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## Insurance Industry in Tunisia, Agency Theory, Performance

By Amina Aouini & Chokri Abdennadher

*Abstract-* This work focuses on the performance (efficiency) of insurance companies at the heart of contemporary corporate governance issues (Jensen and Meckling, 1976; Fama, 1980; Fama and Jensen, 1983a, 1983b). The notion of efficiency (inefficiency) is limited to the boundaries of the firm. More or less, inefficiency results from certain (additional) costs which would not exist, it seems, if the eaters were confused with the owners of the firm (P. André and E. Schiehl, 2004). The agency theory came, at the right time, to explain the inefficiencies inherent in particular to the emergence of a class of non-owner managers.

We focus on the DEA Tobit approach. Indeed, the results of the estimates of the nonparametric approach (DEA Tobit) show that the insurance industry in Tunisia is inefficient in costs. Without ambiguity, it must minimize costs known as agency costs by means of appropriate incentive schemes. The results led us to remember that conventional insurance in Tunisia is located on the production frontier, is efficient (Bekkar, 2006). One exception is to be noted at this level: the absence of Islamic insurance industries.

*Keywords:* agency theory, performance, DEA tobit, insurance firm.

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Amina Aouini<sup>α</sup> & Chokri Abdennadher<sup>σ</sup>

**Abstract-** This work focuses on the performance (efficiency) of insurance companies at the heart of contemporary corporate governance issues (Jensen and Meckling, 1976; Fama, 1980; Fama and Jensen, 1983a, 1983b). The notion of efficiency (inefficiency) is limited to the boundaries of the firm. More or less, inefficiency results from certain (additional) costs which would not exist, it seems, if the eaters were confused with the owners of the firm (P. André and E. Schiehl, 2004). The agency theory came, at the right time, to explain the inefficiencies inherent in particular to the emergence of a class of non-owner managers.

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## I. INTRODUCTION

The Subprime Crisis (2007-2008) shook the therapeutic validity of the spontaneous market order (HAYEK, 1993) and authorized a revival of liberal theses which, however, did not show an immediate capacity to resolve the crisis (PONSOT and ROCCA, 2013; RAJAOSON, 2012; CHAVAGNEUX, 2009). The order of the market is no longer successful and capitalism seems to have lost its mind, to use the words of STIGLITZ (2003). The October Crash (1987), the Junk Bond Crisis (1989), the Mexican Crisis (1994), the Asian Crisis (1997), the Russian Crisis and the bankruptcy of the Hedge Fund LTCM (1998), the the Internet Bubble (2000), the Turkish crisis (2000), the Junk Bond crisis and the Enron affair (2001), the Brazilian crisis and the Worldcom and Vivendi affair (2002), the Parmalat affair (2003), etc. are all examples which recall how the quality of companies can affect the lives of different actors and slow down the growth of countries (ABDENNADHER and KAMMOUN, 2009; MEISEL, 2004; DEPRET and HAMDOUCH, 2004). Likewise, these crises are instructive in several respects and do not fail to call into question the validity of liberalism in a market characterized by regulations and phenomena of collusion. In such a market, in fact, two

major problems arise. On the one hand, there is no longer an automatic congruence between private interest and general interest. It is therefore necessary to reconcile them and rehabilitate (or rethink) the invisible hand of Adam Smith. On the other hand, the disappearance of certain protective barriers in favor of the formation of monopolies and rentier behavior can lead to the bankruptcy of poorly governed companies with insufficient performance or too small in size.

It is therefore not surprising that performance is at the heart of contemporary corporate governance issues. Be that as it may, the performance is detachable from the major backbones of research questions in Management Sciences (Charreaux, 2011; Albouy, 2016). This reasoning highlights the structure and mechanisms of government that are well designed and well efficient in leading to a high level of profitability of the company, reflecting significant economic performance. The reflections on this subject are not new, this term returned to the following academic works, (cf, Aguilera and Jackson, 2003; Claessens, 2003; Claessens et al, 2000; Gourevitch and Shinn, 2005; Pérez, 2006).

This article focuses on two main research questions: How effective is governance in the insurance sector and how to measure it?

To answer these questions, aims to offer an application of these models to performance (efficiency) in the insurance industry in Tunisia. However, this process is complex. Indeed, insurance performance does not only serve the insurance companies themselves, but also in the interest of governments. That said, increased performance can facilitate the achievement of social well-being. Also, this complexity has its roots in a field of research where economists are struggling to find a conventional definition of the performance of an insurance industry.

Today, the performance (efficiency) of the firm is one of the most developed avenues of research in economics. To justify the existence of the firm, its internal organization (scale is cost) and external (external growth), performance evaluates the firm. It remains to be clarified, however, when does the insurance industry perform?

Efficiency of scale, cost efficiency, technical efficiency are all definitions of efficiency in the insurance industry which ultimately depend on the researcher's objectives.

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We will proceed in two sections which, in fact, correspond to interconnected levels of analysis structuring the two sections of this thesis. Section 1 provides a theoretical framework: the performance and the economist's toolbox. Section 2 will be concerned with the type of data used. It will be devoted to a study applied to performance in the insurance industry.

*Section 1: Corporate governance and performance in the contractualist approaches of the firm.*

*a) Agency Theory, Performance and Corporate Governance*

The notion of efficiency (inefficiency) is limited to the boundaries of the firm. More or less, inefficiency results from certain (additional) costs that would not exist, it seems, if the managers were confused with the owners of the firm (P. André and E. Schiehl, 2004). Even more clearly, when the firm is run by a manager-owner, there is a congruence of interests between the director and the owner. In contrast, conflicts of interest arise when there is a separation of control and ownership.

The agency theory, supplemented by the theory of property rights, has come, at the right time, to explain the inefficiencies inherent in particular to the emergence of a class of non-owner managers. She stresses that efficiency is first and foremost about the information structure. From this point of view, an efficient firm would be one which, by means of appropriate incentive schemes (coercive), minimizes costs known as agency costs.

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*Jensen and Meckling (1976) identify three types:*

1. Monitoring costs and incitement suffered by the principal to counter the opportunism of the agent and thereby guide his behavior;
2. Bonding costs or bonding costs agreed by the agent so as not to harm the mandant. These costs

are likely to compensate him if the agent had just deviated;

3. The residual costs (losses) or opportunity costs borne by the principal due to inappropriate behavior on the part of the agent not maximizing the welfare of the principal despite efforts to control and clear customs. two parts.

Agency costs, monetary or not, would ultimately be attributable to the establishment of obligation and control systems, eg hierarchy costs, control costs, incentive costs and information costs (Henry 2006; McKnight and Weir 2009; Truong 2006). The objective of the agency's theorists is therefore to propose contractual forms, that is to say the rules of the game, the rights of contractors and systems of performance evaluation and incentives (sanctions) of agents, allow these costs to be minimized.

The analysis of corporate governance, proposed by agency theory, is based on the notion of agency relationship which is used to design the relationships between economic agents who do not share the same set of information and therefore driven by different interests and to determine optimal bilateral incentive contracts capable of resolving, it seems, the manifestations of the difficulties of effective coordination of resources such as moral hazard, adverse selection, the distribution of risks and rent between agents , etc.

The application of agency theory to the analysis of the firm is marked by the founding article of JENSEN and MECKLING. This article laid the groundwork for the positive theory of the agency, which (unsurprisingly) constitutes the dominant conception of corporate governance. By constructing a contractual theory of organizations, these authors propose to demonstrate the efficiency of the organizational forms characteristic of a joint stock company, in particular.

For JENSEN and MECKLING, the firm, even the organizations, are considered as "legal fictions" which serve as a place for the realization of a complex process of balancing between the conflicting objectives of individuals within a framework of contractual relations. From this point of view, the behavior of the firm is similar to the behavior of a market: specific contractual system, the firm would be a "private market".

It emerges that the firm as such does not have an effective existence (i.e. legal fiction) and it only makes sense to speak of the multitude of complex (contractual) relations that are established between the legal fiction (the firm) and owners of capital, labor and consumers.

From this conception, the validity of the very notion of property is tainted. In particular, FAMA (1980, p.290) establishes a very clear distinction between ownership of the firm and ownership of capital:

Ownership of capital should not be confused with ownership of the firm. Each factor in a firm is owned



by somebody. The firm is just the set of contracts covering the way inputs are joined to create outputs and the way receipts from outputs are shared among inputs. In this "nexus of contacts" perspective, ownership of the firm is an irrelevant concept.

To free oneself from the notion of ownership of the firm in favor of what would be a set of contracts organizing production and the distribution of profits, *de facto* highlights the importance of the process of controlling decisions in the firm. From this perspective, the corporate governance system would be the combination of a decision-making mechanism and a control mechanism, the latter being the combination of two functions: an evaluation and performance measurement function and an incentive and coercive function (or assumption of risk).

