Same old, same old: The impact of colonialism on new states' defence strategy

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The impact of colonialism on new states' defence strategy

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Introduction

Colonisation has long been considered a dark chapter of history, whose influence continues to loom over countries still today. It is not a secret that former colonies often retain elements from the colonisers' cultures and languages. However, the colonial power's impact may extend well beyond cultural heritage. Would it be unreasonable to assume that the colonial experience also tinted the ex-colony's strategic preferences even after independence?

This thesis aims to investigate exactly this topic. Former colonies can be considered formally new states, leaving behind a more or less long experience of being subjugated to foreign powers' control. A fact that is often overlooked, nonetheless, is that many colonies did not completely get rid of colonial administrative structures upon decolonisation. Therefore, the change in leadership these 'new states' experienced was often not as radical as it is usually imagined. Moreover, differences in leadership change across colonies can be assumed to have diverging outcomes after independence. The degree of change occurring from colonial administration to national independence can be a way to measure how 'new' an independent state really is. This is puzzling because Silove (2018) states that grand strategy requires a long time to develop, implying that new states will struggle to elaborate an efficient strategy (p. 46). It is then a question of whether this can be verified within former colonies, since Silove (2018) highlights the link between newness of a state and national strategy.

In particular, this thesis will look at 'new' states' security strategies. Countries experiencing varying changes in leadership might rightfully feel more or less vulnerable and adjust their military investments accordingly. Therefore, what this thesis explores is the relationship between the newness of a state, calculated on the basis of administrative autonomy before and after decolonisation, and the country's defence strategy. Therefore, the research question at the base of this thesis: *How did the degree of colonial administrative autonomy affect ex-colonies' national defence strategies?*

Not only will this analysis investigate a relationship disregarded by academia, but it will also test whether there is a pattern of strategic choices across countries. States deemed more vulnerable could use this analysis to gather allies and show the benefits of adopting specific strategies. The identification of which colonies enjoyed the biggest autonomy will also provide deeper understandings of the state's historical legacy and administrative roots, which are key factors for political leaders to consider when stirring the nation's grand strategy.

Overall, this research is relevant for colonialism scholars, defence policymakers, and political leaders alike.

Literature Review

In the field of international relations, many scholars mention colonialism. Especially when referring to developing countries and international development, the past of certain states as colonies often emerges. Nonetheless, academia continues to debate about what colonisation exactly entails and to what extent it affected today's ex-colonies.

A notable scholar suggesting a first definition and classification of colonialism is Horvath (1972). He states that accounts of colonialism are often written from subjective and emotional points of view, undermining the scientific conceptualisation of this phenomenon (p. 45). Therefore, he breaks down colonialism to its core features, which according to him are a group dominating over another culturally different group (p. 46). The first relevant insight for the purpose of this research is that he acknowledges that different types of colonialism exist. In fact, he states that 'colonialism' needs the presence of settlers on the dominated territory, while 'imperialism' happens without significant numbers of Europeans moving to that territory (p. 47). Most importantly, he states that "The countries involved are noticeably different today, in part, because of the nature of the domination process" (p. 47). Therefore, Horvath (1972) already raises the question of how colonial experiences of different kinds have affected the current independent countries, which is exactly what this research aims to explore.

Despite Horvath (1972) being one of the first and most credited scholars to question the varieties of colonialism and their impact, more recent authors come to similar conclusions. Indeed, Cappelen and Sorens (2018) highlight that French and British colonies were run differently, and this difference may have had consequences for the state even after independence (p. 197). It is therefore paramount to firstly understand what types of colonial administration existed.

Types of colonial administration

Colonial administration can be considered a spectrum going from the complete subjugation of indigenous elites to a considerable degree of autonomy entrusted to them. The most common kind of colonial administration is indirect rule. Cooke (2003) claims that this type of

administration characterised most British colonies (p. 47). As he explains, indirect rule consists in co-opting local chiefs and institutions, limiting British control to an indirect form of influence (p. 48). According to the administration scholarship of the time, this would guarantee a stabler form of power than replacing the ruling class with British officers, who did not know the local territory and customs (p. 49). At the same time, these British officials had veto powers over local ruling elites, so they could not initiate military actions or levy taxes unilaterally (p. 50). Therefore, indirect rule can be considered a middle-ground when it comes to the autonomy of colonies. Local chiefs retain their powers, but they are limited by European colonisers. For the purpose of this research, this is a significant conclusion: it shows that when these colonies became independent, they did not undergo a full change of ruling class, because local chiefs were already in power albeit with some constraints.

Despite this general trend of indirect colonial rule, many other factors create nuances between a complete derangement and the continuation of local administration. In particular, Burke (1969) focuses on the role of schools of administration created before the colonies' independence. In these schools, European officials taught local elites how to perpetuate the administrative and bureaucratic aspect of the colony after independence (p. 348). This ensured a continuous leadership before and after the decolonisation process, so the formal change of sovereignty from the coloniser to the new state happened with relative stability of the ruling institutions (pp. 349-350).

The most independent type of indirect colonial rule was the protectorate. Chua and Poullaos (2002) claim that these colonies enjoyed full autonomy to handle their internal affairs (p. 410). Local institutions worked towards local interests and sometimes even gathered enough authority to threaten European control in the area (p. 411). Chua and Poullaos (2002) do not mention schools of administration in protectorates, which would have complemented Burke (1969)'s research. However, it seems logical that protectorates without European schools of administration would be even more autonomous, since the colonising power would not meddle with the administration techniques of local authorities.

On the opposite end of the spectrum there is direct rule. This form of governance consisted in replacing traditional governing institutions and chiefs with personnel either from or selected by the colonial power (Cappelen & Sorens, 2018, p. 198). Such process implied a drastic change to the pre-existing system of traditional rule, which stripped local communities of any

authority and self-determination powers (Cappelen & Sirens, 2018, p. 199). Cappelen and Sorens (2018) mainly associate this kind of rule with the French colonialism, while the British mainly relied on indirect rule to incur into lower costs (p. 197). In French colonies, there is less variation of methods of administration, with virtually all colonies being directly subjugated to French officials and governance, with few exceptions.

However, there is a uniquely French administrative figure which could bring nuance to colonies under direct rule. This is the so-called *commandant de cercle*, i.e. a French colonial administrator purposefully kept in the dark about local languages and customs, whose job was to impose the French way of dealing with administrative affairs (Müller-Crepon, 2020, p. 713). For Müller-Crepon (2020), this figure shows how much French colonial administration tried to stifle local elites and their methods, unlike British rule (p. 712). Bouvier (2018) also highlights the role of these *commandants*, stating that they were almost solely in charge of spreading French administrative ways and tightening control on local affairs (p. 28). Moreover, he mentions that whenever they visited colonial departments or offices, they were also educators for the indigenous elites (Bouvier, 2018, p. 33). Therefore, French administrators managed to exert some sort of policy transfer down to local elites, but this happened in less systematically than the British schools of administration.

As it may be noticed, academics agree that different types of colonial administration existed, but a systematic and comprehensive classification of these is still lacking. Nonetheless, from this overview of articles exploring colonial administration, one can already reach some conclusions. Firstly, protectorates represent the most autonomous kind of colony, as the local chiefs enjoyed sovereignty regarding internal affairs. Secondly, there is indirect rule as general form of governance. Thanks to Burke (1969)'s arguments, a further nuance emerges between colonies governed through indirect rule. Colonies without schools of administration run by the coloniser enjoyed more autonomy and thus continuity between local strategies before and after colonisation. Consequently, colonies under indirect rule but with schools of administration were less free to develop their own administrative strategies and are therefore one step below in the autonomy scale. Next, the typically - but not exclusively - French direct rule consists of taking formal and practical powers out of the hands of local governing institutions and elites. Again, there is a slightly less invasive context where the coloniser substituted decision-makers with European or European-loyal officials. Instead, at the end of

the autonomy scale as most dependent colony type is direct rule, with the addition of *commandants de cercle* actively erasing indigenous administrative know-how.

The distinction between types of colonialism is important because colonial administration impacted modern-day ex-colonies and their development. Several scholars share this view, claiming that the continuity between administration and institutions during colonial times and after independence affected state-building capacities. Cappelen and Sorens (2018), as previously stated, mention this connection (p. 197). Ali et al. (2015) follow the same argument and deepen it. They, for instance, explain how this difference in administration led to different national and ethnic sentiments (Ali et al., 2015, p. 1049). Moreover, they conclude that British colonies show a weak state capacity when it comes to tax enforcement and crime prevention (Ali et al., 2015, p. 1051). Therefore, especially Ali et al. (2015)'s research aligns with the expectations of this research, which will investigate the link between colonial administration and post-independence national strategy.

Literature gap

Despite the body of literature on the impact of colonialism, there surprisingly is a knowledge gap. No scholars have analysed the impact of colonial administration on the security strategies adopted by the independent state. Austin (2010) focuses on a very similar topic, linking colonial administration to current economic policy, but his research does not shed any light on the link to defence strategy (para. 1). Ali et al. (2015) are the only ones mentioning security as an indicator, but they interpret it as crime rates by non-state actors (p. 1051). Therefore, there is a lack of research on whether different degrees of colonial autonomy led to diverging national security strategies. In this research, security strategy is seen as the way in which a state allocates its resources to attain security. Academia has yet to accurately analyse whether today's state' security strategy can be explained by their colonial past. Thus, this is the literature gap that this research will try to fill.

Theoretical framework

In order to analyse the relationship between the continuity of colonial administration and security strategy, it is first necessary to investigate the theoretical expectations laid out by different theories.

A first theoretical pillar of this research are theories about states' priorities. Upon independence, colonies had to build capacity and set-up a somewhat new state, albeit with some continuity with the colonial system, as the literature review highlighted. New states initially have limited resources and authority, so they need to choose which goals to prioritise with their national strategy. When asked about states' ultimate priority, neorealist scholars would answer that states firstly value security, because it enables them to survive in a competitive and anarchic international system. Among the most renowned scholars supporting this view is Waltz (2010), who writes that states' priority is not necessarily to maximise their power, but rather secure their spot in the international order (p. 126). Since realists consider power as mainly military, it follows that the priority of states is to enhance their military power to ensure survival. The link to post-colonial states would come from the fact that they are 'new' states trying to establish their authority after independence. The behaviour of these states would be explained, from a neorealist point of view, by their pursuit of survival.

Despite their relevance, neorealist assumptions do not create clear expectations for the outcome of this research. A theoretical model which better links ex-colonies and their security strategy is the resource extraction model mentioned by Taliaferro (2006). This model describes how states use the resources they extract, e.g. taxes, to achieve certain goals. The specific goals change depending on the state's vulnerability and capacity to mobilise its citizens. To predict the relationship between these two factors and the resulting state goals, Taliaferro (2006) highlights four key assumptions. The most relevant one for this thesis is that countries with high external vulnerability and low mobilisation capacity will try to imitate successful powers' defence tactics and fail (p. 467). This assumption is applicable to post-colonial states because they have low mobilisation capacity, because they undergo a change in leadership, and high external vulnerability because they were recently created (Ali et al., 2015, p. 1049). Taliaferro (2006)'s conclusions then create the expectation that former colonies will try to develop an advanced defence sector because they are weaker than established powers and thus feel threatened.

A similar expectation relating to the extractive capacities comes from Zakaria (1999). He supports state-centred realism, whose main tenet is that a state's structure limits its capacity and thus dictates its policy preferences (p. 9). While he generally equates extractive capacity with the ability to levy taxes and having a centralised government, he also mentions

administrative capacity as key-component (p. 102). According to Zakaria (1999), limited administrative capacity is why the nineteenth-century United States' internal financial struggles severely hindered their influence abroad (p. 102). Applying this logic to former colonies, one would expect that countries with fragile administration will not have the means to affirm themselves militarily. In this case, fragility comes from a bigger shift from colonial to independent administration.

Taliaferro (2006) and Zakaria (1999)'s conclusions essentially point in the same direction: colonies with little autonomy will fail at building a powerful defence sector. In Taliaferro (2006)'s case, this could be interpreted as states investing a lot and yet being inefficient in gaining power. Instead, Zakaria (1999) assumes that destabilized administrations will not have many resources to invest to begin with. In any case, both theories support the existence of a link between administration and the defence sector.

The model of military dependence shares the same premise as Taliaferro (2006)'s. That is, former colonies intrinsically have high external threats because the coloniser's influence is still looming over them after independence (Crocker, 1974, p. 284). This model adds a further nuance to the aforementioned theoretical expectations. Crocker (1974) writes that the difference in colonial philosophy between the French and the British still has visible consequences on today's former colonies (p. 266). He expects, in fact, former French colonies to depend on French aid and military training because they were more used to intensive European presence in their affairs (p. 268). Conversely, British administration favoured local control and led to the United Kingdom not interfering as much in the military strategy of its colonies after independence (p. 284). This difference suggests that directly ruled colonies will benefit from superior military powers because they receive training and aid from the previous coloniser, while states already used exerting control over their security policy might be more autonomous and hindered in their security sector.

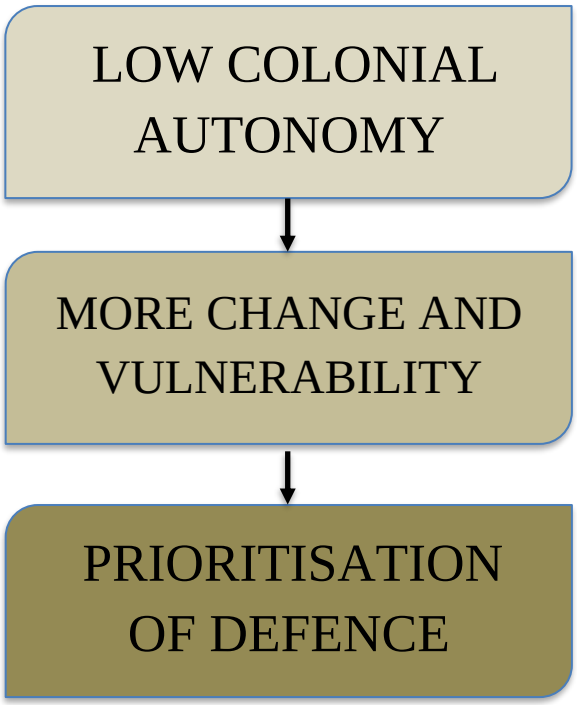
Hypotheses

Considering the theories and models presented above, it is possible to formulate the main hypothesis of this research. In fact, Silove (2018) suggests that the newness of a country could shape defence strategies:

H: Newer countries will increase their military defence.

