.1. The direct effects of terrorist targets

5.1.1. Effect on GDP growth rate

The table 2 (appendix) shows the direct effects of terrorist targets on growth, investment rate, and military and security spending. Terrorist targets that have a direct and significant effect on the growth rate are: living depots, journalists, marine infrastructure, military and tourists. Following a terrorist attack, the effects are negative on the rate of growth. Indeed, the coefficient of the target "deposits of living is equal to -2.962% and is significant at 1%. The attacks of journalists lead to a decrease of 0.702% of the GDP growth and is significant to 10%. It is the same for the maritime targets (-0.939%), military (-0.471%), the tourists (-2.547%). If the air transport is affected (Airport), the tourism industry is not the rest and this long-term analysis makes it possible to measure the effects of terrorist acts of tourism. Tourism is one of the sectors most affected by terrorist acts. He is frequently the target of terrorists. This sector is often impacted via two effects. Attacks targeting tourist sites, will have a strong international media impact because of the arrival of tourists from several nationalities. These attacks are highly publicized because of the arrival of tourists from several nationalities. Initially, the multiplication of terrorist acts results in a decrease in bookings, or even cancellations, leading to the fall in tourism receipts (Income effect). Secondly, the climate of insecurity created by the terrorist threat prevents modernization of the sector, thus reducing investment. The consequence is that the other actors of the economy cannot profit from it (quality effect).

The investment rate, which is a key determinant of growth, has a positive effect (0.215%) and is significant at 1% on the GDP growth rate. The magnitude of the target's impact depends on the importance of the sector in the economy and its sensitivity. The impact of military and security spending is -0.715% on the crescent rate of the Sahel countries. This decrease is explained by the fact that military and security expenditures are a net outflow of the economic circuit since they contribute neither to the accumulation of capital nor to the renewal of the labor force. These expenditures are for the most part unproductive of resources (intended to pay wages). It should be noted that the effect of military and security spending is more or less important depending on whether it is a reduction in investment or consumption and reduces either the volume of capital and hence the volume of GDP, ie the per capita consumption. The decline in growth is leading to a rise in terrorism. We can distinguish two transmission channels. First, weak economic growth as a result of terrorist attacks increases unemployment and poverty, which are factors fueling terrorism in the Sahel. Then, the decline in growth leads to the reduction of resources (tax revenues) of the State. This can compromise anti-terror policies in the region.

5.1.2. Effects on the investment rate (I / GDP)

Economic growth and military and security spending respectively have a positive (0.175%) and negative (-0.359%) impact on the investment rate and are significant at 1%. The increase in military spending credits has two effects: an absolute eviction effect on investment which decreases following cuts and a negative induced effect because it leads to a decline in the economic growth of the Sahelian countries. The defense and security effort is at the expense of public investment in particular. The negative impact of military and security spending results from the reallocation of budget appropriations initially earmarked for public investment and subject to a credit transfer for counterterrorism. This results in increased military spending and simultaneously lower investment. Other terrorist targets that have a significant and negative impact on investment are: educational institutions (-1.776%), diplomatic representations (-2.174%), government infrastructures (-1.241%), journalists (-1.687%), police (-1.672%), citizens and private (-1.201%), religious figures (-1.627%), telecommunications (-1.995%), transport (-2.250%). The above targets all have different effects on investment, especially foreign direct investment, which is drastically reduced under the influence of the socio-political instability created by terrorist attacks (see Allé Nar Diop and Sidy Kane, 2012).

They lead to a drop of more than one percent in the investment rate. This results in a significant indirect impact on the growth rate.

5.1.3. Direct Effects on Military and Security Expenditures

Terrorism has, often after each attack leads to the adoption of new security rules entailing military and security expenditures. This confirms our results. Indeed, terrorist attacks have a positive and significant direct effect on military and security spending.

Indeed, the attacks against educational institutions increase military and security spending by 0.817% and significant to 1%, that which targets living deposits leads to an increase in security expenditure of 1.492% but is significant to 10%. Military and security spending increased by 0.769% for attacks on diplomatic representations because of the security guarantee given to diplomats, embassies and consulates, but only 10%. The same is true for government infrastructure (0.529%), maritime infrastructure (0.471%), attacks on the military (0.955%), non-governmental organizations (1.493%), police (0.758%), citizens and private properties (0.533%), religious figures (0.780%), tourism (2.095%) and transportation (1.165%). These last two targets have the highest impacts because of their economic weight and in particular the country's image of tourism. We note that, whatever the target attacked, the consequence is the increase in counterterrorism spending that is often determined on a discretionary basis, given the stakes and the impact on the economy and the security of the targeted targets.

Overall, the nature of the targets determines the impact on investment, military and security spending, and economic growth. Terrorist attacks have a direct negative impact on investment and economic growth and contribute to the upward revision of military and security spending, which negatively affects growth and investment and growth. The Sahel countries are fragile and economically undiversified. As a result, they are potentially very vulnerable to the indirect effects of terrorism.