#### b) *The Problem of Performance Measurement*

Initially, the economic approach to insurance is based on a financial approach in which the insurance company is seen as a provider of services at given fixed and variable costs.

Such an approach has the advantage of being pragmatic, it offers the means to estimate a cost function, i.e. a relationship between average operating costs and the volume of production. To measure this, an assumption of product homogeneity is generally made, regardless of the companies. As a production indicator, we usually use sometimes all the premiums acquired during the year or (sometimes) the amount of claims paid. The operations of a company are thus characterized by the ratio of average costs to production volume.

Indeed, Jalilov & Piesse, (2014), suggest that The sustainability of a country's economic growth depends on the strength of the development of the insurance sector, as it has a vital impact on the effective mobilization and allocation of funds. The intermediary role of an economy's financial sector becomes boosted by improving the performance of the insurance system.

One measure of the performance of an insurance industry that could indicate an insurance's vulnerability to financial difficulty is Technical Efficiency (TE). Haiyan et al., (2013), measure the distance between a company's performance and best practices illustrating the optimal use of resources. It indicates the use of a company's efficient resources compared to its competitors (Ausei, 2016). Measuring and identifying the determinants of the technical efficiency of the insurance industry has been of paramount importance in identifying the best among competing insurers.

Vu (2008) also underlined that the concept of performance is "a concept widely used in the field of management sciences but which remains very vague by its multidimensional character". Effectiveness and efficiency can be seen as its determinants. According to Bouin and Simon (2009), Berland (2014), to be efficient

is to be efficient and effective. Maadani and Saïd (2009) also asserted that effectiveness and efficiency cover two distinct aspects of performance, one can be perfectly effective without being efficient. For this study, we will limit ourselves to efficiency.

The assessment of efficiency is necessary in the current context of competitiveness exacerbated by globalization. Measure to manage. Compare to move forward.

Therefore, the measurement of effectiveness and the study of the forces that drive it is the main area of study in the insurance industry and the identification of the determining factors of the performance of insurance industries in different configurations. Economic have been at the center of research.

In addition, measuring the effectiveness of governance has been widely discussed in the literature. However, there is no consensus on how to measure it. A literature devoted to the problem of evaluating the performance of insurance companies is highlighted (Cummins, et al.2010; Mahlberg, 2010; Chen, 2014 ; Chuang, 2014;, 2014; Deng, 2010; Sinha, 2015; Wise, 2017).

Performance is a proxy for the quality of corporate governance (the link between corporate governance and performance is difficult to interpret).

To fully study the effectiveness of corporate governance, some researchers have considered the benefits and costs of governance. This view sees the effectiveness of corporate governance as maximizing benefits and minimizing governance costs. Defining the benefits and costs of governance is a difficult task, the literature has not reached a consensus on how to measure the relative benefits and costs.

Boundary analysis is an improvement in relative view (is a huge step forward).

Border efficiency measures the ratio of an observed output to the maximum possible output, or the level of input at the border, by the given technique and the external environment at a given time.

From Borger et al. (2002) have underlined the four advantages of the frontier analysis approach: "It makes it possible to distinguish between efficient and inefficient production [...], to estimate inefficiency by considering best practices as benchmarks. Furthermore, the estimated boundaries allow a separation of productivity changes over time from those of efficiency. Finally, it was recognized that border estimation techniques might involve production characteristics (eg economies of scale and scope) different from average practical functions. "

There are two widely used techniques (parametric and nonparametric) to measure the effectiveness of insurance. The DEA technique has been further improved by (Banker, et al., 1984) by making it applicable to increasing, constant and decreasing returns to scale. Since then much research has been

released, applying the DEA technique to measure the efficiency of the insurance industry. Recently published DEA Studies (Giulia and Andrea, 2011, Gwahula, 2013, Djalilov & Piesse, 2014, Ke, et al., 2014, Chiang and Shiang-Tai, 2014, Xiaotian and Yong, 2014, Kun-Li, et al., 2015, Adusei, 2016).

Investigating the determining factors for the efficiency of insurance industries estimated using the DEA technique is another area recently studied in the literatures, notably (Moh'd et al., 2011, Gwahula, 2013, Tung-Hao and Shu-Hwa, 2013, Djalilov & Piesse, 2014, Lelissa, 2014, Khalad & Mazila, 2014, PO Eriki: Osagie, 2015, Dharmendra and Bashir, 2015, Adusei, 2016, Tesfaye, 2016, Lemma, 2017).

However, the majority of the studies have been conducted in a developed economy or in those where there is competition from foreign insurance industries in the sector.

The intensity of competition between insurance industries has increased, leading to improved efficiency of the sector.

#### ➤ Efficiency Theory

The modern theory of the economic efficiency of the firm dates back to the work of Farrell (1957) who was in a way the first to propose a way of measuring the ability of an organization (for example, an insurer) to transform effectively multiple resources (inputs) in various products or services (outputs).

In the wake of this literature, some researchers including (Charnes, Cooper and Rhodes (1978)) have highlighted the importance of developing an approach to assess organizational effectiveness that goes beyond a simple comparison between performance of a given organization and that of the "average" organization working in the same sector of activity (DEA)

Cummins (1999) identifies the following four efficiency frontiers: the production frontier and technical efficiency, scale efficiency, cost frontier and cost efficiency, income frontier and cost efficiency. returned.

Section 2: The Efficiency Score Estimation Method: TOBIT: DEA; Static Panel

#### a) The Static Panel

Unlike the dynamic panel (GMM), the static panel (Tobit) shows the significance of the short-term parameters, i.e. there are variables that have a short-term effect. The fixed effects estimators are inconsistent when the exogeneity assumption is absent.

For this, Anderson and Hsiao (1981) found a solution to this problem by using the estimation of instrumental variables. This estimator is inefficient since the asymptotic variance is greater than that of the Arellano-Bond estimator which uses a generalized simulation method.

In the regression model, and in some cases the dependent variables are not continuous, but restrictive

in different ways. This is the case of the efficiency estimation, where the derived efficiency are between 0 and 1 of the DEA and SFA estimation techniques, these are the censored variables.

In this thesis, we deal with the most suitable model for censored dependent variables, e.g the efficiency estimation score: 'TOBIT Regression'.

The TOBIT regression model is one of the models that takes into account the dependent variable limitation. Wooldrige (2013) suggests that this model examines the regression on efficiency, because the TOBIT model efficiency scores are censored to zero with positive probability, but they are continuously distributed over strictly positive variables.

#### b) Tobit Dea

We used the Tobit model regression model (truncated or censored) to obtain estimates of the factors that affect the efficiency of the insurance industries in Tunisia. The Tobit model is a statistical model, initially proposed by Tobin (Tobin, 1958) to describe the relationship between a dependent variable  $y_i$  (performance) and an independent variable  $x_i$  (size, growth, inflation, crisis)

Gwahula, (2013), explains that the model is able to deal with equations with a restricted threshold, such as our efficiency estimates that range from 0 to 1. Research, ie (Dharmendra & Bashir, 2015), (Gwahula, 2013), (Djalilov & Piesse, 2014), (Khalad & Mazila, 2014) also used the same model to identify the determinants of efficacy.

The following standard Tobit regression model was used;

In this model, the researchers determine the efficiency scores by the two technologies CRS and VRS on a few explanatory variables:

$$\left\{ \begin{array}{l} a) y_i^* = X_i' b + U_i \\ b) \text{les } u_i \text{ sont } iid \sim N(0; \sigma^2) \\ c) \text{ on observe } y_i = \begin{cases} y_i^* \text{ si } y_i^* \geq 0 \\ 0 \text{ si } y_i^* < 0 \end{cases} \\ i. e y_i = y_i^* I_{\{y_i^* \geq 0\}} \end{array} \right\} \quad (99)$$

For  $i \in \{1, \dots, n\}$ ;  $y_i = 0$ , For the censored data.

-  
For  $i \in \{1, \dots, n\}$ ;  $y_i > 0 \rightarrow$  The data is complete.

-  
*Two Things had to be Avoided:*

*First:* estimation by OLS on datasets that do not converge:

let  $\varphi$  be the density of  $N(0, 1)$  and  $\Phi$  its distribution function.

We have:

$$E(y_i/X_i) = X_i' b \Phi\left(\frac{X_i' b}{\sigma}\right) + \sigma \varphi\left(\frac{X_i' b}{\sigma}\right) \neq X_i' b \quad (100) \quad \text{Or}$$

$$\begin{aligned} \sigma &= (X'X)^{-1} X'y = [\sum_{i=1}^n X_i X_i']^{-1} \\ \rightarrow E\sigma/X &= [\sum_i X_i X_i']^{-1} \left[ \sum_i X_i (X_i' b \Phi\left(\frac{X_i' b}{\sigma}\right) + \sigma \varphi\left(\frac{X_i' b}{\sigma}\right)) \right] \\ &= A_n b + \sigma \beta_n \end{aligned} \quad (101)$$

Avec:

$$\begin{cases} A_n = \left[ \frac{1}{n} \sum_{i=1}^n X_i X_i' \right]^{-1} \left[ \frac{1}{n} \sum_{i=1}^n X_i X_i' \Phi\left(\frac{X_i' b}{\sigma}\right) \right] \\ B_n = \left[ \frac{1}{n} \sum_{i=1}^n X_i X_i' \right]^{-1} \left[ \frac{1}{n} \sum_{i=1}^n X_i \varphi\left(\frac{X_i' b}{\sigma}\right) \right] \end{cases} \quad (102)$$

If the  $X_1$  are assumed to be iid according to a law admitting moments up to infinity.  $A_n$  and  $B_n$  almost surely converge to values other than 1 and 0 respectively. Hence the existence of a non-zero asymptotic bias.