As articulated in the literature review, this newness can be seen through to the type of colonial administration. Therefore, here newness is conceived inversely proportional to the degree of administrative autonomy granted to a colony. This means that the more a colony was autonomous, the least new their administrative system or elite is and vice versa. The first part of the hypothesis, then, will be substituted by 'Ex-colonies with low administrative autonomy' in the following sub-hypotheses.

This hypothesis is based on the idea that countries with less control over their affairs during colonial times will suffer a greater change in leadership and administration upon independence. Consequently, they will be more vulnerable to external and internal threats because the source of authority is relatively new and not well established yet. Taking from Taliaferro (2006)'s model, they would then increase their military efforts to ensure survival, also according to neorealist theory.



The resource extraction model of state-building, however, does not explicitly mention how to operationalise military defence, but it does revolve around how states employ their resources, especially monetarily (Taliaferro, 2006, p. 487). A first way to operationalise military defence is then to use the following working hypothesis:

H1: Ex-colonies with low colonial administrative autonomy will increase their military expenditure.

This could test how much states prioritise their defence sector depending on their colonial experience. However, authors like Talmadge (2015) point out that military expenditure does not necessarily translate to military effectiveness or sophistication (pp. 15-16). Therefore, other parameters need to be considered as well to building a more accurate picture. While military equipment could be a good indicator, it is hard to compare across countries due to the different nature of kinds of equipment. Including it in this research would then need the

creation of another variable weighting each kind of military equipment accordingly. Since this is not possible due to time and length constraints, the second working hypothesis includes military personnel as indication of the military balance:

H2: Ex-colonies with low colonial administrative autonomy will increase their military personnel

Looking at the difference in military balance across states is already a more accurate way of measuring defence strategy. Indeed, it shows what countries decide to invest in, and therefore how much trained population they consider necessary for their defence. As the resource-extraction model predicts, vulnerable countries will try to emulate more powerful ones. Therefore, it can be expected that states will increase their overall military investments.

Due to the constant innovations of military technology, however, the mere amount of money invested or the number of active military units do not reveal how sophisticated an army is. A country might have a large army yet with low-end and ineffective weapons. A proxy measure to compare the equipment of armies is to see how much a state invests per soldier (Beckley, 2010, p. 52). Therefore, the third hypothesis includes measures defence strategy through the ratio between military expenditure and personnel. In the following analysis, this will be referred to as 'military investment'.

H3: Ex-colonies with low colonial administrative autonomy will increase their military investment

One last aspect to consider is that defence strategy does not only occur through military means. As Morrow (2000) emphasises, alliances are a cheaper way to attain security than expanding one's army and military sector, which is why many countries decide to enter alliances despite the trade-off with national autonomy (p. 76). Therefore, a third working hypothesis will consider this aspect:

H4: Ex-colonies with low colonial administrative autonomy will enter more military alliances.

A complementary way of measuring the prioritisation of the military sector is to look at the effective power acquired. Ultimately, this is the best way to see firstly whether a country has enough equipment and secondly if they use it efficiently. To reiterate Talmadge (2015)'s point, merely possessing technology does not translate into the expertise needed to operate them (p. 17). Therefore, a fourth working hypothesis will be:

H5: Colonial administrative autonomy affects ex-colonies' national power.

This hypothesis is more ambiguous than the previous ones, because it does not focus on the input into the security sector but rather the outcome. Therefore, there could be other explanations in case the hypothesis is rejected after the analysis. In fact, if the analysis shows that less autonomous states actually have weaker military sectors, it could show that their national strategy was destabilised by the administrative changes at independence. Consequently, while they might choose to invest more, it is possible that they struggle to actually acquire the power they aim for. This alternative explanation is also consistent with Taliaferro (2006)'s idea that weaker states fail at imitating successful military strategies (p. 467). Thus, it is important to include this hypothesis because it could highlight other explanations in case the other hypotheses have to be rejected.
Lastly, the research will include an alternative explanation should the previous relationships not be significant. This explanation relates to Silove (2018)'s statement that time matters for the development of national strategy. Therefore, the last hypothesis of this research will try to verify this relationship. According to her statements, it is possible to hypothesise that:

H6: Ex-colonies with more time since independence will have a more developed national defence strategy.

Here the first independent variable is the number of years since national independence, while the outcome will be operationalised using the dependent variables introduced above. While not directly answering the research question, this hypothesis can test whether instead of colonial administration, time is indeed the major factor defining strategic choices.

Table 1. Overview of the hypotheses

H	*Newer countries will increase their military defence.*
H1	*Ex-colonies with low colonial administrative autonomy will increase their military expenditure.*
H2	*Ex-colonies with low colonial administrative autonomy will increase their military personnel*
H3	*Ex-colonies with low colonial administrative autonomy will increase their military investment*
H4	*Ex-colonies with low colonial administrative autonomy will enter more military alliances*
H5	*Colonial administrative autonomy affects ex-colonies' national power.*
H6	*Ex-colonies with more time since independence will have a more developed national defence strategy.*

Variables

To understand the variables in this research it is first beneficial to reiterate the research question: *How did the degree of colonial administrative autonomy affect ex-colonies' national defence strategies?*

The main independent variable is then the colonial administrative autonomy, while the outcome variable is the national defence strategy of former colonies. The question arises of how to best operationalise them. As already highlighted in the literature review, there is a lack of comprehensive scholarly works categorising colonial administration types. This thesis will then use an ad hoc created variable, with four categories going from the most to least autonomous type of colony. This variable was created considering the several indicators of European influence in local matters and the extent of adoption or erasure of local governing institutions. *Table 2* shows the four categories of the independent variable and their classification criteria.

Table 2. Categorisation of "Colonial administrative autonomy"

Category		***Criteria***
Full administrative autonomy	*Indirect rule*	- Local elites control internal affairs - No schools of administration or similar institutions - Have power of initiative
High administrative autonomy		- Local elites control internal affairs - May have schools of administration or similar institutions - No power of initiative
Low administrative autonomy	*Direct rule*	- Coloniser controls internal affairs - No European officials actively undermining local administration
No administrative autonomy		- Coloniser controls internal affairs - May have European 'commandants de cercle' or similar

Most importantly, the allocation of cases to each category will revolve around the administration type during the twentieth century. This is firstly because many countries in Africa shifted colonising power over time and thus experienced different kinds of administration depending on the historical moment. Secondly, the twentieth century is when

most of the countries gained independence, so it is logical to assume that the colonial system right before independence is what influenced the future national priorities. Instead, the independent variable relating to H6, i.e. the alternative explanation, is the time since independence simply expressed in numbers of years.

Concerning the dependent variable "national defence strategy", it will be measured through four other variables, one for each working hypothesis from H1 to H5. Therefore, the first dependent variable will be military expenditure, expressed as percentage of GDP. This makes the expenditure more comparable across countries than the actual sum of money invested. The second variable comes from the national military balance, with the active military personnel expressed as percentage of the working population. The third variable is a ratio of the aforementioned two, to indicate the distribution of investment per soldier. The variable used in H5, i.e. military power, will be measured through the World Power Index which combines military and non-military factors to show how powerful a country is in the international order (Morales Ruvacalba, 2019). Lastly, the fifth variable will be the number of security alliances a country enters. The alliances included are only those able to deploy military interventions, such as peacekeeping, and are multilateral. Therefore, merely economic or developmental organisations are excluded since they do not allow countries to rely on their military policies. What is relevant for the subsequent analysis is that all these dependent variables are continuous.

Together with these main variables, one must also consider factors which could confound the relationship between colonialism and security strategy. Ignoring factors possibly increasing armed forces could undermine the internal validity of this research (Halperin & Heath, 2020, p. 333). As Talmadge (2015) states, internal conflicts are sometimes a major determinant in the type of security policy that a state will adopt (p. 3). When an ex-colony faces internal conflicts such as a civil war or risk of a coup, it will intensify its military efforts. This could be problematic, because it is hard to differentiate whether the increase in military equipment is due to the change in administration or these internal struggles.

Therefore, the first control variable will be the Internal Violence Index, which agglomerates developing countries' internal armed conflict, criminality, political violence, and terrorist threat (FERDI, 2016). However, this variable alone only reflects internal factors possibly leading to an abnormal attention to the defence sector. The analysis will also include a second

control to account for external factors. This will come from a subset of the Global Peace Index (GPI), published by Vision of Humanity (2012). Specifically, the control will be the country score for 'Domestic and International Conflict', thus acknowledging external tensions which could make a country more eager to expand its military.

Methodology

The key factor influencing the methodology of this research is the type of variables and the nature of the phenomenon analysed. As explained in the previous section, this research uses an ordinal independent variable and continuous dependent variables and controls. This combination makes this research suited for quantitative methods, since most variables consist of numerical data. Therefore, statistical analysis is an adequate method for this research. The use of statistics allows the analysis of a larger volume of data compared to qualitative methods, so this research will use a large-N of cases (Field, 2018).

It is then a question of which statistical model to use. The choice of statistical models mainly occurs according to the number and type of variables used (Field, 2018, p. 49). In this case there is only one main predictor variable and the aim of the analysis is to look at the relationship between two variables. According to Field (2018), this corresponds to a linear relationship between two variables, so the statistical model will be a type of linear regression (p. 372).

In linear regression, the dependent variable has to be continuous, but the type of independent variable determines which model to use. Despite the existence of models for ordinal predictor variables, this kind of analysis is often very complex (Field, 2018, p. 373). It is then possible to recode the independent variable to make it meet the conditions for a linear regression, which is a continuous or dichotomous independent variable (Field, 2018, p. 388). Therefore, the categorical independent variable will be recoded into multiple dummy variables to use a linear regression. All other variables are continuous so they will remain as they are.
It is also custom to lag those variables where cases are measured over multiple years. This would be the case for the military spending, which in this research is registered for three years (2012, 2022, 1982). However, the purpose of lagging a variable is to eliminate autocorrelation from measurements close in time. These three measurements occurred at a sufficient distance to assume that autocorrelation is reduced, especially thanks to the presence

of elements like the Cold War between 1982 and 2002 which constituted an external shift of national defence strategies. It is therefore not necessary to lag these three variables.

Specifically, the statistical model will be Ordinary Least Squares (OLS). The OLS model estimates the value taken of the outcome variable given a certain value of the predictor (Field, 2018, p. 376). Most importantly, it creates this estimate with the smallest possible squared error, which enhances the fit of the model to the actual data (Field, 2018, p. 376). Other measures like the R^2 will also indicate how fitting the model for each outcome variable is.

To understand how military personnel, expenditure, and investment changed over time, there will be a paired sample t-test. This test allows to check whether there is a statistically significant difference between measurements at different points in time. Therefore, one paired samples t-test will calculate this for the four years available for defence expenditure, while another two will do the same for percentage of military personnel and the investment per soldier.

Case selection

The cases selected for this research will be African countries which were once colonised. These cases were chosen because the African continent used to include several colonies of different European powers, therefore encompassing cases of each category of the independent variable. This choice guarantees to have more than one case for each category, which increases the validity of the model because a larger N means that the model is more accurate (Field, 2018, p. 12). Moreover, the presence of two control variables requires a large N because with a small number of cases the influence of these controls would not be as evident, thus reinforcing the idea that the more cases analysed, the merrier.

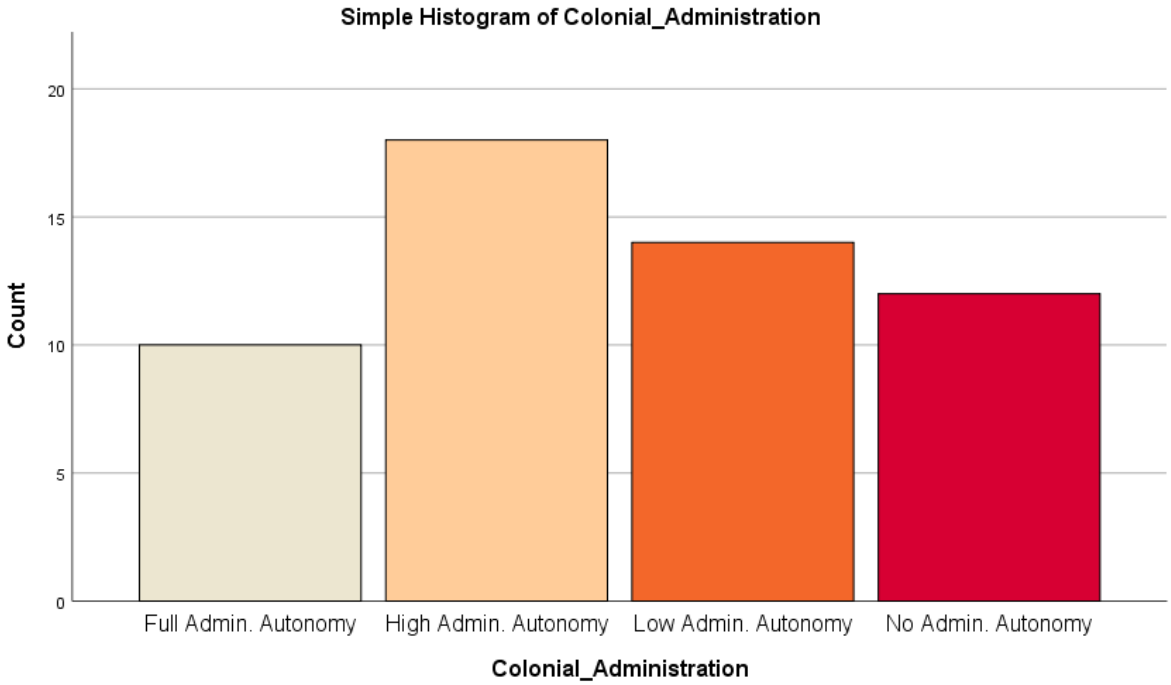
Of course, Africa was not the only continent to host colonies, but other regions such as South America and Asia either do not have as many independent countries today or did not have the same variety of colonising powers. Including these other continents alongside Africa would also distort the results of the analysis, since the different history and socio-economic factors of the continents would confound the relationship between the main variables and make the model too complex to analyse.

Therefore, African countries are the best solution to provide variation, data volume, and low presence of confounding factors to the model. This research will use 54 cases, where each

case represents a modern country and is assigned to a category of the independent variable and a score for each dependent variable and control.

Data

For what concerns the independent variable 'Colonial administrative autonomy', each country was assigned to a category. This was done by reading literature on the country's history or about the colonised territories of the corresponding European power. The determining criteria for the allocation of countries were firstly whether local elites were granted control over internal affairs and secondly whether other forms of administrative policy transfer were used. *Table 1* in Appendix A provides an overview of how each case was coded and the sources used to place it in that category. The histogram included below shows the frequency of cases across categories.