5.1.4. Indirect effects of terrorist targets

The indirect effects of terrorist attacks are obtained by analyzing the structural model (table 3, appendix). The indirect effects on economic growth are due to the effects of reduced investment and increased military and security spending. The indirect effects on investment are evaluated following the reactions of military and security expenditures. They are weaker than the direct effects. The impacts are negative. Targets having a significant indirect impact on growth and investment are: military and security spending (-0.0772%); education with -0.455% and -0.293% respectively; government infrastructure with -0.307% and -0.189%; Attacks against journalists have only an indirect effect on economic growth because of the media coverage that amplifies the climate of insecurity that investors in the target country have. The impact of military attacks on growth and investments are -0.190% and -0.342% respectively.

The attacks directed against the Non-Governmental Organization lead to a -0.536% decrease in investments due to the fall in their intervention but also the negative signal that it emits to investors who reduce or relocate their investments to safer countries. Attacks on police stations reduce growth by 0.418% and investment by 0.272%. When citizens and the private sector are the targets, the effects on growth and investment are -0.299% and -0.1912%. The climate of fear installed by terrorists decreases the mobility of citizens and slows their activities, which negatively affect growth and investment. Attacks against religious institutions and figures led to a drop in growth of -0.410%. Religious institutions and figures play an important role because they enlist a large part of the population in the Sahel countries. The violence directed against them has negative effects on the activity because it can lead to retaliation which amplifies the insecurity and the risk of decline of the activity.

Telecommunications is a major contributor to GDP in the Sahel countries. Attacks against telecom infrastructure reduce growth by -0.498% and investment by -0.319%. Terrorism against tourist sites decreases the investment rate by -0.752%. These sites are mostly home to foreigners and insecurity increases the risk in the area and lowers the occupancy rate of the receptacles. This has the effect of lowering the investment rate. The same is true of the transport sector. In fact, the insecurity engendered by the attack on urban transport means a desertion of the latter thus lowering the growth of 0.574% and the investment rate of 0.418%. Violence against political parties leads to a decrease in growth of 0.446%. Like direct effects, the indirect effects of terrorist targets on growth and investment are all negative and the cost of the attack depends on the targeted sector of activity and the sum gives the total effect recorded in Table 4 in appendix

6. Conclusion

This article allowed us, in the case of the Sahel countries over the period 1974-2014, to build a Structural Equation Model (SEM) to explain a network of relations linking economic growth, investment, military and public expenditure to highlight the impact of terrorist acts and in particular terrorist targets on these variables of interest. The equation system explains the interactions between the imperatives of economic growth, investment and the fight against terrorism. The model has also allowed us to break down the impact of terrorism in the Sahel into direct and indirect effects on economic activity.

Terrorist targets have negative direct and indirect effects on economic growth and investment and result in a reallocation of budgetary resources to military and security spending, which in turn reduces public investment and growth.

Also, the sharp increase in spending on counter-terrorism is accompanied by a thorough examination of costs. In addition, increased security measures can reduce the level of productivity due to longer wait times at airports and borders. The impact of terrorist acts makes the Sahel economies vulnerable. The latter are not very diversified and are more vulnerable to terrorist attacks that jeopardize investment projects thus slowing down economic activity. To secure the Sahel belt, the pooling of budgetary resources for security is necessary and requires the creation of a sub-regional security agency. To this will be set the Military and Security Objectives for the Development of the Sahel (OMSDS). At the institutional level, good military and security spending involves legislative and regulatory initiatives to set rules for information policy and access to information to avoid wastage, fraud and abuse that are rarely reported in the security sector. This article has limitations on not taking into account in the private security expenses that are very important. Other studies taking into account the type of attacks (explosion, kidnapping and ..) can also be conducted to deepen the impact of terrorist attacks on the vulnerability of the Sahel economies. Finally, the redefinition of terrorism, taking other criteria than the one used in this article can have an impact on the results.

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Appendix 1 : terrorismstatistics

Table 1 : Terroristtargets de 1974 à 2014

Cibles	Number of attack	Parentage (%)
Airports& Plane	9	0,32
Business	270	9,57
Educational Institution	118	4,18
Deposit to live	3	0,11
Diplomaticrepresentation	58	2,06
Government	330	11,69
Journalists& Media	29	1,03
Maritime	28	0,99
Military	301	10,67
Non-governmentalorganization	17	0,6
Other	7	0,25
Police	311	11,02
Privateproperty and citizen	937	33,2
Institution and religious figures	168	5,95
Telecommunication	36	1,28
Terrorists / Militia	14	0,5
Tourists	10	0,35
Transport	56	1,98
do not know	53	1,88
Utilities	51	1,81
Political party violence	16	0,57
Total	2822	100