*Second:* estimates by OLS on full data: which are not as convergent.  
Is:

$$E(y_i/X_i \cdot y_i > 0) = X_i' b + \sigma \frac{\left(\frac{X_i' b}{\sigma}\right)}{\Phi\left(\frac{X_i' b}{\sigma}\right)} \quad (103)$$

A Tobit regression model can only be an ordinary least squared regression coefficient when the SE-DEA scores are transformed into a dependent variable (Y).

Hoff (2007) in his article Analysis of Efficiency, shows the interest of using Tobit model and ordinary least squares (OLS) in data envelopment analysis (DEA). first concluded that the Tobit approach will in most cases be sufficient to represent second stage AED models. Secondly, it is stated that OLS can effectively in many cases replace tobit as a sufficient second stage DEA model ”.

The DEA TOBIT efficiency estimate goes through two stages:

*The First Step:* calculate the efficiency from non-parametric DEA with which the output is produced with a single physical input, in the insurance market the premium is produced by a physical capital Cf. (see Cooper et al., 2000; Coelli et al., 1999; Fried et al., 1999; Grosskopf, 1996).

*The Second Step:* influence the efficiency using a regression that relates the efficiency scores to the factors observed. CF Bravo-Ureta et al. (2007), Latruffeet al. (2004).

#### ➤ TOBIT Technical Efficiency

Since the parameter estimate is biased and inconsistent if we analyze the regression coefficient using Ordinary Least Squares (OLS) because the technical efficiency obtained by DEA in Haizhou Bay are not continuous, and the values are between 0 and 1. In

order to avoid this situation, Tobin (1958) proposed the maximum likelihood method in 1958, which is the Tobit model.

In this chapter, we have adopted this model to define the main factors affecting the technical efficiency of the insurance industry in Tunisia:

Zhaoqun S.; Rong W. 3; Yugui (2016) demonstrates technical efficiency as follows

$$y_i = \beta_0 + \sum \beta_j X_{ji} + u_i \quad (110)$$

Where  $y_i$  is the regression and efficiency of each insurance industry

$\beta_j$  is the coefficient of the partial regression

$u_i$  is the interference term, and subject to the distribution of the normal norm distribution

To better understand the performance of the insurance industry in Tunisia, it is preferable to use the size of a company, the crisis, inflation, the risk premium and growth, taking into account only the factors that determine the efficiency.

The  $y_i$  bring out

$$y_i = \beta_0 + \beta X_{1i} + \beta X_{2i} + \beta X_{3i} + \beta X_{4i} + \beta X_{5i} + u_i \quad (1)$$

$X_{1i}$  The Size of the Insurance Industry

$X_{2i}$  Is the Crisis

$X_{3i}$  Inflation

$X_{4i}$  Growth

$X_{5i}$  The Risk Premium

$u_i$  Is the Stochastic distribution

#### c) Presentation of the Database

##### i. The Source of the Data

Empirically, the data used brings together a panel comprising 9 insurance companies observed over the period 2000-2013, 96 observations in total. These were extracted from balance sheets and income statements obtained from insurance companies and from the World Bank.

The explanatory variables designated to explain the cost borne by insurers are made up of two inputs and two types of outputs for the Gobb-Douglass cost function and in the case of our insurance sector.



The data used relate to institutional development, regulation of equity capital, development of insurance companies, economic development and inflation. These data are assembled as a panel for all 9 companies (8 conventional insurance and 1 Islamic insurance). With respect to our variables, some of them are expressed as arithmetic means of the basic variables. In order to calculate the efficiency scores, a Tobit regression was applied to determine the causes of the inefficiencies. The efficiency scores of the insurance industries were estimated by the DEA approach developed by Coelli (1996) and the stochastic SFA method. They were calculated to scale (CRS) and to scale (VRS).

As far as we are concerned, the explanatory variables were extracted from a database of FTUSA and the World Bank over a period of 2000-2013.

## II. METHODOLOGY

We use the model of Ahmed et al. (2011) to study the impact of a company's specific variables (size, risk premium, tangibility, risk, growth (GDP), crisis and inflation) on the performance of companies insurance in Tunisia. This is based on the parametric and non-parametric estimation and the Tobit model. Thus, the variable GDP per capita may pose a problem of reverse causality in this analysis. Indeed, the use of the GMM estimator allows us to overcome this handicap.

After choosing the model, we choose the production function. Hamermesch (1993) suggests that the Cobb-Douglas function is commonly used in empirical studies and appears to be an acceptable representation of reality (Hamermesch, 1993). Indeed, it is based on restrictive assumptions, i.e. a unit elasticity of substitution between the factors. This is the production function chosen in our study.

### a) *Input Measurement*

Regardless, the insurance industry is labor intensive, which is a major component in production. For the record, four categories of inputs exist in the insurance sector, administrative work, agent work, materials and business services (including physical capital) and financial equity. As far as we are concerned, the cost mobilized for the work factor is around 70% of overheads. Thus,  $p_1$  is the labor factor price, is obtained by dividing the annual wage costs to the total number of employees hired by each company. However, the charges relating to general agents and brokers, who contribute intensively in the production of the insurer, are not used, due to insufficient information. Clearly, the price obtained represents only an average salary cost and does not distinguish between qualification and salary structure.

Unsurprisingly,  $p_2$  is financial capital, which conformed to modern principles of research theories of the efficiency of firms and financial institutions (cf.,

McAllister and McManus, 1993; Berger, Cummins and Weiss, 1997; Hughes and Mester 1998; and Cummins and Nini, 2002).

Referring to accounting principles (SAP), the financial capital of an insurer is the sum of the legal excess of policyholders and the required reserves. The measurement of this capital is not recognized by most accepted accounting principles (GAAP). In general, the quantity of this input is measured by the actual value of the average of the beginning and end of the year capital, deflated by the IPC.

Remember, our issue revolves around performance, so it is appropriate to analyze and explain the structure of efficiency in the insurance industry in Tunisia. An approach that allows us, moreover, to understand and from there to analyze whether there is a possible failure in efficiency in this sector.

### b) *Output Measurement*

Similarly, the definition and measurement of output is a subject of controversy both theoretically and empirically. This is due to the reversal of the production cycle of insurers and the uncertainty that reigns in this sector. In this regard, a definition of output that is suitable for insurers seems to be difficult to establish. The specificity of the insurance business and the intangibility of the product offered (a sale of security against a promise of payment in the event of damage) are the elements that cause this problem.

On this occasion, according to the pioneering work of Cummins, settled claims  $y_1$  and financial products  $y_2$  were chosen two types of output. This definition is, however, difficult to apply. It is impossible to dissociate the loss output adjusted to take into account different lines of activity for reasons relating to the availability of data. Moreover, these variables do not have the same cost characteristics.

From the problem described above, insurance researchers have long sought to put forward an element of response to the adequate measurement of output while basing themselves on advances in national accounts and on economic theory, adopting the production approach, intermediation approach, user cost approach and value added approach. The major contributions of Humprey (1987), Mester (1987a), Berger, Hanweck and Humprey (1987) are the pioneers of these approaches.

The first "production" approach adopts physical indicators to measure a firm's production. The second "intermediation" or in value concerns the banking firm, a financial intermediary. Likewise, in the insurance sector, the insurer plays the role of a full-fledged financial intermediary.

To make sense of the two approaches in the insurance industry, the first approach, insurance provides a variety of distinct services i.e. claims settlement, marketing, prevention etc. Ultimately, the

number of contracts signed (or the number of policies sold) is used as a measure to capture the production of insurance companies. This approach is difficult to apply to understand the insurer's output. The reason is simple. Assuming, an insurer produces insurance policies using the labor factor and the capital factor. In practice, since insurance contracts represent a measure of insurance output, are not disclosed to the public. Similarly, an increase in policies sold increases the cost of the insurer.

However, in the intermediation approach, the production of insurance services is not limited to physical quantities. The financial dimension of operations is carried out by the insurers. Consequently, the insurer collects a significant amount of funds to invest in the financial market / and or capital and finance other projects. This generates additional income (investment income) and performance for the insurance industry.