As the hypotheses section showed, several different variables will operationalise the concept of 'defence strategy'. For the validity of the analysis, data for all these variables should come from the same year. Otherwise, any comparison across variables might be influenced by omitted confounding factors (Field, 2018, p. 374). Concerning the data relating to the military balance, much information is available for every year. However, the other dependent variables and controls only include scores for more recent years. The priority is to go back in time as far as possible to capture the situation soon after countries' independence. Indeed, the

hypothesis relies on the premise that the continuity between elite empowerment upon independence is what could have shaped the national defence strategy. Therefore, measuring as close as possible to the independence year will probably yield the most accurate results.

The chosen year of reference is 2012, which is the year after South Sudan seceded and thus when the current 54 African states were all independent. The dependent variable relating to the military expenditure as percentage of GDP takes data from the *Military balance* publication of the International Institute for Strategic Studies in London. The second, about military personnel, is the ratio of active personnel to the national population, taken from the WorldBank dataset. The investment variable is simply the ratio between these two variables. All these factors will be measured over the years 2012, 2002, 1982, and 1979 to see if the relationships change over time.

The number of alliances and the years since independence can be considered common knowledge for this field, so they do not require a specific dataset. To see which alliances are included for each country, see *Table 2* in Appendix A. For what concerns the World Power Index and the two controls, the data sources were already mentioned in the *Variables* section.

Analysis

The statistical analysis was done through the software SPSS, for which the output and graphs are attached in Appendix B. To begin with, there was an exploration of the scores for the variables of the dataset. *Figure 1* shows the descriptive statistics of each variable, to give a general idea of the ranges and means. As it is possible to notice in *Figures 1a* to *1h*, the number of missing cases increases the more the variables go back in time. This is explained by the fact that it is harder to obtain data for older dates, such as 1979, measured on the same scale as the others. The same is true for small island states, where there is a general lack of research and thus comprehensive data about their situation. Moreover, in 1979 and 1982 some of the current countries were not yet independent, so some of their scores are missing. These general statistics are important to keep in mind to interpret the results of the analysis.

Assumptions

Before running the statistical model, it is necessary to verify whether the main assumptions and requirements are respected. The first concern is the presence of outliers, which can be verified through plotting the residuals in a boxplot (Field, 2018, p. 258). As *Figures 2a-2q*

show the plotted residuals for each variable, which indicates the cases deviating significantly from the mean score. Considering the N of 54, there are relatively few outliers. Algeria, Libya, and Morocco are outliers for defence expenditure in 2012, while Egypt trained more military personnel in both 2012 and 1979. Libya is the most deviating case, also being an outlier for military personnel in 2002, 1982, and 1979. Concerning the military investment, there is one outlier in 2012 (Burkina Faso), two in 1982 (Gabon and Liberia), and one in 1979 (Rwanda). While one can normally exclude outliers from the analysis, this would reduce the N of cases available, and it would be unnecessary if none of the cases are influential. Influential cases have an excessive impact on the regression compared to others, so an outlier being also an influential case could be problematic. *Figure 2r,* however, shows that there are no influential cases because Cook's distance is lower than 1 in all cases (Cook's D= [0.00, 0.42]). Therefore, no cases are problematic and should be excluded.

The last two assumptions are homoscedasticity and the independence of errors. Ideally, data in a regression is homoscedastic, meaning that the variance of the residuals is constant (Field, 2018, p. 387). Moreover, the lack of autocorrelation would mean that the errors are independent. Respectively, homoscedasticity and autocorrelation are investigated with a graph of the scattered residuals and the Durbin-Watson test. *Figures 3a* to *3j* present the scatterplots of the residuals and the Durbin-Watson test scores of the dependent variables. The rule of thumb is that a funnel shape in either direction in the scatterplot indicates heteroscedasticity, which can be problematic for the accuracy of regression coefficients (Field, 2018, p. 387). None of the graphs shows heteroscedastic data. If extreme cases were excluded, the variables measuring defence expenditure and military personnel in 1982 could present a funnel-shaped scatterplot, but overall, the complete data does not seem problematic. Instead, the Durbin-Watson test should stay within 1 and 3 to show no autocorrelation, with an ideal score of 2. All tests are within the accepted range, so the coefficients provided by the regression can then be considered unbiased (Durbin-Watson values= [1.65, 2.35]).

Regression results

The statistical analysis consists of five separate linear regressions, one per dependent variable of the reference year.

Table 3: Linear regression model Defence expenditure in 2012 by Colonial Administration

	Model 1	**Model 2**
(Constant)	2.905	1.827
	(0.627)	(0.820)
Colonial Administrative Autonomy		
High Admin. Autonomy	-0.041	0.200
	(0.410)	(0.402)
Low Admin. Autonomy	-0.253	0.171
	(0.479)	(0.458)
No Admin. Autonomy	-0.261	-0.685
	(0.519)	(0.523)
Years since Independence in 2012	-0.014*	-0.013*
	(0.008)	(0.008)
Internal Violence Index		-0.030
		(0.016)
Domestic and International Conflict		0.914**
		(0.388)
R^2	0.083	0.212
Adj. R^2	-0.009	0.088
N	45	45

Note: OLS regression coefficients with standard errors in brackets.

***** p<0.001, ***p<0.01, **p<0.05, *p<0.10*

Table 4: Linear regression model Military Personnel in 2012 by Colonial Administration

	Model 1	**Model 2**
(Constant)	1.267	1.378
	(-0.493)	(0.790)
Colonial Administrative Autonomy		
High Admin. Autonomy	-0.493	-0.487
	(0.356)	(0.378)
Low Admin. Autonomy	0.479	0.416
	(0.520)	(0.429)
No Admin. Autonomy	-0.408	-0.451
	(0.466)	(0.496)
Years since Independence in 2012	-0.013*	-0.013*
	(0.007)	(0.007)
Internal Violence Index		-0.008
		(0.014)
Domestic and International Conflict		-0.004
		(0.362)
R^2	0.134	0.145
Adj. R^2	0.045	0.006
N	44	44

Table 5: Linear regression model Military Investment in 2012 by Colonial Administration

	Model 1	**Model 2**
(Constant)	289.643	299.010
	(162.412)	(165.137)
Colonial Administrative Autonomy		
High Admin. Autonomy	1.561	2.653
	(4.360)	(4.580)
Low Admin. Autonomy	-7.239	-6.861
	(5.068)	(5.154)
No Admin. Autonomy	10.148*	8.600
	(5.584)	(5.906)
Years since Independence in 2012	-0.143*	-0.149*
	(0.084)	(0.085)
Internal Violence Index		-0.171
		(0.177)
Domestic and International Conflict		2.705
		(4.410)
R^2	0.132	0.154
Adj. R^2	0.040	0.013
N	44	44

Table 6: Linear regression model Alliances by Colonial Administration

	Model 1	**Model 2**
(Constant)	1.145	1.964
	(0.413)	(0.524)
Colonial Administrative Autonomy		
High Admin. Autonomy	0.110	-0.038
	(0.265)	(0.263)
Low Admin. Autonomy	0.236	0.253
	(0.311)	(0.301)
No Admin. Autonomy	0.286	0.482
	(0.342)	(0.347)
Years since Independence in 2012	0.010*	0.010*
	(0.005)	(0.005)
Internal Violence Index		0.008
		(0.010)
Domestic and International Conflict		-0.565**
		(0.030)
R^2	0.135	0.244
Adj. R^2	0.050	0.128
N	46	46

Table 7: Linear regression model World Power Index by Colonial Administration

	Model 1	**Model 2**
(Constant)	398.726	340.348
	(69.133)	(93.383)
Colonial Administrative Autonomy		
High Admin. Autonomy	57.891	50.140
	(45.253)	(45.838)
Low Admin. Autonomy	-0.294	-6.709
	(52.880)	(52.151)
No Admin. Autonomy	-94.373	-81.426
	(57.272)	(59.604)
Years since Independence in 2012	0.281	0.195
	(0.871)	(0.857)
Internal Violence Index		2.606
		(1.795)
Domestic and International Conflict		12.055
		(44.142)
R^2	0.119	0.192
Adj. R^2	0.031	0.065
N	45	45

Interpretation

As it is possible to see from the tables, there seems not to be any statistically significant relationship between colonial administration and defence expenditure, military personnel and investment, alliances, and World Power Index in 2012, $p > 0.05$. Thus, it is impossible to reject the null hypothesis stating that the autonomy of colonial administration has no effect on the different defence strategies of a country. The Internal Violence Index is also not significant, showing that accounting for this factor does not shed any more insight into the phenomenon analysed.

On the contrary, the control variable about domestic and international conflict is significant in the models explaining defence expenditure and alliances, $p < 0.05$. This shows that while the relationship between the main variables may not be significant, including domestic and international conflict in the analysis can still improve the accuracy of the results. Such impact is also shown by the increased R^2 in all models. The R^2 measures the proportion of variance in the dependent variable explained by the model, so it can be used to understand how good the fit of the model is (Field, 2018, p. 164). When adding the control variables, the explained variance increased respectively by 13%, 1.1%, 2.2%, 11.1%, and 7.3%, meaning that this control can improve the accuracy of the models.

Moreover, these models all show an important finding. The independent variable measuring the years since independence is significant in all models besides the last one, $p < 0.1$. Thus, the amount of time a country has been independent does affect its defence expenditure, military personnel, investments, and alliances it enters. In the first three models, the regression coefficient for this factor is negative, which means that as the years since independence increase, the dependent variables decrease, b= -0.013, -0.143; SE= 0.007, 0.008, 0.084. Therefore, the longer a country has been independent, the least it expands its military sector. For what concerns the other significant relationship, it shows that the longer the country has been independent, the more it will tend to enter alliances, b= 0.010, SE= 0.005. However, the impact of this relationship is not big: the coefficient shows that for one more year of independence the amount of alliances the state joins increases by 0.01, which is significant but concretely not remarkable.

Together with being cross-sectional, this research also has a longitudinal dimension. The paired samples t-test verified whether there is a significant difference between the means of variables measured in different years (Field, 2018, p. 188). This would provide information about possible external factors causing such differences. *Table 8* shows the test results.

Table 8. Paired samples t-tests

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Defence_expend_2002 - Defence_expend_2012	.68930	3.04344	.46412	-.24733	1.62593	1.485	42	.145
Pair 2	Defence_expend_1982 - Defence_expend_2002	2.46677	2.86583	.51472	1.41558	3.51797	4.792	30	.000
Pair 3	Defence_expend_1979 - Defence_expend_1982	-.93833	4.89492	1.15374	-3.37252	1.49585	-.813	17	.427
Pair 4	Defence_expend_1979 - Defence_expend_2012	3.87471	3.49956	.84877	2.07540	5.67401	4.565	16	.000

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Military_Personnel_2002 - Military_Personnel_2012	.07848	.24781	.03654	.00489	.15207	2.148	45	.037
Pair 2	Military_Personnel_1982 - Military_Personnel_2002	-.02561	.27834	.04347	-.11347	.06225	-.589	40	.559
Pair 3	Military_Personnel_1979 - Military_Personnel_1982	.00385	.20183	.03232	-.06158	.06927	.119	38	.906
Pair 4	Military_Personnel_1979 - Military_Personnel_2012	.11211	.35102	.05694	-.00327	.22748	1.969	37	.057

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Military_Investment_2002 - Military_Investment_2012	-2.42040	9.99877	1.58094	-5.61816	.77736	-1.531	39	.134
Pair 2	Military_Investment_1982 - Military_Investment_2002	13.55163	18.89923	3.39440	6.61934	20.48392	3.992	30	.000
Pair 3	Military_Investment_1979 - Military_Investment_1982	3.55989	7.72936	1.82183	-.28383	7.40361	1.954	17	.067
Pair 4	Military_Investment_1979 - Military_Investment_2012	10.81690	17.82454	4.32309	1.65237	19.98143	2.502	16	.024

The tests for defence expenditure and investment show significant differences between 1982 and 2002, t= 4.792, 3.992, $p < 0.001$, and between 1979 and 2012, t= 4.565, 2.502, $p < 0.05$. In both cases, as time goes on countries significantly spend more on defence. These results do not change when excluding from the analysis the outliers identified. In the other timeframes, the lack of difference could be due to the shorter time span measured, making it harder to detect a difference. Most likely, the impact of the Cold War probably caused countries to exponentially increase their military investments between 1982 and 2002.

The t-test for military personnel, instead, gives slightly different results. There also is a significant difference between the percentages of active personnel between 1979 and 2012 as well, $t= 1.969$, $p < 0.1$. However, the other significant value relates to the year interval 2002-2012, $t= 2.148$, $p < 0.05$. Again, in both timeframes the percentage of military personnel increases over time. While the Cold War could have played a role and caused a stark difference between the larger timeframe of 1979-2012, it does not explain the increase between 2002 and 2012. This recent increase of military forces could be due to the launching of 'Operation Enduring Freedom: Horn of Africa' in 2002, as a reaction to the 9/11 attacks. Indeed, most countries with sharp increases in personnel were involved in this operation, for which they provided military units.

Discussion

The statistical analyses provide much evidence to draw conclusions about the topic of this research. Most importantly, they all revolve around the working hypotheses built on previous literature. The first three hypotheses stated that (H1) *Ex-colonies with low colonial administrative autonomy will increase their military expenditure*, (H2) *military personnel*, and (H3) *military investment.* The regression shows insignificant results, suggesting that these hypotheses should be rejected. There is no relation between the degree of autonomy of ex-colonies and their military investments. A similar conclusion can be drawn for (H3) *Ex-colonies with low colonial administrative autonomy will enter more military alliances* and (H4) *affect their national power.* For these variables the results were insignificant, too.

The interpretation of these first results can be that colonial administration does not impact any aspect of countries' defence strategy. Such an outcome is surprising, because previous literature seems to indicate that a relationship should exist. Exactly for this reason, however, this conclusion is important and certainly expands the body of literature. Nonetheless, it is important to keep in mind that these results are not definitive. Like any other research, this paper has its flaws. Firstly, it only focuses on the African continent, which means that a relationship could still exist if all former colonies in the world were included. Secondly, as it was explained in the literature review, there is no consensus on how to classify countries by colonial administration type. Since in this research the independent variable had to be independently coded, some key criteria might have been left out. For instance, scholars could try to classify colonies by the ratio of European officials to the local population or by the

economic dependence they forced onto the colony. Further research could verify whether other factors highlight patterns that remained hidden in this analysis.