Source : GDT 2015/ *Author*

Table2 : Directs effects

Variables	GDP	I/GDP	DMSEC
Militaryexpenditure and security	-0,715*** (0.071)	-0.359*** (0.0814)	
Airport	-1.408 (1.263)	-7.342 (2.335)	0.845 (0.895)
Business	-0.0787 (0.176)	-0.485 (0.326)	-0.183 (0.125)
Education	0.162 (0.212)	-1.776*** (0.395)	0.817*** (0.149)
Food depot	-2.962** (1.259)	2.892 (2.337)	1.492* (0.895)
Diplomaticrepresentation	-0.117 (0.579)	-2.174** (1.073)	0.769* (0.411)
Government Infrastructure	0.240 (0.179)	-1.241*** (0.331)	0.529*** (0.126)
Journalist	-0.702* (0.422)	-1.687** (0.782)	0.239 (0.299)
Maritime	-0.939*** (0.329)	0.547 (0.611)	0.471** (0.234)
Military	-0.471** (0.194)	-0.541 (0.366)	0.955*** (0.137)
Non-governmentalorganization	-1.154 (0.896)	-0.0595 (1.665)	1.493** (0.637)
Police	0.244 (0.176)	-1.672*** (0.327)	0.758*** (0.123)
Citizens and private	0.162 (0.169)	-1.201*** (0.313)	0.533*** (0.119)
Religious figures	0.269 (0.195)	-1.627*** (0.361)	0.780*** (0.137)
Telecommunication	0.264 (0.270)	-1.995*** (0.501)	0.889*** (0.190)
tourists	-2.547** (1.259)	1.891 (2.340)	2.095** (0.895)
Transport	-0.390** (0.424)	-2.250*** (0.786)	1.165*** (0.299)
Violence on political parties	0.0410 (0.422)	-2.023*** (0.781)	0.143 (0.299)
TCGDP		0.175*** (0.0291)	
I / GDP	0.215*** (0.0154)		
Constant	1.521*** (0.409)	26.75*** (0.851)	8.893*** (0.103)
Observations	320	320	320
R²	0,368	0,343	0,362

Source : GDT 2015/Autour

Table3 : Indirects effects

Variables	GDP	I/GDP
Militarysecurityexpenditures	-0,0772***	
	-0,017	
Airport	1,514	-0 ,303
	-0,518	0,328
Business	-0,0903	0,065
	-0,071	0,047
Education	-0,445***	-0,293***
	-0,090	0,085
Food depot	0,507	-0,535
	-0,508	0,343
Diplomaticrepresentation	-0,527**	-0,276*
	-0,235	0,160
Government Infrastructure	-0,307***	-0,189***
	-0,074	0,062
Journalist	-0,381**	-0,085
	-0,172	0,109
Maritime	0,154	0,169
	0,132	0,092
Military	-0,190**	-0,342***
	0,079	0,092
Non-governmentalorganization	-0,128	-0,536**
	0,361	0,258
Police	-0,418***	-0,272***
	0,076	0,075
Citizens and private	-0,299***	-0,1912***
	0,070	0,060
Religious figure	-0,410***	-0,280
	0,082	0,080
telecommunication	-0,498***	-0,319***
	0,113	0,994
tourists	0,245	-0,752**
	0,507	0,143
Transport	-0,574***	-0,418***
	0,174	0,143
Political party violence	-0,446***	-0,051
	0,172	0,108
Observations	320	320

Source : GDT 2015/Author

Table1 : Total effects

Variables	GDP	I/GDP	DMSEC
I / GDP	0,215*** 0,015		
Militarysecurityexpenditures	-0,077*** 0,017	-0,359*** 0,081	
Airport	0,107 1,35	7,037 2,356	0,845 0,894
Business	-0,168** 0,189	-0,419 0,328	-0,182 0,124
Education	-0,283** 0,226	-2,069*** 0,393	0,817*** 0,149
Food depot	-2,455* 1,357	2,356 2,357	1,491* 0,894
Diplomaticrepresentation	-0,644** 0,622	-2,449*** 1,081	0,768* 0,410
Government Infrastructure	-0,068** 0,191	-1,431*** 0,331	0,528*** 0,125
Journalist	-1,083*** 0,454	-1,772*** 0,789	0,239 0,299
Maritime	-0,785*** 0,354	0,716 0,615	-0,470 0,233
Military	-0,660*** 0,208	-0,884*** 0,362	0,954*** 0,137
Non-governmentalorganization	-1,281* 0,965	-0,595 1,677	1,493*** 0,636
Police	-0,174* 0,186	-1,943*** 0,324	0,757*** 0,123
Citizens and private	-0,137 0,180	-1,392*** 0,313	0,532*** 0,119
Religious figure	-0,141 0,207	-1,907*** 0,360	0,780*** 0,136
telecommunication	-0,234 0,288	-2,314*** 0,500	0,889*** 0,190
tourists	-2,302* 1,357	1,138 2,357	2,095*** 0,894
Transport	-0,964** 0,454	-2,668*** 0,789	1,164*** 0,299
Political party violence	-0,405 0,454	-2,074*** 0,788	0,142 0,299
GDP		0,175***	
I / GDP		0,029	
Observations	360	360	360

Source : GDT 2015/ Author