In insurance economics, referring to the Pratt-Arrow Concept, the added value of insurance products is measured by the insurance premium (risk premium). This value is the loading of the insurance premium. Therefore, the price of insurance output is defined as premiums of the present value of losses incurred and loss adjustment costs, (cf, Cummins et al (1993, 1999, 2005 etc)

More or less, faced with the problems of output measurement, Hancocks (1991) suggests some answers to this dilemma. Indeed, it is based on the theory of user cost. In effect, it is a user-cost sign arbitrage to determine the output and the input. If the user cost is positive then the corresponding asset or liability is an input, otherwise it is an output. Despite the importance of this approach, it is difficult to have data on user costs. What limits its application in empirical work.

In conclusion, these different approaches used to define the output of insurance are the most used in insurance research work. However, despite the theoretical and empirical importance of the production approach, is the least adopted, e.g. insufficient data on the number and frequency of claims settled and / or occurring but not yet settled.

Generally, the authors opt for three measures of insurer output, e.g. premiums collected, claims paid and value added. At the end of this work, we used premiums (life and non-life) and claims (life and non-life) of the insurer's output measures.

### c) *The Determinants of Efficiency*

#### i. *Control Variables*

#### ➤ Growth: GDP

What is the impact of economic growth ( $(Cr_{it})$ ) on the performance of the Tunisian insurance industry? What are the results of empirical research dealing with

the insurance growth relationship in the insurance industry in Tunisia?

Ward and Zurbruegg (2000) analyzed the growth variable for OECD countries. Specifically, his analysis shows the existence of a causal link between insurance and economic growth that is greater in developed countries than in those in developing countries.

Indeed, the United Nations Conference on Trade and Development (UNCTAD) in 1964 formally recognized that a:

"A strong national insurance and reinsurance market is an essential feature of economic policy."

Indeed, insurance companies contribute to economic growth by creating funds that are invested in the capital market. Intuitively, they develop economic growth by mobilizing national savings and effectively managing risks and losses (Skipper, 1997). Recently, regulatory developments and risk aversion are contributing to the growth of insurance.

Little or no, the link between insurance and economic growth has been dealt with by many specialists in the field. They confirm the existence of a direct causal link between them, eg the degree of development of insurance is influenced by the level of economic development of a country, (Munadaca, 2009; Enisan & Olufisayo, 2009; Hassan et al., 2011 ; Zhang et al., 2012; Bittencourt, 2012; Greenwood et al., 2013)

Quartey & Prah (2008) assert that improving savings in the form of financial assets, eg the size and structure of financial variables, leads to an increase in capital formation and consequently to real growth of the sector and better insurance industry performance.

The insurance demand hypothesis shows that the real growth of the insurance industry leads to financial development rather than the argument of the proponents leading the supply. For proponents of this hypothesis, finance does not play a major role in economic growth and that this is only a consequence of the growth and development of the economy. (cf. Quartey and Prah, 2008; Demirguc-Kunt and Levine, 2008; Ang, 2008) (cf., section 2)

In general, insurance companies go bankrupt if growth increases at the rate of profit, e.g. PHICO insurance companies in 2001, when growth was unprofitable, and became evident.

#### ➤ The Risk Premium

According to the approach of Myers and Cohn (1987) and Cummins (1990), the premium is

$$P = \frac{L(1 + e) + S_p}{1 + r}$$

Where  $e$ : The insurer's expenses expressed as a proportion of the expected loss,

$\rho$ : The risk premium received by owners to bear the insurance risk.

$r$ : The rate of return

$L/(1+r)$ : The insurer's output quantity is approximated by the present value of the losses incurred,

$L$ : The total amount redistributed by the insurer.

$Revenu = P + r(P + S)$ : The insurer's income is equal to the total premiums received plus the investment income received

Indeed, the purpose of insurance is to redistribute funds from pool members who have not suffered a loss to those who have suffered injury. Therefore, value added is the difference between income and claims payments and interest earned on equity. We thus obtain the added value:

$$\begin{aligned} \text{added value} &= P + r(P + S) - rS - L \\ &= eL + \rho S \end{aligned} \quad (2)$$

Indeed, the purpose of insurance is to redistribute funds from pool members who have not suffered a loss to those who have suffered injury. Therefore, value added is the difference between income and claims payments and interest earned on equity. We thus obtain the added value:

The risk premium  $\rho$  reflects the additional costs resulting from the risky investment of money in the insurance business.

The total added value,  $eL + \rho S$  is the sum of the insurer's expenses plus the profit charged by the owners to bear the insurance risk.

The price of insurance defined according to the added value gives this expression

$$\begin{aligned} \text{Prix} &= \frac{P - PV(L)}{PV(L)} \quad (3) \\ &= \frac{P - \frac{L}{1+r}}{\frac{L}{1+r}} = e + \frac{S}{L} \rho \end{aligned}$$

This result can be generalized to incorporate the intermediation function, discounting at a rate  $r_p < r$  to obtain the premium, where

$$(1 + r) = (1 + r_p)(1 + m) \text{ et}$$

$m$ : is the net interest margin received by the insurer for performing the intermediation function.

Therefore, the added value becomes:

$$V = m[L(1 + e) + \rho S] + [eL + \rho S] \quad (4)$$

In short, this expression represents the added value of intermediation plus the added value of riskpooling (risk sharing).

If insurance is sold, a credit risk is highlighted. As a result, insurance companies are unable to meet the future of the obligations they have assumed, i.e. the inefficiency of the insurance industry. This type of risk is

controlled by insurance companies and regulatory bodies, using risk capital (RBC) as a measure, cf. Harrison et al. (2007), the Kenney Ratio and others.

Certainly, the recent development of the new economy 'generates an increase in the rate of hope of creating value, if the market share is obtained. This is a beneficial strategy for emerging industries that cannot work in the insurance industry.

#### □ The size

According to Pottier (2007), the size of an insurance company measures the expertise of the sector in investing. To determine the impact of firm size on the performance of the insurance industry, as we already know, we measure firm size (size) as a natural logarithm of total assets. therefore, the relationship between investment risk taking and firm size is not known. Pottier (2007), suggests that large insurance companies retain their in-house investment expertise from analysts and credit specialists. However, investing in risky assets requires insurers to assess and monitor risk, realizing performance in the insurance industry.

As far as we are concerned, investments and outsourcing allow small insurers to access riskier investment opportunities that were previously out of their reach due to insufficient size and/or internal expertise. (NAIC, 2015) Certainly we can determine the potential influence of investment outsourcing (internal or external) on assets and risk taking for small and medium enterprises in a low rate environment.

Regarding the size of firms, a lot of the works are highlighted (eg Cummins and Nini, 2002; Elango et al., 2008; Liebenberg & Sommer, 2008) which causes the positive impact of size on the performance of firms. insurance companies.

#### ii. Dummy Variables

##### ➤ Inflation

Doumpos and Gaganis (2012) estimated the performance of non-life insurers. They found that macroeconomic indicators, e.g. gross domestic product (GDP), growth, inflation and income inequality influence the outperformance of companies.

Likewise, the study by Hailegebreal (2016) shows the importance of macroeconomic factors, i.e. (GDP and inflation rate) in determining the performance of insurance companies. The study found that GDP and performance are positively related, but inflation and performance are negatively related.

Some literature on inflation notes that insurers are exposed to certain components of the CPI (the consumer price index) rather than general price changes.

Let us first look at the impact of inflation on the performance of the insurance industries. Masterson (1968) assessed the impact of inflation on insurers by isolating the components that relate to distinct lines of insurance. In contrast, inflation does not have a unique



impact on the performance of insurers. In contrast, high inflation alone can increase insurance claims, and its interaction with other economic or financial variables can complicate risk assessment.

Turning now to the classic Phillips (1958) curve, inflation by demand may be accompanied by a low unemployment rate. As a result, insurers could face an increase in claims due to inflation. These effects could be offset by the fall in the unemployment rate which is likely to affect disability claims and work accidents. Intuitively, a low unemployment rate can improve insurer sales and customer retention rates. By the way, it can offer insurers additional protection against the increase in loss risk due to inflation.

To capture the effect of inflation on the performance of the insurance industries, our life insurance case made it possible to identify two hypotheses:

*Hypothesis 1:* There is a positive relationship between income and demand for life insurance in Tunisia.

Little or no inflation erodes the value of life insurance by making it less desirable (Babbel, 1981). However, life insurance is a long-term investment that provides monetary benefits in the future. Consequently, inflationary pressure increases uncertainty and makes people less inclined to save with life insurance. A high rate of inflation, as we know, deteriorates the purchasing power of people and makes them less likely to use savings instruments, i.e. insurance.

Indeed, the negative effect of inflation on the demand for life insurance has been questioned by Browne and Kim (1993), Ward and Zurbruegg (2002) and Li et al. (2007) and Anyanwu (2014), where inflation is measured using the GDP deflator.