Lastly, the fact that H5 was rejected is perhaps not very surprising. Since the dependent variable of national power encompasses many differing factors, using only colonial administration as predictor is probably too simplistic. The result would certainly be more accurate if it included cultural affinity, economic relations with the colonial power, and public opinion. However, this would distort the real focus of this research, which is why it omitted these elements. Nonetheless, this puzzle could constitute an interesting starting point for future research.

As mentioned in the theoretical framework, this research also included a sixth hypothesis to test alternative explanations of how states prioritise their defence strategy. From the statistical analysis it emerged that we cannot reject the hypothesis that (H5) *Ex-colonies with more time since independence will have a more developed national defence strategy.* The significant models show that this hypothesis is true when defence strategy is measured as military expenditure, trained personnel, military investment, and number of alliances. As Silove (2018) claims, the development of grand strategy depends on the time available. This finding is crucial because it was the very starting point of this research: the initial aim was to test whether this holds true in the case of ex colonies. According to statistical analyses, it does.

Having discussed each individual working hypothesis, it is time to assess the main hypothesis. To establish whether it is possible to reject (H) *Newer countries will increase their defence strategy*, there needs to be a key distinction. If newer countries are intended as those colonies building their administrative system from scratch after independence, the answer is that they do not increase their defence strategy. However, if countries are considered new if they have been independent for a relatively short period of time, they then do increase their defence strategy both militarily and through alliances.

Conclusion

This research tried to answer the question: *How did the degree of colonial administrative autonomy affect ex-colonies' national defence strategies?*

After building several hypotheses putting together what scholars have claimed, the analysis brought unexpected results. The degree of colonial administrative autonomy, in fact, does not

affect former colonies' defence strategies, neither militarily nor diplomatically. It also does not have any influence on how much power these countries are able to project internationally. At a first glance it could seem misleading to conclude that colonialism had no effect on defence policies. While colonial administration did not play a role, it was shown that the amount of time since the country was fully independent is very relevant. Therefore, the relationship between colonialism and national security exists but not in the way it was first formulated. Despite this research aimed at falsifying Silove (2018)'s claims, it ended up verifying them.

Regardless of the results, this research certainly provided precious insights into the relationship between a former colony and its history. To begin with, the suggested frame of reference to classify colonial administration fills a gap in the literature. Whether this frame is accurate or complete enough can only be verified by scholars building on it in future studies. Moreover, further research needs to explain why Taliaferro (2006)'s resource extraction model cannot be applied to colonies and their national security, and perhaps highlight which other factors could have been considered in this research.
Overall, these findings show that time can restore a country's ability to deal with its own affairs, shaking off the decades of subordination, and at time subjugation, to European greed.

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Appendix A: Coding of variables

Table 1: Coding of cases for the independent variable "Colonial administrative autonomy"

Category	***Country***	***Reference(s)***
Full administrative autonomy	Algeria	De Barros, 2005, p. 31
	Botswana*	Makgala, 2012, p. 792
	Egypt	Lugard, 2013, p. 33
	Eswatini	MacMillan, 1985, p. 654
	Ethiopia	Robinson, 1990, p. 39; Triulzi, 1982, p. 242
	Lesotho	Gocking, 1997, p. 63
	Liberia	Robinson, 1990, p. 39
	Morocco	Aixelà-Cabré, 2017, p. 35
	Tanzania*	Lugard, 2013, p. 33
	Uganda	Burton & Jennings, 2007, p. 10; Makgala, 2012, p. 792
High administrative autonomy	Angola	Roberts & Oliver, 1986, pp. 353-355
	Burkina Faso*	Gautier, 1936, p. 89
	Burundi	De Clerk, 2006, p. 189
	Cape Verde	Havik, Keese & Santos, 2015, p. 89
	Comoros	Halidi, 2018, para. 15

	Ghana*	Gocking, 1997, p. 63; Lugard, 2013, p. 34
	Guinea Bissau	Havik, Keese & Santos, 2015, p. 89
	Kenya	Burke, 1967, p. 349; Burton & Jennings, 2007, p. 10
	Malawi*	Lugard, 2013, p. 38
	Mozambique	Havik, Keese & Santos, 2015, p. 89
	Namibia	Melber, 1985, p. 69
	Nigeria (North)	Burke, 1967, p. 349
	Rwanda	De Clerk, 2006, p. 189
	Sao Tomé e Principe	Havik, Keese & Santos, 2015, p. 89
	South Africa	Miraftab, 2012, p. 292
	Togo	Amenumey, 1969, p. 624, 627 Melber, 1985, p. 65
	Zambia*	Makgala, 2012, p. 792; Schumaker, 1996, p. 242
	Zimbabwe	Ncube, 2011, pp. 91-92 Schumaker, 1996, p. 242
Low administrative autonomy	Cameroon	Perlstein, 1943, p. 130
	Central African Republic*	Perlstein, 1943, p. 130

	Congo, Democratic Republic of	De Clerk, 2006, p. 189; Jewsiewicki, 1979, p. 560
	Congo, Republic of	Perlstein, 1943, p. 130
	Djibouti*	Brunschwig, 1970, p. 402
	Eritrea	Dore, 2002, p. 193
	Gabon	Brunschwig, 1970, p. 402; Perlstein, 1943, p. 130
	Gambia	Lugard, 2013, p. 38
	Ivory Coast*	Brunschwig, 1970, p. 402
	Libya	Ryan, 2015, p. 123
	Madagascar*	Brunschwig, 1970, p. 402
	Senegal	Brunschwig, 1970, p. 402
	Sierra Leone	Lugard, 2013, p. 38
	Somalia	Dore, 2002, p. 193 Lugard, 2013 p. 33
No administrative autonomy	Benin	Ayo, 1986, p. 142
	Chad	Clauzel, 1992, p. 101; Perlstein, 1943, p. 130
	Equatorial Guinea	Aixelà-Cabré, 2017, p. 28
	Guinea	Goerg, 1980, p. 474
	Mali	Clauzel, 1992, p. 101 Gautier, 1936, p. 87
	Mauritania	Clauzel, 1992, p. 101

	Mauritius	Amann, 2019, p. 785
	Niger	Lugard, 2013, p. 34 Djibo, 2003, p. 43
	Seychelles	Whitehead, 2008, p. 96
	South Sudan	Clauzel, 1992, p. 101
	Sudan	Clauzel, 1992, p. 101
	Tunisia	Belhédi, 1989, p. 3; Mahjoubi, 1977, p. 241

* In the original source the name used for the country was the name of the colony. This table refers to each country by their current name.

Table 2: Coding of cases for the dependent variable "Alliances"

Country	**Military Alliances**	**Score**
Algeria	1. African Union 2. Arab League	2
Angola	1. African Union 2. SADC 3. ZPCAS	3
Benin	1. African Union 2. ECOWAS 3. ZPCAS	3
Botswana	1. African Union 2. SADC	2
Burkina Faso	1. African Union 2. ECOWAS	2
Burundi	1. African Union	1

Cape Verde	1. African Union 2. ECOWAS 3. ZPCAS	3
Cameroon	1. African Union 2. ZPCAS	2
Central African Republic	1. African Union	1
Chad	1. African Union	1
Comoros	1. African Union 2. SADC 3. Arab League	3
Congo, Democratic Republic	1. African Union 2. SADC 3. ZPCAS	3
Congo, Republic	1. African Union 2. ZPCAS	2
Djibouti	1. African Union 2. Arab League	2
Egypt	1. African Union 2. Arab League	2
Equatorial Guinea	1. African Union 2. ZPCAS	2
Eritrea	1. African Union	1
Eswatini	1. African Union 2. SADC	2
Ethiopia	1. African Union	1
Gabon	1. African Union	2

	2. ZPCAS	
Gambia	1. African Union 2. ECOWAS 3. ZPCAS	3
Ghana	1. African Union 2. ECOWAS 3. ZPCAS	3
Guinea	1. African Union 2. ECOWAS 3. ZPCAS	3
Guinea Bissau	1. ECOWAS 2. ZPCAS Suspended from AU	2.5
Ivory Coast	1. ECOWAS 2. ZPCAS Suspended from AU	2.5
Kenya	1. African Union	1
Lesotho	1. African Union 2. SADC	2
Liberia	1. African Union 2. ECOWAS 3. ZPCAS	3
Libya	1. African Union 2. Arab League	2
Madagascar	1. SADC Suspended from AU	1.5
Malawi	1. African Union	2

	2. SADC	
Mali	1. ECOWAS Suspended from AU	1.5
Mauritania	1. Arab League Suspended from AU	1.5
Mauritius	1. African Union 2. SADC	2
Morocco	1. Arab League	1
Mozambique	1. African Union 2. SADC	2
Namibia	1. African Union 2. SADC 3. ZPCAS	3
Niger	1. ECOWAS Suspended from AU	1.5
Nigeria	1. African Union 2. ECOWAS 3. ZPCAS	3
Rwanda	1. African Union	1
Sao Tome e Principe	1. African Union 2. ZPCAS	2
Senegal	1. African Union 2. ECOWAS 3. ZPCAS	3
Seychelles	1. African Union 2. SADC	2

Sierra Leone	1. African Union 2. ECOWAS 3. ZPCAS	3
Somalia	1. African Union 2. Arab League	2
South Africa	1. African Union 2. SADC 3. ZPCAS	3
South Sudan	1. African Union	1
Sudan	1. African Union 2. Arab League	2
Tanzania	1. African Union 2. SADC	2
Togo	1. African Union 2. ECOWAS 3. ZPCAS	3
Tunisia	1. African Union 2. Arab League	2
Uganda	1. African Union	1
Zambia	1. African Union 2. SADC	2
Zimbabwe	1. African Union 2. SADC	2

Only multilateral alliances present in 2012 were included. Member States suspended by the African Union were given a score of 0.5 instead of 1 for the AU Membership.

ECOWAS = Economic Community of West African States

SADC = Southern African Development Community

ZPCAS = South Atlantic Peace and Cooperation Zone

Appendix B

Descriptives

Figure 1

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Colonial_Administration	54	1	4	2.52	1.041
Defence_expend_2012	50	.10	8.80	1.8574	1.46034
Defence_expend_2002	44	.20	20.70	2.4364	3.14880
Defence_expend_1982	36	.85	22.35	5.2278	4.58263
Defence_expend_1979	19	1.63	14.10	5.5984	3.04164
Military_Personnel_2012	50	.03	6.28	.4068	.91718
Military_Personnel_2002	47	.03	6.94	.4600	1.01275
Military_Personnel_1982	42	.04	1.76	.3167	.33784
Military_Personnel_1979	39	.04	1.50	.3167	.36053
Military_Investment_1979	19	1.81	54.23	21.6292	14.83423
Military_Investment_1982	36	1.27	88.63	25.2567	19.49064
Military_Investment_2002	41	1.25	30.00	10.8402	7.74690
Military_Investment_2012	48	.40	52.50	12.6792	11.20633
Alliances_2012	54	1.0	3.0	2.074	.7031
World_Power_Index_100	50	154	650	351.70	118.719
Internal_Violence_Index	54	1.04	55.27	14.1996	12.74401
Domestic_International_Conflict	46	1.00	3.45	1.8789	.51956
Valid N (listwise)	15				

Frequencies and Missing Cases

Figure 1a - Colonial Administration

Statistics

Colonial_Administration

N	Valid	54
	Missing	0

Colonial_Administration

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Full Admin. Autonomy	10	18.5	18.5	18.5
	High Admin. Autonomy	18	33.3	33.3	51.9
	Low Admin. Autonomy	14	25.9	25.9	77.8
	No Admin. Autonomy	12	22.2	22.2	100.0
	Total	54	100.0	100.0	

Figure 1b - Independence Year

Statistics

Independence_Year

N	Valid	54
	Missing	0

Figure 1c - Defence expenditure

Statistics

		Defence_expend_2012	Defence_expend_2002	Defence_expend_1982	Defence_expend_1979
N	Valid	50	44	36	19
	Missing	4	10	18	35

Figure 1d - Military personnel

Statistics

		Military_Personnel_2012	Military_Personnel_2002	Military_Personnel_1982	Military_Personnel_1979
N	Valid	50	47	42	39
	Missing	4	7	12	15

Figure 1e - Military investment

Statistics

		Military_Investment_1979	Military_Investment_1982	Military_Investment_2002	Military_Investment_2012
N	Valid	19	36	41	48
	Missing	35	18	13	6

Figure 1f - Alliances in 2012

Statistics

Alliances_2012

N	Valid	54
	Missing	0

Figure 1g - World Power Index

Statistics

World_Power_Index_100

N	Valid	50
	Missing	4

Figure 1h - Internal Violence Index and Domestic and International Conflict

Statistics

		Internal_Violence_Index	Domestic_International_Conflict
N	Valid	54	46
	Missing	0	8

Outliers

Figure 2a - Residuals boxplot of Colonial Administration

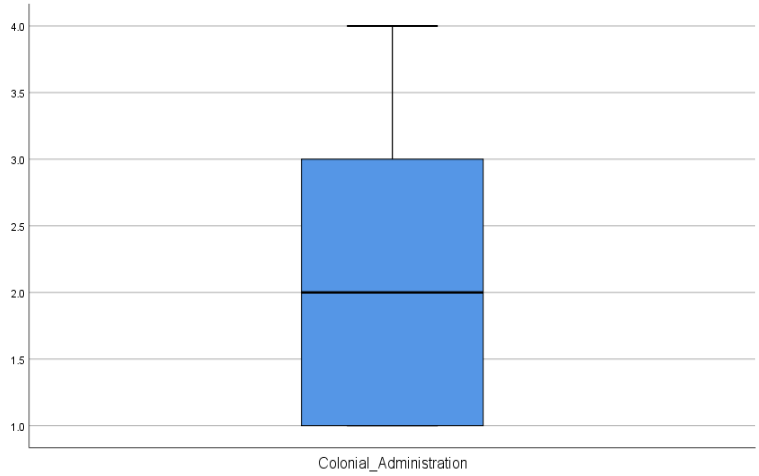


Figure 2b - Residuals boxplot of Defence expenditure in 2012

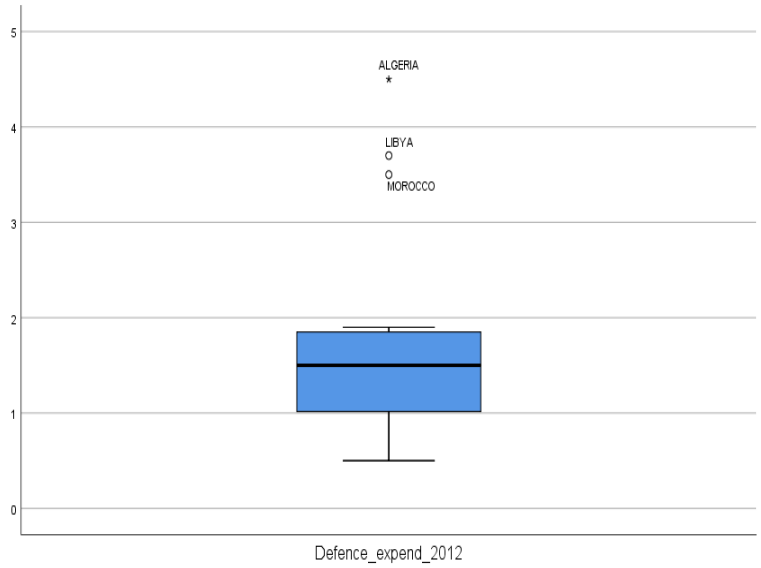


Figure 2c - Residuals boxplot of Defence expenditure in 2002

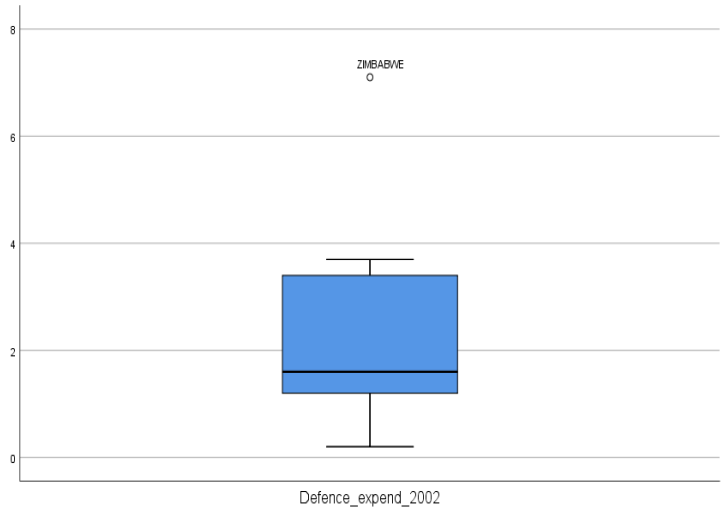


Figure 2d - Residuals boxplot of Defence expenditure in 1982

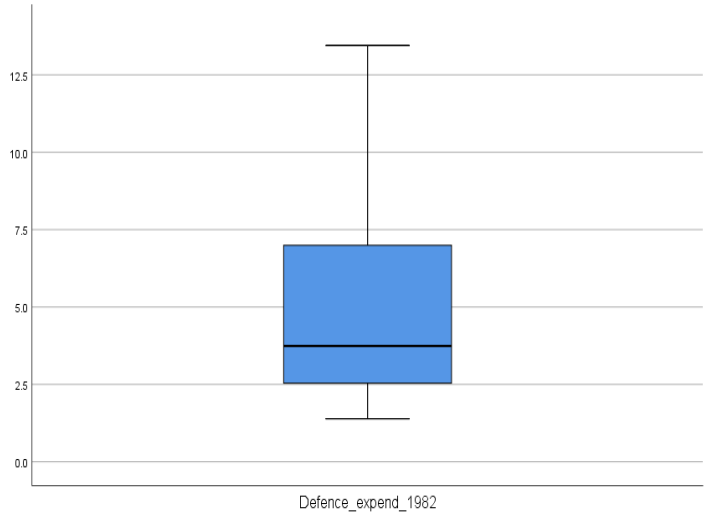


Figure 2e - Residuals boxplot of Defence expenditure in 1979

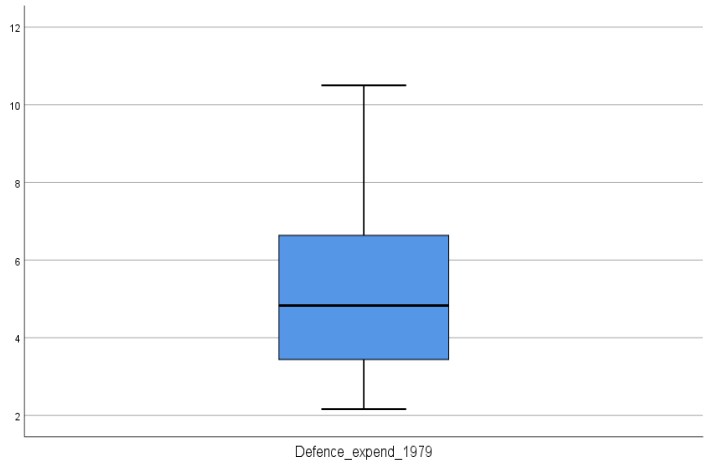


Figure 2f - Residuals boxplot of Military personnel in 2012

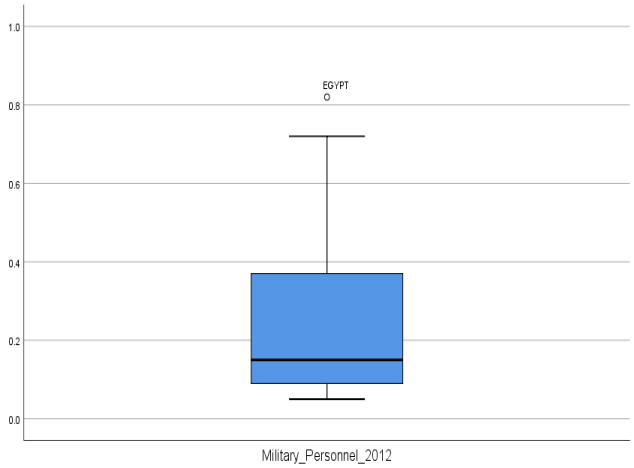


Figure 2g - Residuals boxplot of Military personnel in 2002

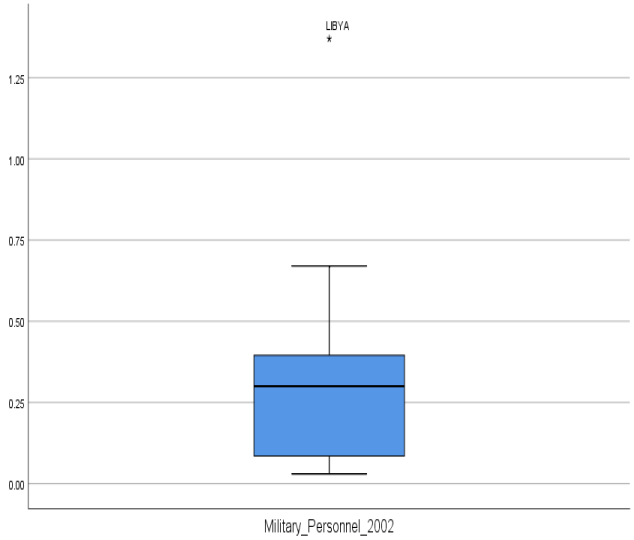


Figure 2h - Residuals boxplot of Military personnel in 1982

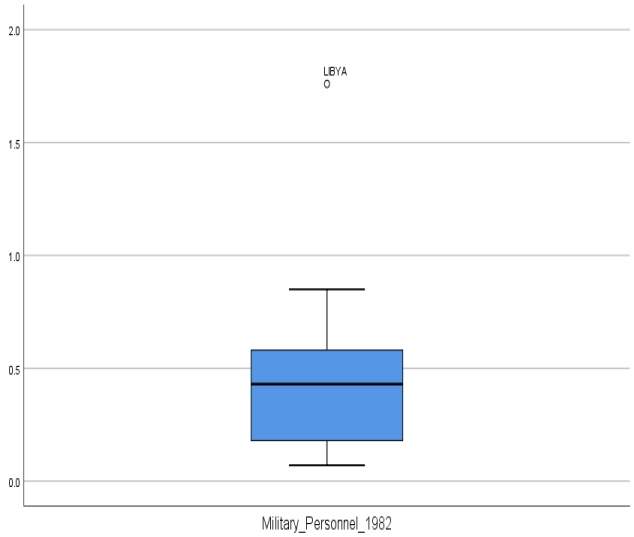


Figure 2i - Residuals boxplot of Military personnel in 1979

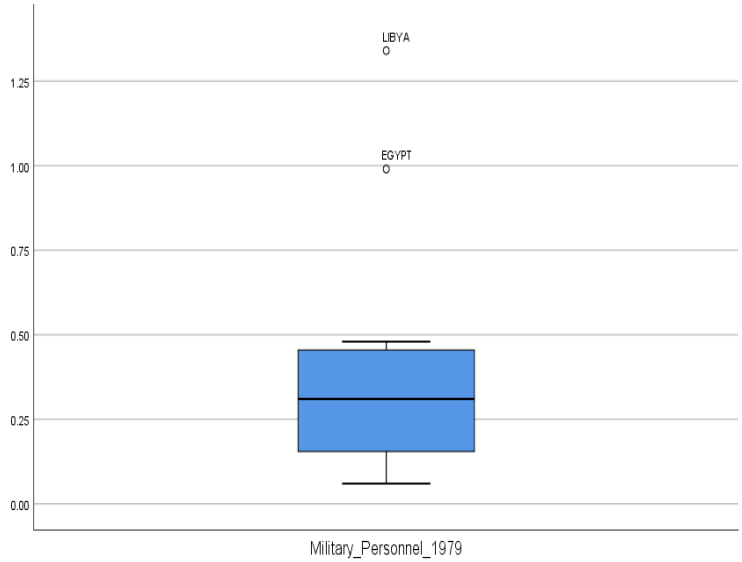


Figure 2j – Residuals boxplot of Military Investment in 2012

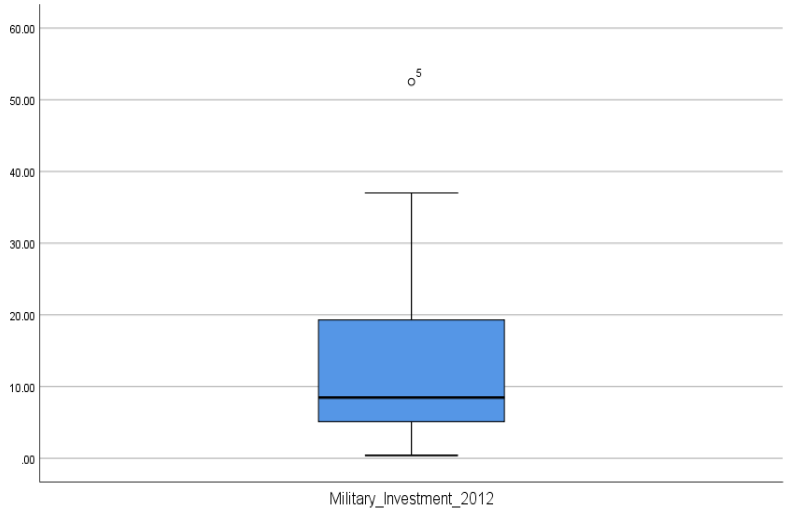


Figure 2k – Residuals boxplot of Military Investment in 2002

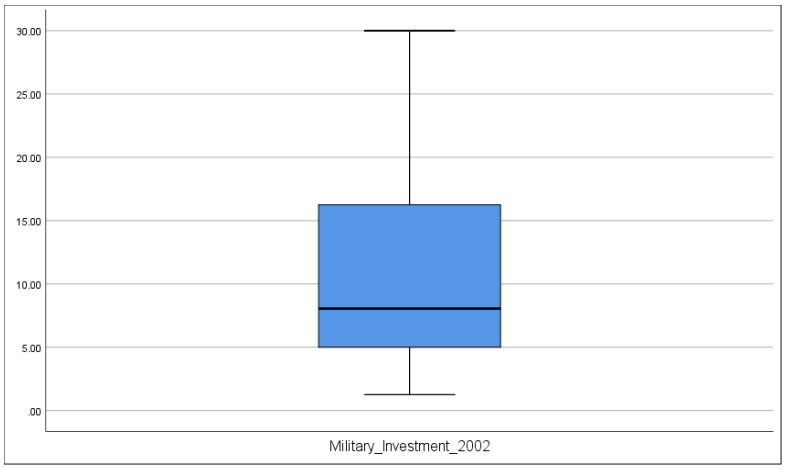


Figure 2l – Residuals boxplot of Military Investment in 1982

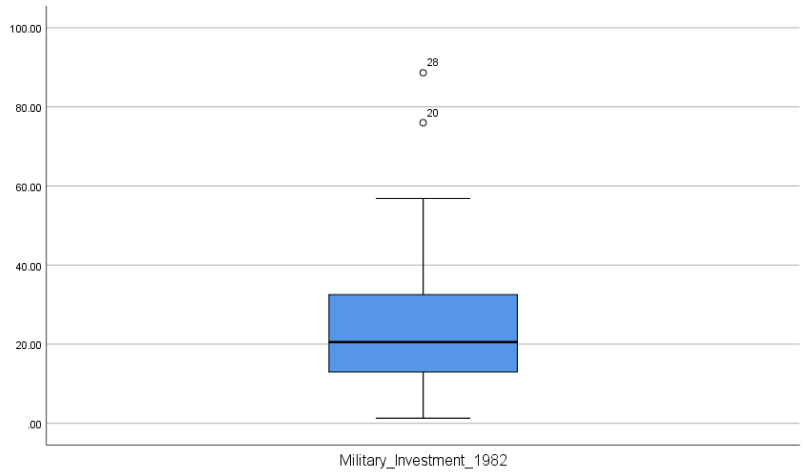


Figure 2m – Residuals boxplot of Military Investment in 1979

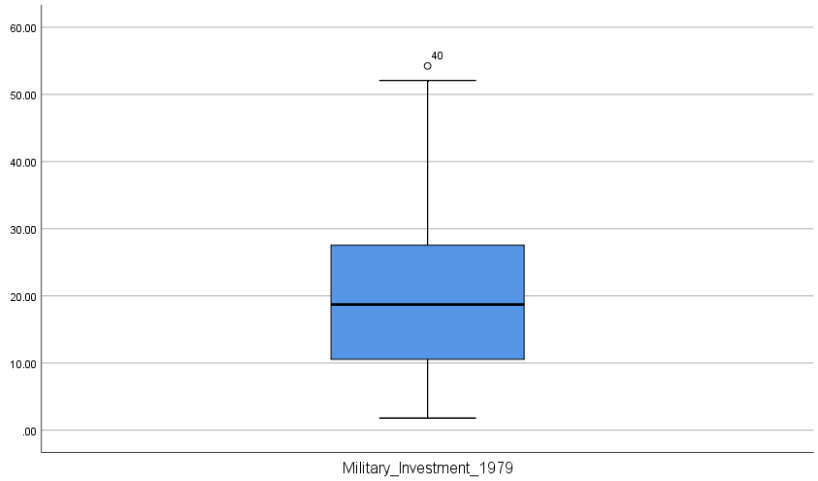


Figure 2n - Residuals boxplot of Alliances

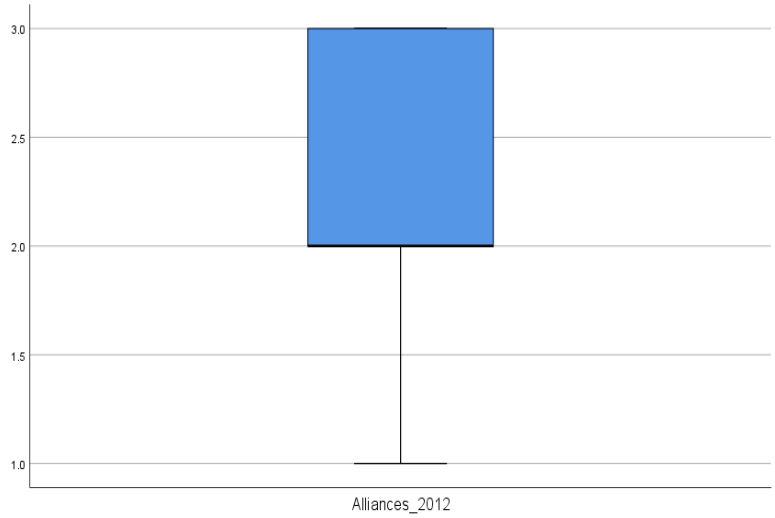


Figure 2o - Residuals boxplot of World Power Index

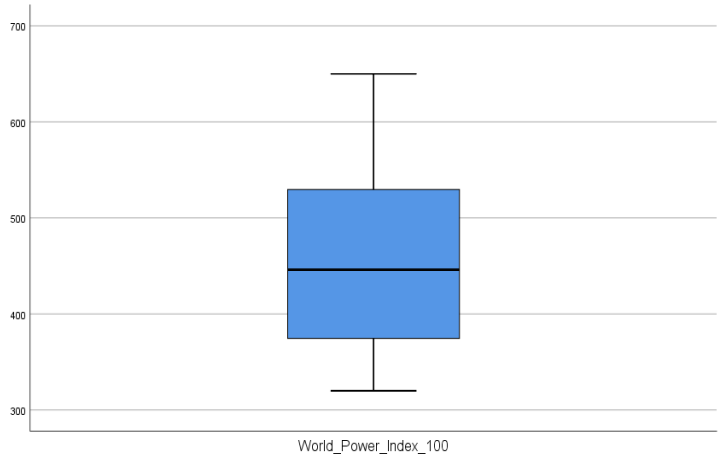


Figure 2p - Residuals boxplot of Internal Violence Index

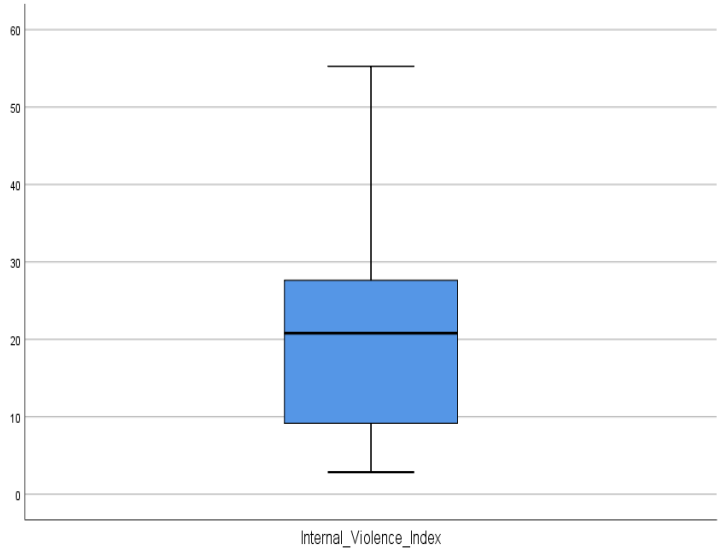
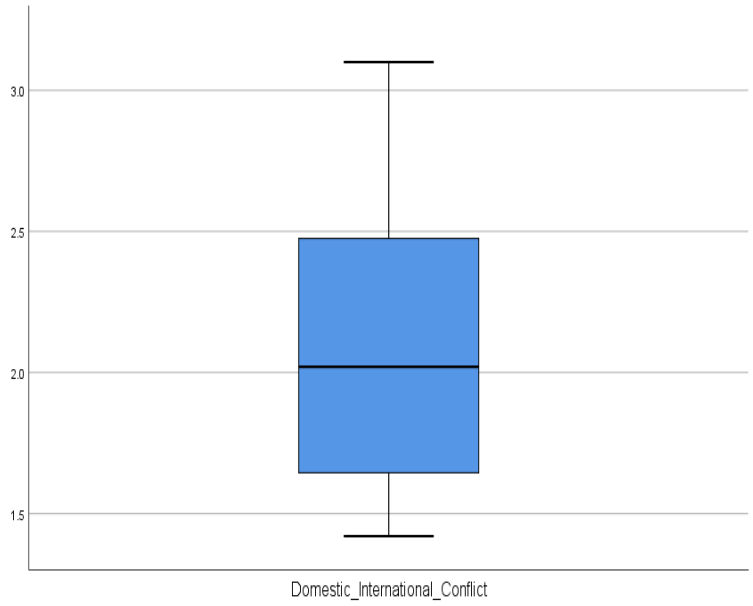