*Hypothesis 2:* Inflation has a negative effect on the demand for life insurance in Tunisia.

The interest rate

Clearly, the studies of Beck and Webb (2003) confirm that interest rates can reflect the return on investments of insurance companies. Notably, an unambiguously high interest rate contributes to better profitability of insurance companies, which in turn increases people's willingness to buy life insurance products (Lenten and Rulli, 2006). Referring to Beck and Webb (2003), we use a real interest rate.

#### ➤ The Crisis

Is the crisis a threat or an opportunity for the insurance sector in Tunisia?

There is no doubt that it exacerbates precariousness, the function of insurance also being to respond to this precariousness. The answer lies mainly in the situation is much more mixed, since some insurers have never performed as well as since the crisis, nuances must be made because, in reality, the situation is much more mixed.

Easy loans, we know, are the main causes of the outbreak of the crisis. It emerged following the emergence of the "originate-to-distribute" model, a mechanism for transferring risk through moral hazard behavior. Indeed, moral hazard has become more acute with the presence in the system of concepts e.g "too-big-to-fail" (Labonte, 2013) and deposit insurance. Clearly, moral hazard (see chapter 1) affects the performance of the insurance industries.

Indeed, transactions based on Riba (interest) and those of the Maysir type (games of chance) amplify the effects of a crisis, which stem from a specific sector of the economic system 'Islamic insurance'.

Socially, the crisis is affecting the behavior of policyholders and the performance of the insurance industries. In particular, policyholders can change the insurers' willingness even more, eg. The average duration of contracts, the or elimination of waiting periods, etc. (cf. Harrington (2009)

In order to go further into this variable, regulation has allowed some life insurance companies to increase their regulatory capital by selling certain products at a price below their economic cost (Yogo, 2015). More generally, during the recent financial crisis, insurance companies with a capital deficit were restored by regulatory measures (Barnes, Bohn and Martin, 2015).

#### ➤ The Performance of Insurance Companies

This section logically responds to two hypotheses:

*H1:* Islamic insurance is much more efficient than conventional insurance

*H2:* There is no technological difference between Islamic insurance and conventional insurance

#### d) *Parametric Estimation of Islamic and Conventional Insurance Companies*

➤ By Company (SFA): 2010-2013:

Table n ° 1: Descriptive Analysis by Company

Efficiency/variable	Obs	Mean	Std.dev	Min	Max
Astree	4	0.8383759	0.0171523	0.8182031	0.8580527
Carte	4	0.5921528	0.0211266	0.5674819	0.6168965
Comar	4	0.152865	0.0080369	0.1436339	0.1623139
Gat	4	0.1389071	0.073596	0.1304613	0.1475617
Lloyd	4	0.6707652	0.212824	0.6459962	0.6954482
Maghreb	4	0.8160553	0.18135	0.794767	0.8369014
Salim	4	0.7792716	0.0194164	0.7565401	0.8016536
Star	4	0.5037899	0.0201904	0.4804351	0.5273507
Zitouna-Takaful	4	0.657245	0.02113513	0.6324108	0.682023

Let us first examine the efficiency of insurance companies in Tunisia. The non-parametric approach gives us the means. The efficiency results are shown in Table 1, which shows that Astree is the most dominant in the insurance market in Tunisia. Next, let's look at the averages and retain the efficiency that best fits the data. The efficiency criterion clarifies the best efficient industry in Tunisia (Table 1). The competition of these estimated specifications indicates that all the results of this criterion converge towards different conclusions: Astree is the firm which carries out the better efficiency (0.833) on the insurance market in Tunisia.

We can read that in three years, 81.61%, 77.92%, 67.70% and 65.72% of the studied market have respectively, also, the best efficiencies in the insurance market. On the other hand, Maghreb, Salim and Zitounatakaful have a high participation rate (cf, table n ° 1).

Star insurance, as we know, dominates the majority of industries apart from e.g. life insurance, credit insurance and hail and mortality insurance for livestock. However, it monopolizes 50.37% of the market. Indeed, the private sector strongly marks the access to the efficiency markets of insurance.

Table 1 broadens the perspective and gives the differences between the companies for the two types of insurance and according to the levels of efficiency. This shows a better position for Islamic insurance Takaful as well. That said, in this process of divergence in efficiency, the disparities that persist according to the level of efficiency can inform us about the major differences in relation to insurance risk. In particular, if the divergence in these companies do not seem to mark a clear break between efficiency levels, it stands out for its great stability throughout the observation period.

To capture the divergence in performance (efficiency) between the two types of insurance, certain studies have highlighted this problem (Abdou, Ali and Lister, 2014). This work apparently gives a certain

validity to the success of conventional insurance performance. than Islamic insurance. This can be marked by the better measurement of risks and the better profitability of conventional insurance than Islamic insurance. Unlike conventional insurance, Islamic insurance chooses prudent underwriting practices to reduce information asymmetry (Kader et al, 2011, Ismail and Othman, 2014, Akhtar et al, 2012; Shah et al, 2014).

There are exceptions to this level: some research deduces the significant similarity in efficiency between the two sectors of firms. (Abdul-Majid et al., 2010, El-Gamal and Inanoglu, 2010, Mokhtar et al., 2006; Bader, 2008, Hassan et al., 2011).

More or less, some studies do not test the significance of differences in efficiency. However, the sample size is small (Al-Jarrah and Molyneux, 2003, Said, 2012). This is one of the main limitations of this thesis.

Regarding the comparison of performance (Islamic insurance versus conventional insurance), the results seem easily obtained for Islamic insurance and show that entering the market again does not contribute to inefficiency in the market. 'insurance.

Tableau n°5: Modèle Tobit: inefficiency DEA CRS

Log likelihood: 85,310684

Inefficiency CRS	Coefficient	Std erreur	T	p>  t	[95% coeff interval]
Prime de risque	2.25 <sup>e</sup> -10	8.89 <sup>e</sup> -11	2.53	0.017	4.37 <sup>e</sup> -11 4.06 <sup>e</sup> -10
Size	-0181722	-004246	-4.28	0.000	-0268211 -0.095234
Inflation	-0023412	0.159899	-0.15	0.885	-0.349115 0.302292
Ggdp	0000479	0.039153	0.01	0.990	-0.079272 0.008023
Crise	-0015927	0255687	-0.06	0.951	-0536745 050489
Const	3685741	098783	3.73	0.001	1673597 5697885

Efficiency scores, we know, tell us about the level of technical efficiency achieved. That said, these scores are between 0 and 1. Clearly, the results obtained confirm, supplement or specify the technical efficiency of these industries (see Table 2). Clearly, the labor factor is significant (0.00). Therefore, the insurance industry is technically efficient in the short term.

In particular, conventional insurance in Tunisia in Table 2 achieves better production technology and better management of scale (Chen and Lin, 2007, Bakirtas et al, (2010), Adusei, 2016, Dharmendra and Bashir, 2015).

It is also known that technical efficiency has focused on minimizing costs to determine efficiency in the insurance company in Tunisia (Yao et al., 2007).

In short, the results have led us to remember that conventional insurance in Tunisia is located on the production frontier, is efficient (Bekkar, 2006). One exception is to be noted at this level: the absence of insurance industries. Islamic.

### III. CONCLUSION

*This Article has been Concerned with this Dual Objective:* on the one hand to show how performance in the insurance market can constitute a relevant analytical framework for defining and explaining corporate governance on the one hand; on the other hand, to test the mechanisms and variables that affect the search for efficiency (performance) in the insurance industry by mobilizing frontier efficiency methods.

The various models developed have formed a relevant basis for returning to certain questions, mainly those relating to efficiency and the determination of performance in the insurance industry. Also, in light of these models have we discussed the influence of certain public policies, such as rising inflation, crisis, and GDP on the performance of the insurance industry? etc.

Ultimately, the insurance sector in Tunisia, as we know, is affected by major events (crisis). However, a vague movement of acquisitions, mergers increases the risk for the different sectors of the industry (Islamic) However, the study of risk management for the Islamic insurance sector remains complex.

Our investigations have highlighted the importance of the technological revolution, economies of scale, cost strategies in the performance of insurance industries. These strategies suggest, all other things being equal, different research strategies depending in particular on the types of insurance companies.

The insurance sector in Tunisia, as we know, is affected by major events (crisis) .However, a vague movement of acquisitions, mergers increases the risk for the different sectors of the industry (Islamic or conventional). However, the study of risk management for the Islamic insurance sector remains complex. Indeed, risk management processes allow insurance sectors to control risks and take advantage of investment opportunities. These processes are important for decision-makers in terms of regulation and control, which are the determinants of efficiency and

stability of financial systems. Either way, the liberalization of financial markets is associated with increased risk and financial instability.

Usually, globalization and technological revolution are key factors in the development of Islamic insurance industries beyond national borders. This financial sector has experienced strong dynamism and competitiveness on the one hand and complexity on the other.

The insurance sector, as we know, plays a fundamental role in economic development by creating a risk-free environment.