Figure 2q - Residuals boxplot of Domestic and International Conflict



Influential cases

Figure 2r - Descriptive statistics of Cook's distance

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Cook's Distance	48	.00001	.42181	.0256666	.06202124
Valid N (listwise)	48				

Homoscedasticity and autocorrelation

Figure 3a - Scatterplot and Durbin-Watson test of Defence expenditure in 2012

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.122[a]	.015	-.057	1.09072	
2	.384[b]	.148	.038	1.04030	2.232

a. Predictors: (Constant), No_Admin_Autonomy, High_Admin_Autonomy, Low_Admin_Autonomy

b. Predictors: (Constant), No_Admin_Autonomy, High_Admin_Autonomy, Low_Admin_Autonomy, Domestic_International_Conflict, Internal_Violence_Index

c. Dependent Variable: Defence_expend_2012

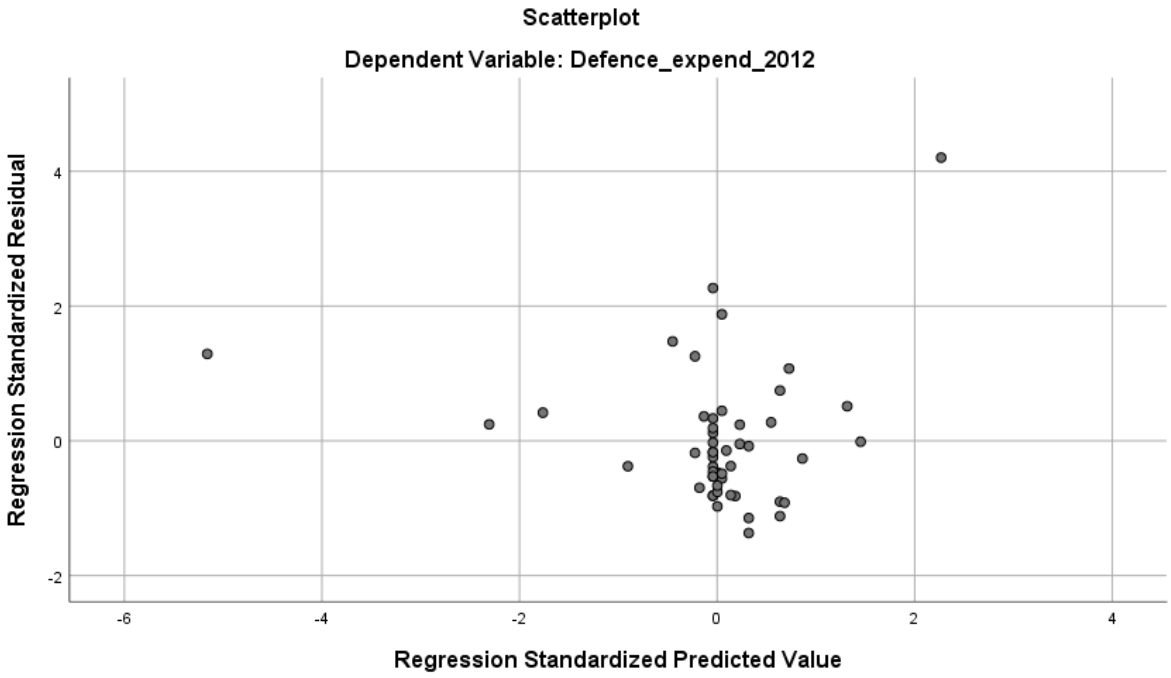


Figure 3b - Scatterplot and Durbin-Watson test of Defence expenditure in 2002

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.169[a]	.029	-.044	3.21761	2.049

a. Predictors: (Constant), No_Admin_Autonomy, High_Admin_Autonomy, Low_Admin_Autonomy

b. Dependent Variable: Defence_expend_2002

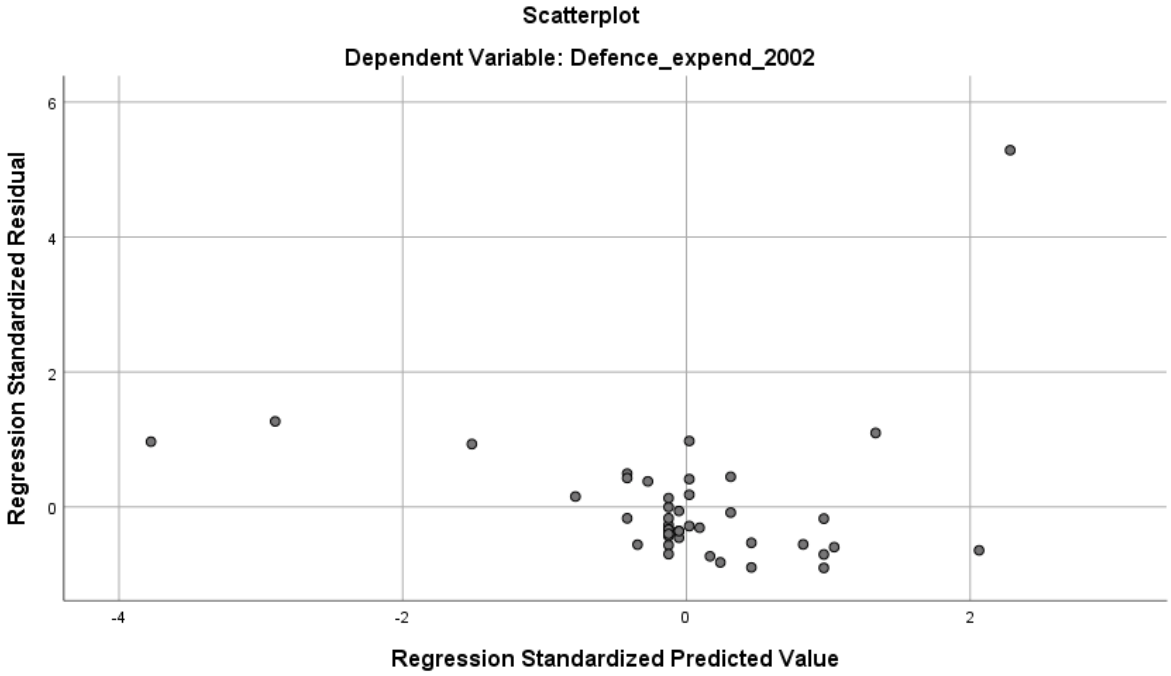


Figure 3c - Scatterplot and Durbin-Watson test of Defence expenditure in 1982

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.229[a]	.052	-.037	4.66562	1.799

a. Predictors: (Constant), No_Admin_Autonomy, High_Admin_Autonomy, Low_Admin_Autonomy

b. Dependent Variable: Defence_expend_1982

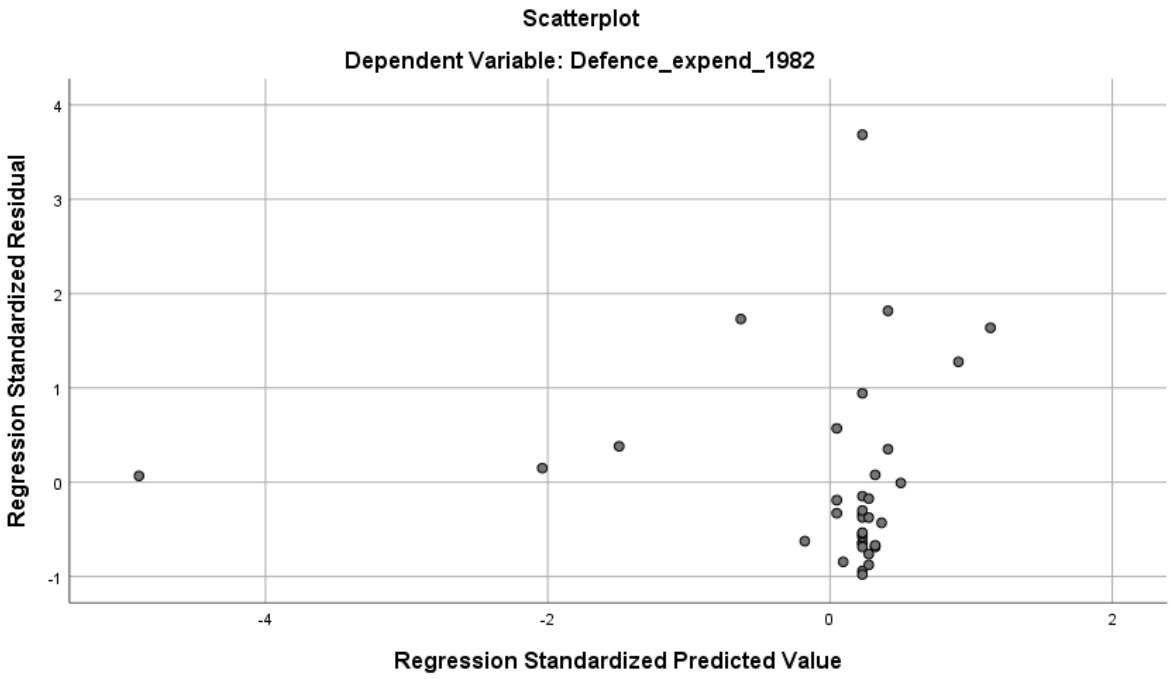


Figure 3d - Scatterplot and Durbin-Watson test of Defence expenditure in 1979

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.337[a]	.114	-.063	3.13657	1.874

a. Predictors: (Constant), No_Admin_Autonomy, High_Admin_Autonomy, Low_Admin_Autonomy

b. Dependent Variable: Defence_expend_1979

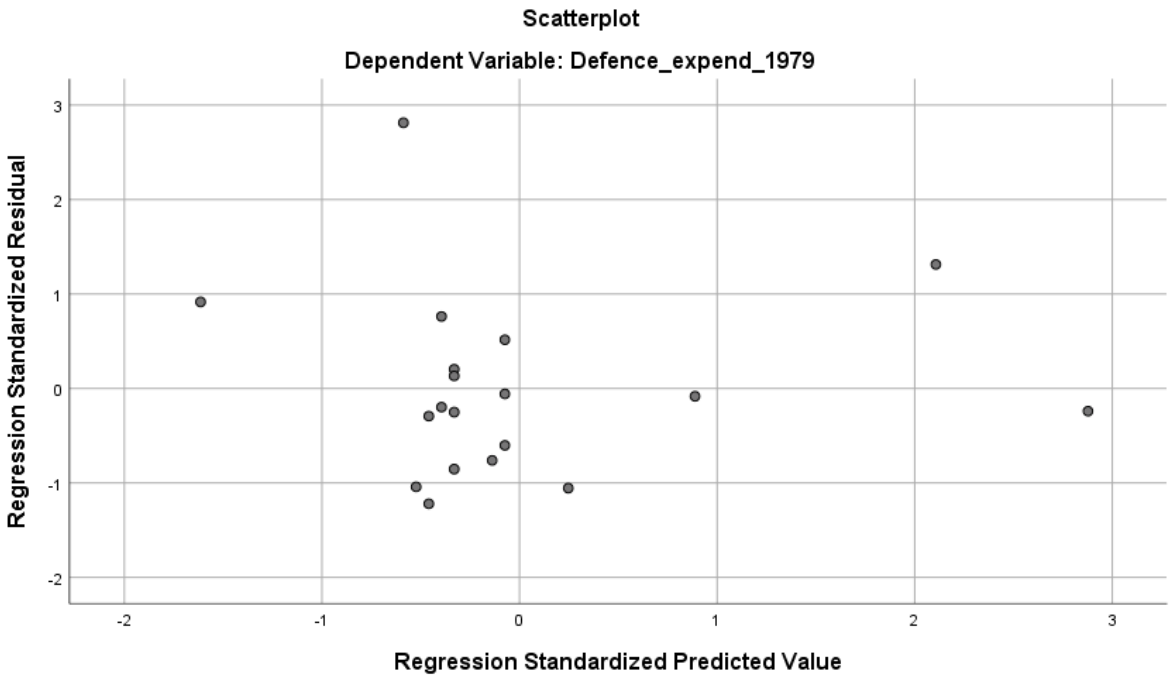


Figure 3e - Scatterplot and Durbin-Watson test of Military personnel in 2012

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.212[a]	.045	-.017	.92514	2.057

a. Predictors: (Constant), No_Admin_Autonomy, High_Admin_Autonomy, Low_Admin_Autonomy

b. Dependent Variable: Military_Personnel_2012

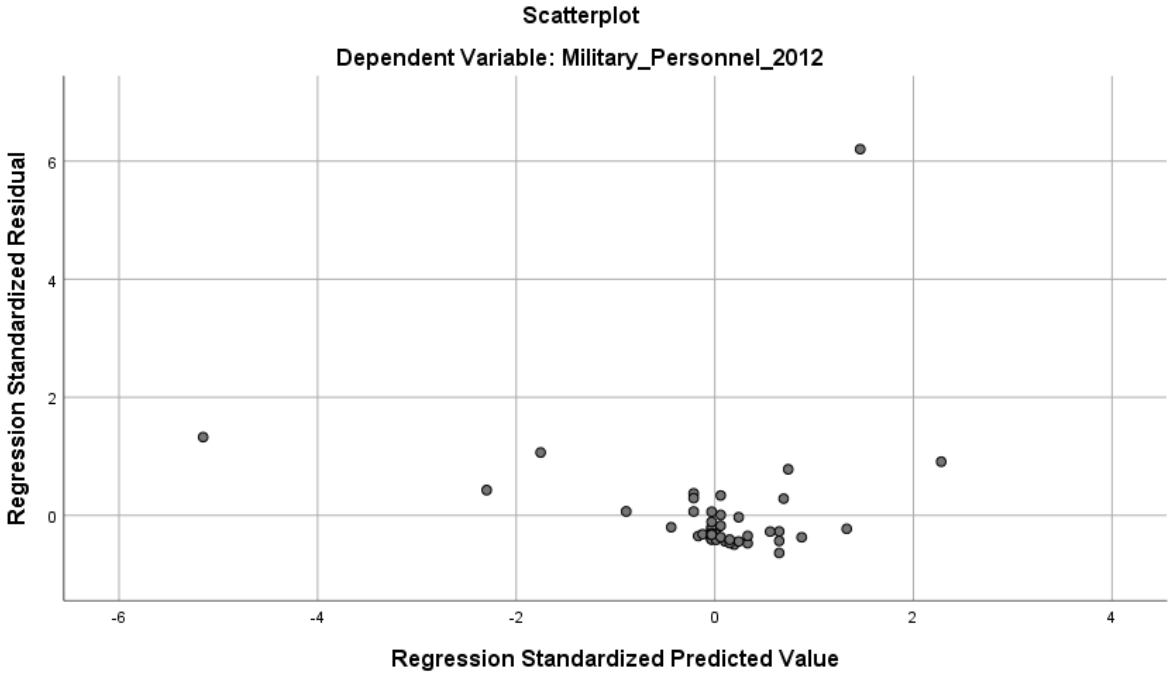


Figure 3f - Scatterplot and Durbin-Watson test of Military personnel in 2002

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.253[a]	.064	-.001	1.01351	2.035

a. Predictors: (Constant), No_Admin_Autonomy, High_Admin_Autonomy, Low_Admin_Autonomy

b. Dependent Variable: Military_Personnel_2002

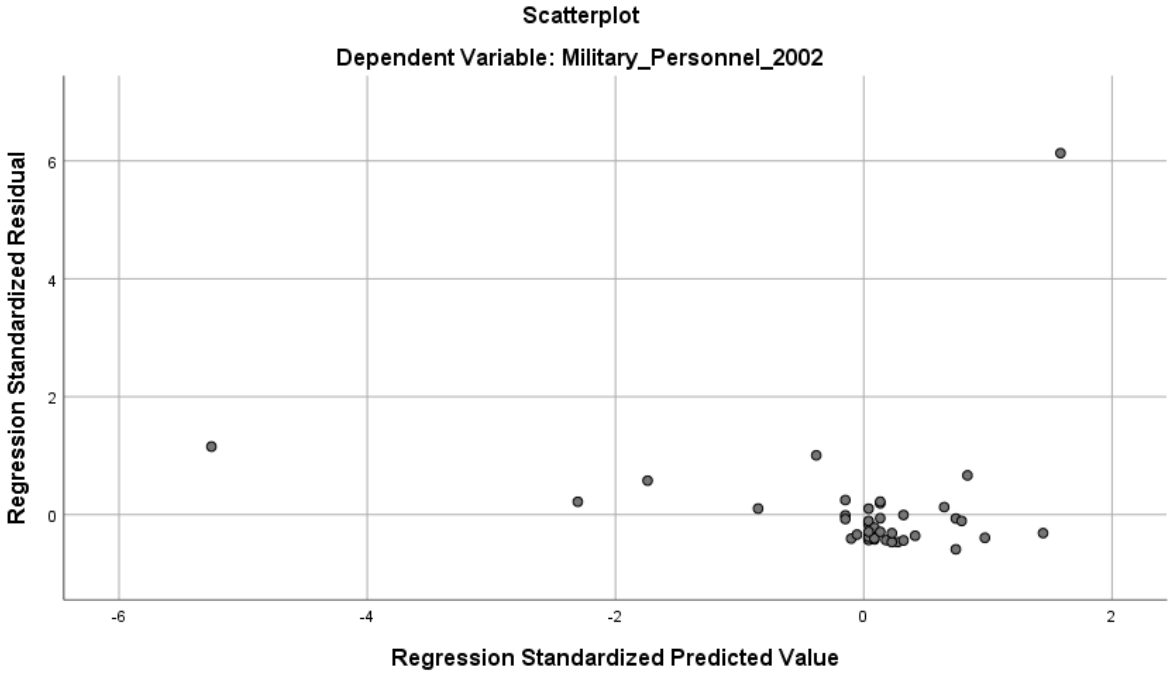


Figure 3g - Scatterplot and Durbin-Watson test of Military personnel in 1982

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.261[a]	.068	-.005	.33871	2.222

a. Predictors: (Constant), No_Admin_Autonomy, High_Admin_Autonomy, Low_Admin_Autonomy

b. Dependent Variable: Military_Personnel_1982

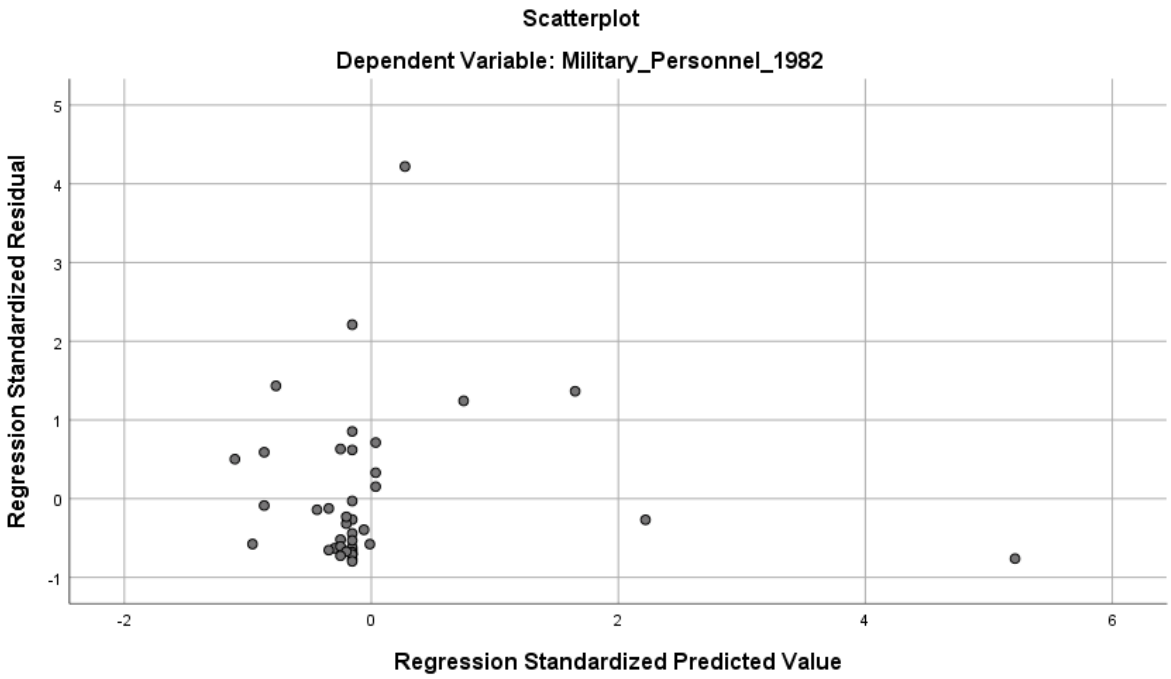


Figure 3h - Scatterplot and Durbin-Watson test of Military personnel in 1979

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.334[a]	.112	.036	.35402	2.203

a. Predictors: (Constant), No_Admin_Autonomy, High_Admin_Autonomy, Low_Admin_Autonomy

b. Dependent Variable: Military_Personnel_1979

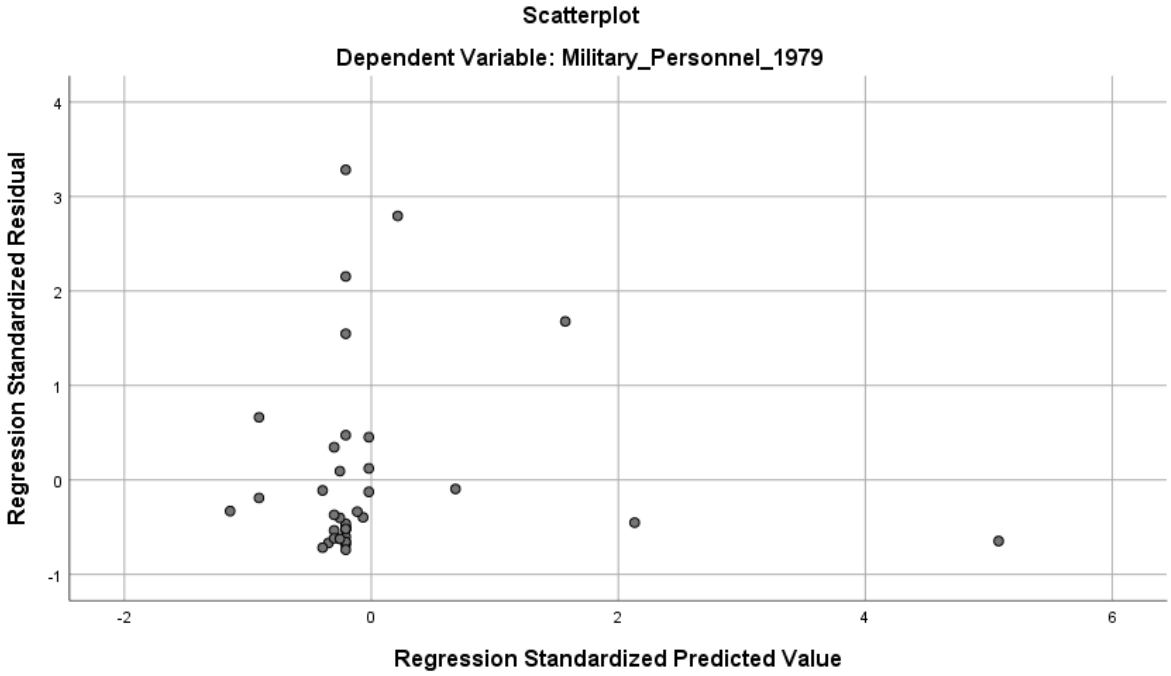


Figure 3i – Scatterplot and Durbin-Watson test of Military investment of 2012

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.066[a]	.004	-.017	11.30281	1.788