In addition, efficiency measures assess the performance and competitiveness of the industry. Clearly, the company achieves economies of scale wins the market bet and becomes efficient and monopoly. Indeed, Theoretical macroeconomic models show that an economy becomes palace of an economy subjected to imperfect competition to an economy where companies realize abnormal profits under the assumption of constant returns to scale.

## BIBLIOGRAPHY

1. André P. et Schiell E. (2004), "Système de gouvernance, actionnaire dominant et performance future des entreprises", *Finance Contrôle Stratégie*, vol. 7, n°2, pp. 165-193.
2. Antal A. B. et Richebé N. (2009), "A Passion for Giving, a Passion for Sharing", *Journal of Management Inquiry*, vol. 18, n°1, pp. 78-95
3. E. Furubotn, S. Pejovich (1972), "Property Rights and Economic Theory: A Survey of Recent Literature", *Journal of Economic Literature*, Vol. 10, n°4, pp. 1137-1162.
4. Alchian (A.A.), Kessel (R.A.) (1962), "Competition, Monopoly and the Pursuit of Money", *Aspects of Labor Economics, publié par le NBER, Princeton, Princeton University Press*, pp. 157-175.
5. Becker (G.S.) (1961), "The Economies of Discrimination", *Chicago, University of Chicago Press*, 1957.
6. Stigler (G.J.) (1961), "Economics of Information", *Journal of Political Economy*, pp. 213-225.
7. Phillip J. McKnight and Charlie Weir (2009), "Agency costs, corporate governance mechanisms and ownership structure in large UK publicly quoted companies: A panel data analysis", *The Quarterly Review of Economics and Finance*, vol. 49, n°2, pp.139-158
8. Chabaud, D., Glachant, J-M, Parthenay, C. et Perez, Y. (2008), "Les grands auteurs en économie des organisations, ems Management & Société", *Coll. Grands Auteurs, Paris*, pp. 414.
9. Henri, J.-F. (2006), "Organizational culture and performance measurement systems Accounting", *Organizations and Society*, Vol. 31, n°1, pp. 77-103.
10. Truong, Q. (2006), A. Nankervis, S. Chatterjee, and J. Coffey, "Human Resource Management in Vietnam." In *Perspectives of Human Resource Management in the Asia Pacific*, Pearson Prentice Hall., pp.231–252.
11. Fama E.F., (1980), "Agency problems and the theory of the firm Pearson Prentice Hall Pearson Prentice Hall", *Journal of Political Economy*, pp. 288-307.
12. Charreaux G., (2000), "La théorie positive de l'agence: positionnement et apports", *Revue d'économie industrielle*, n° 92, pp. 193-214.
13. Charreaux G., (2004), "Les théories de la gouvernance: de la gouvernance des entreprises à la gouvernance des systèmes nationaux", *Cahier du FARGO – Centre de recherche en Finance, architecture et gouvernance des organisations*, n° 104010.
14. Haiyan Y., Jiawen Y., Jamshid M. (2013), "An empirical study of bank efficiency in China after WTO accession", *Global Finance Journal*, Vol. 24, n°2, pp. 153-170.
15. Adusei M.. (2016), "Determinants of bank technical efficiency: Evidence fro Rural and Community banks in Ghana", *Cogent Business & Management*, Vol. 3, n°1, pp. 1-15.
16. Bouin X., Simon F. X., (2009). "Les nouveaux visages du contrôle de gestion: Outils et comportements". *Dunod*, n°3.
17. Berland N. (2014), "La performance, objet du contrôle, in *Le contrôle de gestion*", *Paris PUF*, pp. 55-79.
18. Maadani, M., Saïd, K. (2009), "Management et pilotage de la performance", *Hachette Éducation*.
19. Chen, L. R., & McNamara, M. J. (2014), "An Examination of the Relative Efficiency of Fraternal Insurers", *The Journal of Insurance Issues*, Vol. 37, n°1, pp. 1-31.
20. Sinha, R. P. (2015), "A Dynamic DEA Model for Indian Life Insurance Companies", *Global Business Review*, Vol.16, n°2, pp.1-12.
21. Peng, J-L., Chen, R-L. & Liu, W. P. (2014), "The Bancassurance Cooperation Strategy and Efficiency of Life Insurance Companies", *Academia Economic Papers*, Vol. 42, n°2, pp. 235-269.
22. Chuang, C. C., & Tang, Y. C. (2014), "Asymmetric Dependence between Efficiency and Market Power: Longitudinal Perspective of the Taiwan Life Insurance Industry", *International Journal of Applied Mathematics and Statistics*, Vol.52, n°8, pp. 144-151.
23. Deng, Y. (2010), "The Efficiency Analysis of the Life Insurance Industry in China - Based on the DEA Method (Unpublished Master's thesis)", *The University of Texas at Austin, Austin (suburb of the Austin-Round Rock CSA), TX*.
24. Bouquin, H., Kuszla, C. (2013), "Le contrôle de gestion", *P.U.F. 10ème édition (1ère édition: 1986)*.

25. Berland, N., Essid, M. (2009). RSE, "systèmes de contrôle et pilotage de la performance globale", 30ème congrès de l'Association Francophone de Comptabilité (AFC). Strasbourg.
26. DE BORGER B., KERSTENS K. et COSTA A. (2002), "Public transit performance: what does one learn from frontier studies", *Transport Reviews*, Vol. 22, n°1, pp. 1-38.
27. Banker R. D., Charnes A., Cooper W. W. (1984), "Some models for estimating technical and scale inefficiencies in Data Envelopment Analysis", *Management Science*, Vol.30, pp.1078-1092.
28. Giulia, R. & Andrea, G., (2011), "Measuring and comparing the efficiency of water utility companies: A data envelopment analysis approach", *Utilities Policy*, Vol n°19, pp. 202-20.
29. Gwahula R. (2013), "Bank-Specific, Industry Specific and macroeconomic determinants of bank Efficiency in Tanzania: A two stage analysis", *Journal of Business Management*, Vol. 5, n°3, pp. 142-154.
30. Djalilov K., Piesse, J. (2014). "The Determinants of Bank Efficiency In Central Asia. Corporate Ownership & Control", *springer*, Vol. 12, n°1, pp. 656-670.
31. Ke W., Wei H., Jie. L. ( 2014), "Efficiency measures of the Chinese commercial banking system using an additive two-stage DEA", *Omega*, Vol. 14, p. 5–20.
32. Chiang K., Shiang-Tai L. (2014), "Multi-period efficiency measurement in data envelopment analysis: The case of Taiwanese commercial banks", *Omega*, Vol .47, p. 90
33. Xiaotian T. Z., Yong, W. (2014), "Production efficiency of Chinese banks". *a revisit. Managerial Finance*, Vol. 40, n°10, p. 969–986.
34. Kun-Li L., Anh T., Shuh-Chyi D. (2015), "Changes in ownership structure and bank efficiency in Asian developing countries: The role of financial freedom", *International Review of Economics and Finance*, Vol.43, pp.19-34.
35. Moh'd, M. A., Mohammad, W. H. & Waleed, H., (2011), "The Relative Efficiency of Jordanian Banks and its Determinants Using Data Envelopment Analysis", *Journal of Applied Finance & Banking*, Vol.1, n°3, pp. 33-58.
36. Tung-Hao, L. & Shu-Hwa, C., (2013), "Does financial regulation affect the profit efficiency and risk of banks? Evidence from China's commercial banks", *North American Journal of Economics and Finance*, Vol.26, pp. 705–724.
37. Lelissa, T. B., (2014), "Efficiency in the Ethiopian Banking System: An Application of Data Envelopment Analysis", *European Journal of Businesses and Management*, Vol.6, n°23, pp. 129-139.
38. Khalad, M. S. A. B. H. K. & Mazila, M. Y., (2014), "Efficiency and Determinants in Libyan Banking", *International Journal of Business and Social Science*, Vol.5, n°5, pp. 156-168.
39. Lemma, T. Z., (2017), "Determinants of bank technical efficiency: Evidence from commercial banks in Ethiopia", *Cogent Business & Management*, p. 4: 1268356.
40. Dharmendra, S. & Bashir, A. F., ( 2015), "Technical efficiency and its determinants: an empirical study on banking sector of Oman", *Problems and Perspectives in Management*, Vol. 13, n°1 pp. 168-175.
41. Tesfaye, T., (2016), "Determinants of Commercial Banks Efficiency: Evidence from Selected Commercial Banks of Ethiopia", *International Journal of Scientific and Research Publications*, Vol. 6, n°5, pp. 551-556.
42. P. O. Eriki: Osagie, O., (2015), "Determinants of Performance Efficiency in Nigerian Banking Industry: A DEA Approach", *International Journal of Economics Commerce and Management*, III (2).
43. Cummins J.D., TnnysonS., wiss M.A. (1999a), "Consolidation and efficiency in the US life insurance industry", *Bank. Finance*, Vol. 23, n°2, pp. 325-357.
44. Farrell M.J. (1957). "The Measurement of Productive Efficiency", *Journal of the Royal Statistical Society*, Vol. 120, pp. 253-290.
45. Charnes, A., Cooper, W. & Rhodes, E., (1978), "Measuring the efficiency of Decision Making Units", *European Journal of Operations Research*, pp. 429-44.
46. Anderson. W., Hsiao. C: (1981), "Estimation of Dynamic Models with Error Components", *Journal of the American Statistical Association*, Vol. 76, pp 598-600.
47. .Cooper, W.W., Seiford, L.M. and Tone, K., (2000), "Data Envelopment Analysis: A Comprehensive Text with Models", *Applications, References and DEA-Solver Software*, *Kluwer Academic Publishers, Boston*.
48. Fried, H.O., S.S. Schmidt and S. Yaisawarng. (1999), "Incorporating the Operating Environment into a Nonparametric Measure of Technical efficiency", *Journal of productivity analysis*, Vol.12, n°3, pp.249.267.
49. Grosskopf S (1996), "Statistical Inference and Nonparametric Efficiency: A Selective Survey." *JPA*, Vol., n°7 (2-3), pp. 161-176.
50. Latruffe L, K. Balcombe, S. Davidova, K. Zawalinska. (2004), "Determinants of technical efficiency of crop and livestock farms in Poland", *Applied Economics*, Vol. 36, n°12, pp. 1255–1263.
51. Vestergaard, N., Hoff, A., Andersen, J.L., Lindebo, E. and Gronbaek, L. (2002), "Measuring capacity in fishing industries using the data envelopment (DEA)



- approach", *Final Country Report: Denmark, EUStudy 99/005*.
52. Hamermesh, D. (1993), "Labor Demand", Princeton University Press.
  53. Patrick H. McAllister and Douglas McManus (1993), "Resolving the scale efficiency puzzle in banking", *Journal of Banking & Finance*, vol. 17, issue 2-3, pp.389-405
  54. Cummins, J. David and Patricia M. Danzon, (1997), "Price Shocks and Capital Flows in Liability", *Insurance Journal of Financial Intermediation*, Vol.6, pp. 3-38.
  55. Hughes, Joseph P. and Loretta J. Mester, (1998), "Bank Capitalization and Cost: Evidence of Scale Economies in Risk Management and Signaling," *Review of Economics and Statistics*, Vol. 80:, pp. 313-32.
  56. Cummins D and G Nini (2002). "Optimal Capital Utilization by Financial Firms: Evidence from the Property-Liability Insurance Industry." *J Financial Services Research* 2: 15-53
  57. Berger A, G Haweck and D Humphrey (1987). "Competitive Viability in Banking: Scale, Scope, and Product Mix Economies." *J Monetary Economics*, Vol. 2, pp. 501-52.
  58. Loretta J. Mester, (1987), "Efficient production of financial services: scale and scope economies", *Business Review, Federal Reserve Bank of Philadelphia, issue Jan*, pp. 15-25.
  59. Allen Berger, Gerald Hanweck and David B. Humphrey.(1987), "Competitive viability in banking: Scale, scope, and product mix economies", *Journal of Monetary Economics*, vol. 20, n° 3, pp.501-520
  60. Cummins, J.D., Weiss, M.A. and Zi, H. (1999), "Organizational form and efficiency: The coexistence of stock and mutual property-liability insurers", *Management Science* ,Vol.45, pp.1254–1269.
  61. Cummins et al. (2005), "Happiness Measure(s) and Distributional Findings", *Australian Unity Wellbeing Index, Report 12.1. Special report on City and Country Living*.
  62. Hancock, D. (1991), "A Theory of Production for the Financial Firm. Boston", *Springer, Kluwer Academic Pub*.
  63. WARD D., ZURBRUEGG R. (2000), "Does Insurance Promote Economic Growth? Evidence from OECD Countries", *The Journal of Risk & Insurance*, vol. 67, n° 4, 489- 506.
  64. Mundaca, B. G., (2009), "Remittances, financial market development, and economic growth: the case of Latin America and the Caribbean", *Review of Development Economics*, Vol.13, n°2, pp., 288-303.
  65. Enisan, A.A. and Olufisayo, A.O. (2009), "Stock Market Development and Economic Growth: Evidence from Seven Sub-Sahara African Countries", *Journal of Economics and Business*, Vol.61, pp.162-171.
  66. El Hassan, K. (2011), "Quality of College Life (QCL): Validation of a measure of student well-being in the Middle East", *International Journal of Educational and Psychological Measurement*, Vol.8, n°1, pp.12-22.
  67. Zhang, J., Wang, L., Wang, S., (2012), "Financial development and economic growth: Recent evidence from China", *Journal of Comparative Economics*, Vol. 40, n°3, pp.393-4.
  68. Bittencourt, M., (2012), "Financial development and economic growth in Latin America: Is Schumpeter right?", *Journal of Policy Modeling*, Vol. 34, n°3, pp. 341-355.
  69. Greenwood, J., Sanchez, J. M., Wang, C., (2013), "Quantifying the impact of financial development on economic development", *Review of Economic Dynamics*, Vol.16, n°1, pp. 194-215.
  70. Quartey, P., Prah, F., (2008), "Financial development and economic growth in Ghana: is there a causal link?", *African Finance Journal*, Vol. 10, n°1, pp. 28–54.
  71. Demirgüç-Kunt, A., Levine, R., (2008), "Finance, financial sector policies, and long-run growth". *World Bank Policy Research Working Paper Serie*.
  72. Ang, J. B., (2008), "A survey of recent developments in the literature of finance and growth", *Journal of economic Surveys*, Vol.22, n°3, pp. 536-576.
  73. Myers, Seward C, and Cohn. Richard A. (1987), "A Discounted Cash Flow Approach to Property-Liability Insurance Rate Regulation," *Fair Rate of Return in Property-Liability Insurance*. Klov,er-Ntjhoff, pp, 55-78.
  74. Cummins, J. David(1990), "Multi-Period Discounted Cash Flow Rate-making Models in Property-Liability Insurance", *Journal of Risk and Insurance*, Vol. 57, pp.79-109.
  75. Harrison R, et al. (2007), "Plasticity of genetic interactions in metabolic networks of yeast", *Proc Natl Acad Sci U S A*, Vol. 104, n°7, pp.2307-12.
  76. Elango R, Ball RO, Pencharz PB (2008a), "Indicator amino acid oxidation: concept and application", *JNutr*, Vol.138, pp.243–2.
  77. Andre P. Liebenberg, David W. Sommer (2008), "EFFECTS OF CORPORATE DIVERSIFICATION: DIVERSIFICATION: EVIDENCE FROM THE PROPERTY-LIABILITY INSURANCE INDUSTRY", *JOURNAL OF RISK AND INSURANCE*.
  78. Hailegebreal, D. (2016), "Macroeconomic and Firm Specific Determinants of Profitability of Insurance Industry in Ethiopia", *Global Journal of Management and Business Research: C Finance*, Vol. 16, n°7, pp. 26-36.
  79. Masterson, J.E. (1968), "A method for procuring certain X-Y duplications", *D. I. S.*, vol.43, pp. 161.