a. Predictors: (Constant), Colonial_Administration

b. Dependent Variable: Military_Investment_2012

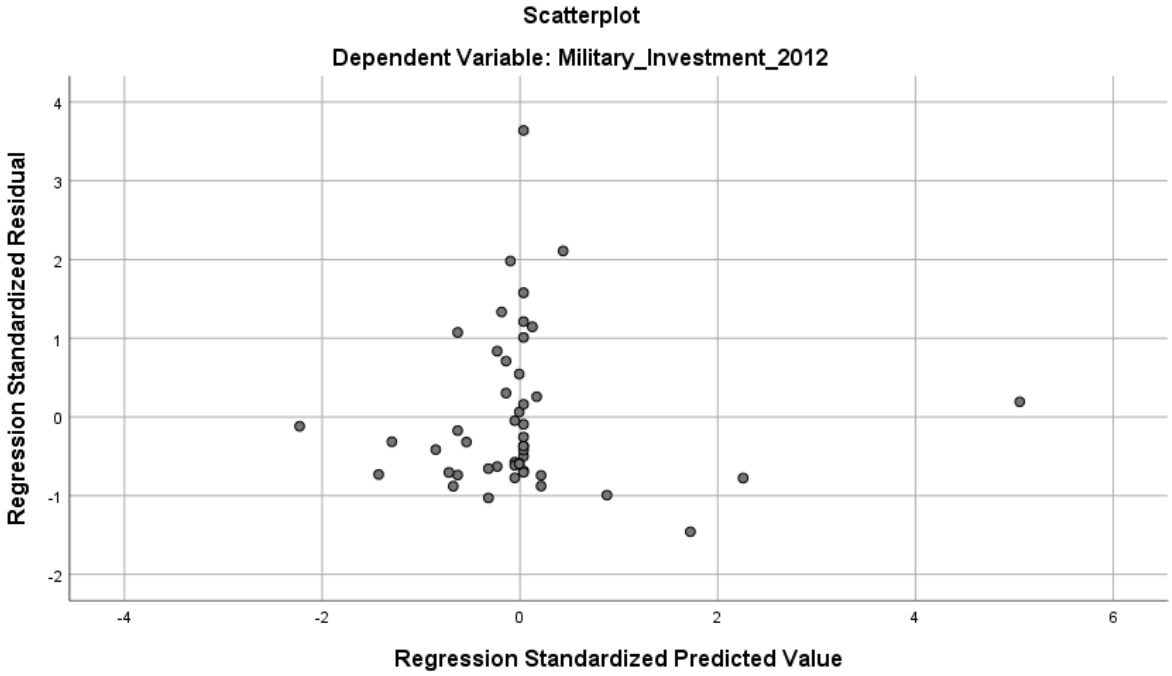


Figure 3j – Scatterplot and Durbin-Watson test of Military investment of 2002

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.012[a]	.000	-.025	7.84504	2.315

a. Predictors: (Constant), Independence_Year

b. Dependent Variable: Military_Investment_2002

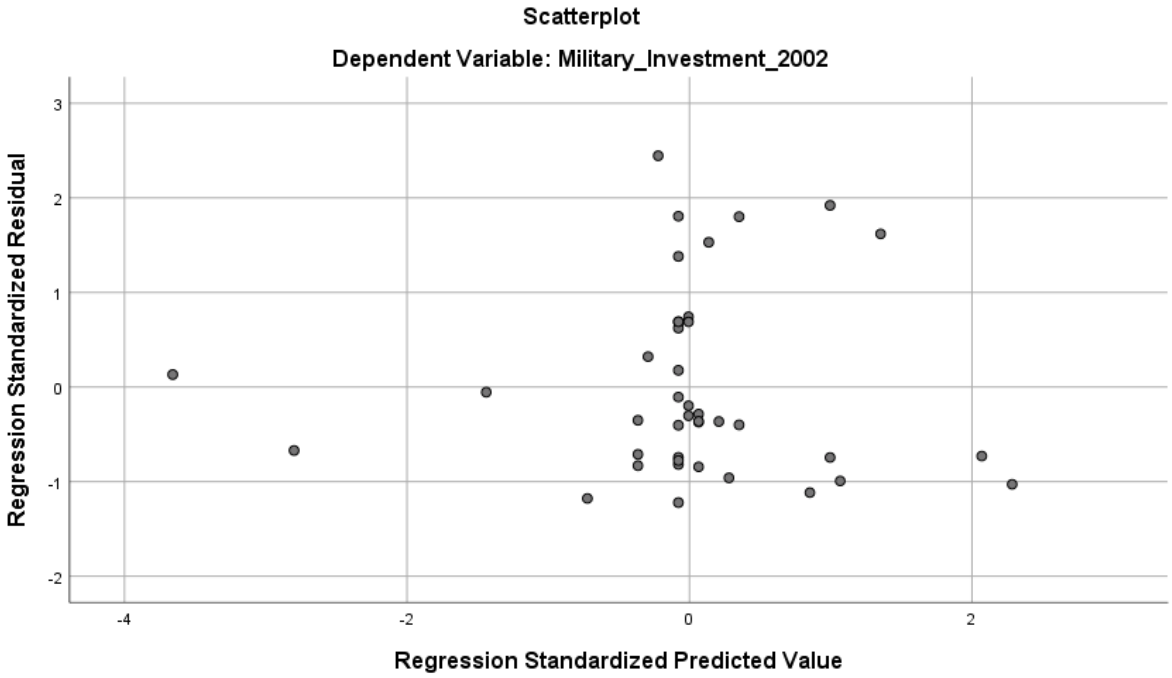


Figure 3k – Scatterplot and Durbin-Watson test of Military investment of 1982

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.291[a]	.084	.057	18.92220	1.649

a. Predictors: (Constant), Independence_Year

b. Dependent Variable: Military_Investment_1982

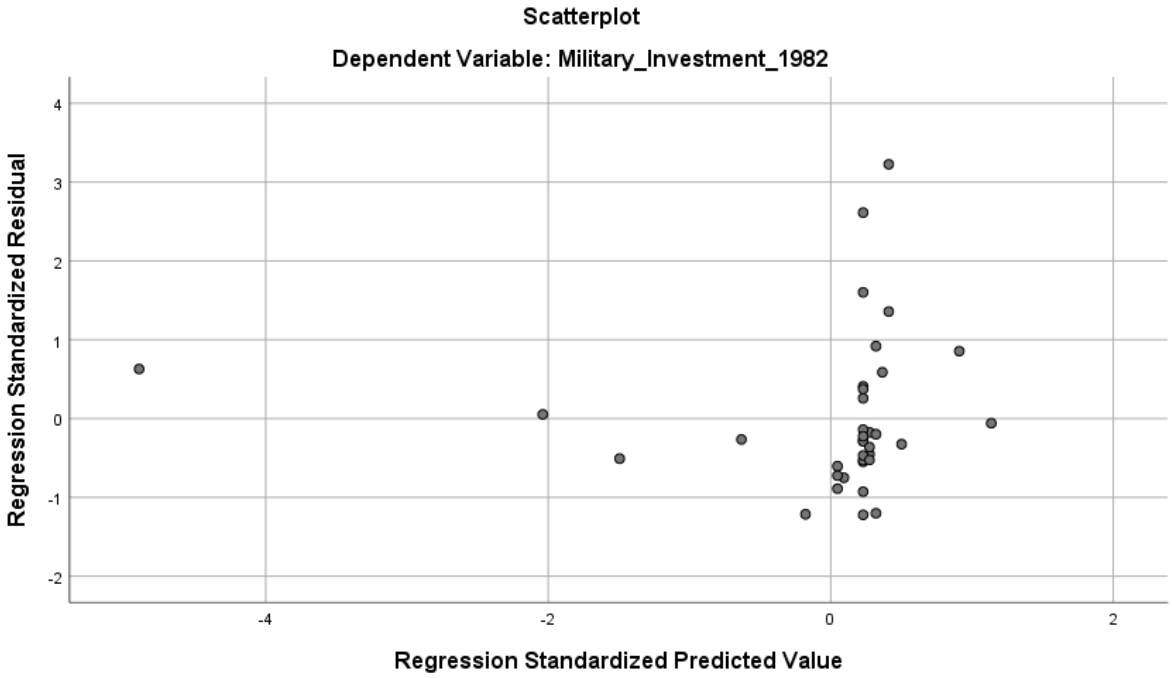


Figure 3l – Scatterplot and Durbin-Watson test of Military investment of 1979

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.319[a]	.102	.049	14.46561	2.068

a. Predictors: (Constant), Independence_Year

b. Dependent Variable: Military_Investment_1979

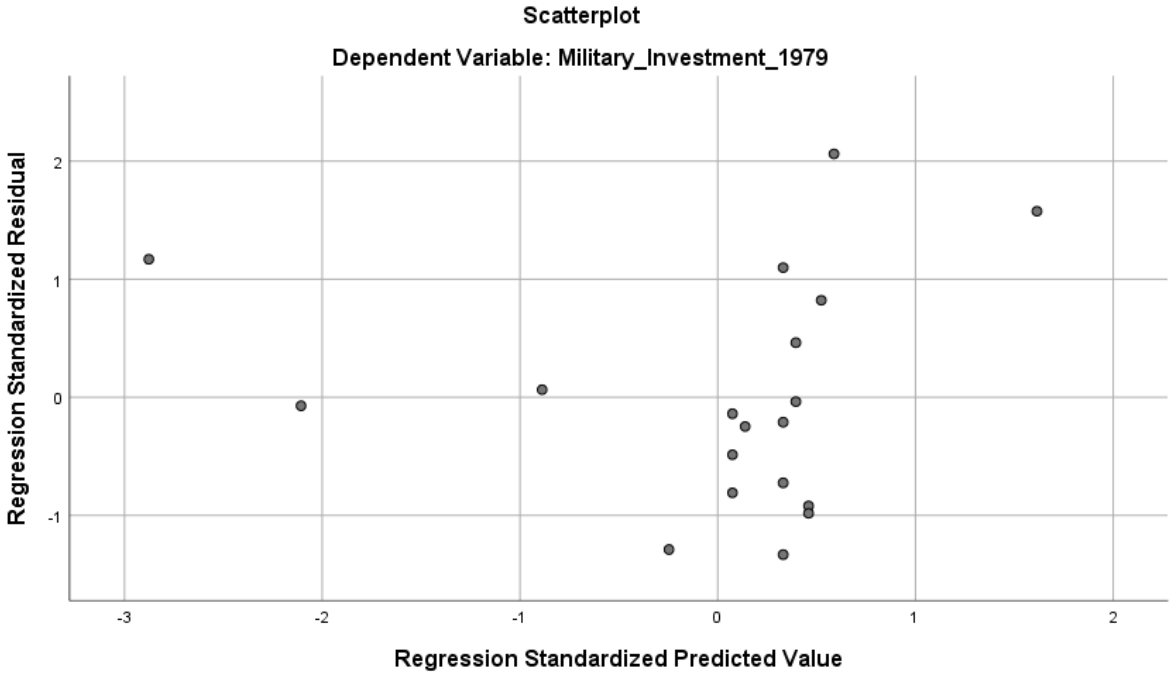


Figure 3i - Scatterplot and Durbin-Watson test of Alliances of 2012

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.294[a]	.086	.031	.6920	1.920

a. Predictors: (Constant), No_Admin_Autonomy, High_Admin_Autonomy, Low_Admin_Autonomy

b. Dependent Variable: Alliances_2012

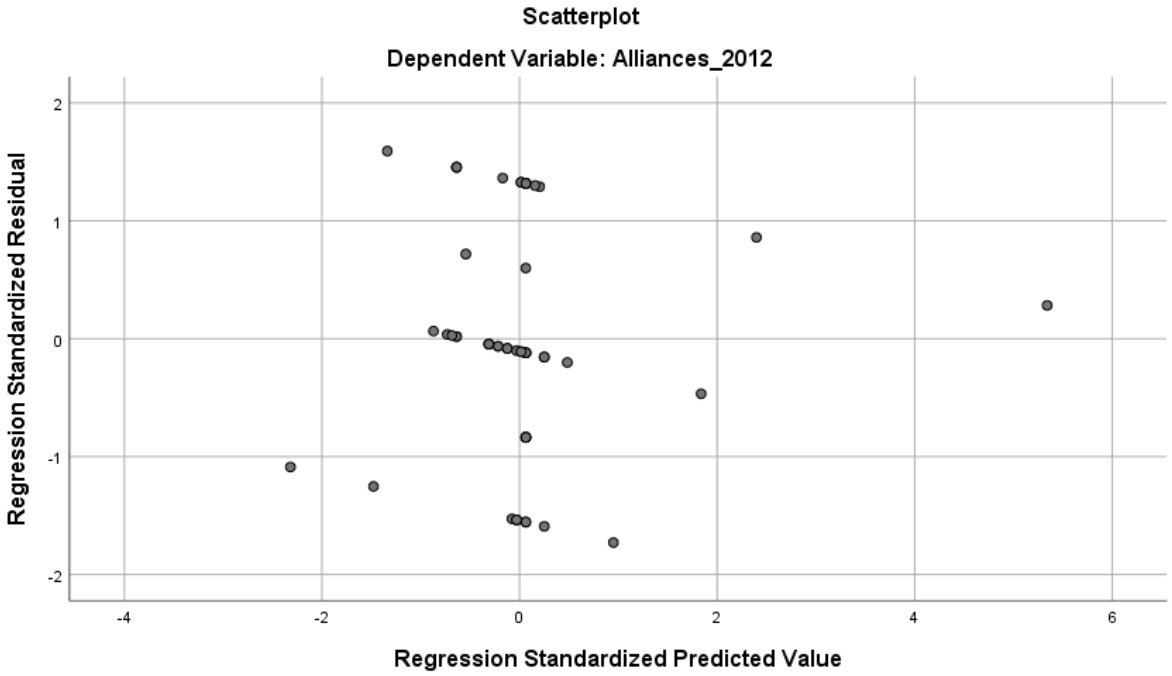


Figure 3j - Scatterplot and Durbin-Watson test of World Power Index

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.298[a]	.089	.029	116.976	2.095

a. Predictors: (Constant), No_Admin_Autonomy, High_Admin_Autonomy, Low_Admin_Autonomy

b. Dependent Variable: World_Power_Index_100