80. COGLEY, T. et A. SBORDONE (2005), "A Search for a Structural Phillips Curve", *Manuscript, Federal Reserve Bank of New York*.
81. Babbel, David F. (1981), "Inflation, Indexation, and Life Insurance Sales in Brazil", *The Journal of Risk and Insurance*, pp. 1111-135.
82. Browne, Mark J., and Kihong Kim. (1993), "An International Analysis of Life Insurance Demand," *The Journal of Risk and Insurance*, Vol. 60, pp. 616-629.
83. Damian R. Ward., Ralf Zurbrueg (2002), "Law, Politics and Life Insurance Consumption in Asia Geneva Papers on Risk and Insurance - Issues and Practice , Vol. 27, n°3, pp. 395-412
84. Li Y. et al. (2007). "An enzyme-coupled assay for amidotransferase activity of glucosamine-6-phosphate synthase", *Anal Biochem*, Vol. 370, n°2, pp. 142-6.
85. Beck, T., and I. Webb. (2003), "Economic, demographic, and institutional determinants of life insurance consumption across countries", *The World Bank Economic Review*, vol. 17, pp. 51–88.
86. Lenten, L.J.A., and D.N. Rulli. (2006), "A Time-Series Analysis of the Demand for Life Insurance Companies in Australia: An Unobserved Components Approach", *Australian Journal of Management*, vol. 31, pp. 41-66.
87. Marc Labonte (2013), "Federal Reserve: Unconventional Monetary Policy Options" *CRS, USA*.
88. Harrington, D. (2009)., "Confirmatory factor analysis". *New York: Oxford University Press*.
89. Ralph S. J. Koijen.. Motohiro Yogo.. The Cost of Financial Frictions for Life Insurers. *American economic review*, Vol. 105, n°1, pp.445-7.
90. Michelle L. Barnes & James Bohn & Cynthia Martin, (2015), "A post-mortem of the life insurance industry's bid for capital during the financial crisis", *Current Policy Perspectives 15-8, Federal Reserve Bank of Boston*.
91. Gerard Gharreaux. (2011), "Quelle théorie pour la gouvernance ? de la gouvernance actionnariale à la gouvernance cognitive et comportementale ?", *cahier du Fargo*, n°1110402, p. 25.
92. Albouy (2016), "Actionnariat salarié, gouvernance et performance de la firme: une étude de cas économétrique portant sur un groupe français coté, les relations finance industrie", *revue d'économie industrielle*, n°154, p. 151-176.
93. Jean Tirole. (2016), "Economie du bien commun "Paris, PUF, Vol. 629, p.18.
94. Aguilera, R. V and Jackson, G. (2003), "The cross-national diversity of corporate governance: Dimensions and determinants", *Academy of management Review*, vol.28, pp. 447-65.
95. Claessens, S., D jankov, S and Klapper –L. (2003), "Resolution of corporate distress in East Asia", *journal of empirical finance*, vol. 10, pp.199-216.
96. Claessens, S., D jankov, S and Lang, LHP(2000a). "the separation of ownership and control in East Asian corporations", *journal of financial economics*, vol. 58, pp. 81-112.
97. Gourevitch, P.A and Shinn, j. (2005), "Political Power and corporate control: the new Global politics of corporate governance", *Princeton: Princeton university Press*.
98. Pérez-Gonzalez, F. (2006), "Inherited control and Firm Performance", *American Economic Review*, vol. 96, pp.1159-58.
99. Michael C. Jensen and William H. Meckling (1976), "theory of the Firm: managerial behavior, agency costs, and ownership structure", *journal of Financial Economics*, n°3, pp.305-360.
100. Demsetz (1968), "The cost of transacting", *Quarterly journal of Economics*, pp.33-53.
101. Gharreux G. (2004), "les theories de la gouvernance: de la gouvernance des entreprises à la gouvernance des systems nationaux", *cahiers de Fargo*, n°1040101.
102. Joaquin A. O. Barros, Salvador Dias(2010), "Performance", *cahiers de Fargo*, n°123521.
103. Mary A. Wei et al (2010), "Economics of scope in financial services: ADEA efficiency analysis of the US insurance industry", *journal of Banking Finance*, vol. 34, n°7, pp. 1525-1539.
104. Williamwise (2017), "A survey of life insurance", *papers: methods, pro and cons, trends*, *Accounting*, vol. 3, pp.137-170.
105. Tim Coelli et al.(1999): "A counting for environmental influences in stochastic frontier models: with application to international Airlines", *journal of productivity analysis*, Vol.11, n°3, pp. 251-273.
106. Brovo-Ureta et al (2007), "Technical efficiency in Farming: A meta regression analysis", *journal of productivity*, vol.27, n°11, pp. 57-72.
107. Zhaoqun S., Rong W., y wgui Z-(2016), "Analysis on technical and influencing factors of fishing vessels: a case study of Haizhou Bay, China", *Iranian journal of Fisheries Sciences*, Vol.17, n°3, pp. 516-532.
108. Michael Doumps, Chrysovlantis Gagnis Fotios Pasiouras (2012), "Estimating and Explaining the Financial Performance of Property and casualty insurers: A two stage analysis", *journal of CENTRUM CATHEDRA*, vol.2, n°2, pp155-170.
109. John C. Ayanwu (2014), "Does Intra-African trade reduce youth unemployment in Africa ?", *African development review*, vol. 26, n°2, pp. 286-309.
110. Hayek (1993), "l'ordre spontané et la complexité presses de sciences pro", *revue économique*, vol. 6, pp.1335-1358.

111. PonsoT et Rocca (2013), "le renouvellement de la pensée économique Durant la crise des années 1930, le découplage théorie économique/politique économique", *spring 2013, economie politique de l'Asie*, vol.13, n°1.
112. Christian Chavagneux (2009), "une brève histoire des crises financières, des tulipes aux subprimes", Paris la découverte, 2013.
113. Rajason (2012), "la signification du néolibéralisme, comment penser le néolibéralisme aprise la crise de 2008", *Sociologie, Uni*, pp.5-25.
114. Kader et al., (2011), "Balanced Scorecard Development: A Review of Literature and Directions for Future Research", *Review of Management Accounting Research*, pp.214-239.
115. Ismail et Othman (2014), "Relationship Between Organizational Climate, Job Stress And Job Performance Officer At State Education Department", *nternational Journal of Education and Literacy Studies*, Vol.2, n°1, pp.17-28.
116. Akthar et al., (2012), "IMPACT OF ORGANIZATIONAL LEARNING ON ORGANIZATIONAL PERFORMANCE: STUDY OF HIGHER EDUCATION INSTITUTES", *INTERNATIONAL JOURNAL of ACADEMIC RESEARCH*, Vol. 3, n°5, pp. 2.
117. Shah (2014), "The Impact of Capital Structure on Firm Performance: Evidence from Pakistan", *Journal of Industrial Distribution & Business*, Vol. 5, n°2, pp.13-20.
118. Abdul –Majid et al. (2010), "Efficiency in Islamic and conventional banking: An international comparison", *Journal of Productivity Analysis*, Vol. 34, n°1, pp. 25-4.
119. El Gamal et Inanoglu (2005), "Inefficiency and heterogeneity in Turkish banking: 1990-2000", *Journal of Applied Econometrics* , Vol.20, n°5, pp.641-664.
120. Mokthar et al. (2006), "Efficiency of Islamic banking in Malaysia: A stochastic frontier approach", *Journal of Economic Cooperation* 27, Vol. 2, pp. 37-70.
121. Bader t al (2008), "Efficiency of Conventional Versus Islamic Banks: International Evidence Using the Stochastic Frontier Approach (SFA)", *journal of banking and Finance*, vol. 2, pp. 55.
122. Hassan et al. (2011), "Quality of College Life (QCL): Validation of a measure of student well-being in the Middle East", *International Journal of Educational and Psychological Measurement*, Vol. 8, n°1, pp.12-22.
123. Al-Jarrah, I. and Molyneux P. (2003), "Efficiency in Arabian banking", *Paper presented at the International Conference on Financial Development in Arab Countries, Abu Dhabi, UAE*.
124. Chen et Lin (2007), "Does innovation lead to performance? An empirical study of SMEs in Taiwan", *Management Research News*, Vol. 30, n°2, pp. 115-13.
125. Dharmendra et Bashir.. (2015), "Technical efficiency and its determinants: An empirical study on banking sector of Oman "study on banking sector of Oman", *Problems and Perspectives in Management*, Vol. 13, n°1, pp.168-17.
126. Said, A. (2012), "Comparing the change in efficiency of the Western and Islamic banking systems", *Journal of Money, Investment and Banking*, Vol. 23, pp.149-180
127. Yao et al. (2007), "Performance of Magnetorheological Fluids Flowing Through Metal Foams", *Measurement Science Review*, Vol. 11, n°5, pp.144-148



## Building Sustainable and Stable Global Value Chains: Case Study of Morocco

By Abdelmonim Amachraa & Bertrand Quelin

**Abstract-** Global value chains (GVCs) are intended to fragment global production among several countries and companies. In this context, national economies have begun processes of insertion and specialization with both social and green objectives, because multinationals (MNEs) create significant negative externalities. As country, relies on a long-term political vision and some modern infrastructures even if Morocco has chosen to develop an integrated economy in global businesses. However, the GVCs face a tremendous change because the Covid-19 pandemic, war in Ukraine and shortages in value chains. In addition to these external shocks, MVCs face two internal mechanisms. First, the temptation of multinationals to reorganize their operations in a more regional manner. Second, the claim of many countries to produce and capture greater value added through their efforts to train people and develop ESG-based solutions. It is interesting to compare and analyze different types and levels of insertion of activities in GVCs. This paper examines four different cases in Morocco: phosphate, automotive, textile and agribusiness. We identify three trends.

**Keywords:** *global value chains, morocco, public and private governance, global and local stakeholders, SMEs rise, innovation.*

**GJMBR-B Classification:** B20



*Strictly as per the compliance and regulations of:*





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Abdelmonim Amachraa<sup>α</sup> & Bertrand Quelin<sup>σ</sup>

**Abstract-** Global value chains (GVCs) are intended to fragment global production among several countries and companies. In this context, national economies have begun processes of insertion and specialization with both social and green objectives, because multinationals (MNEs) create significant negative externalities. As country, relies on a long-term political vision and some modern infrastructures even if Morocco has chosen to develop an integrated economy in global businesses. However, the GVCs face a tremendous change because the Covid-19 pandemic, war in Ukraine and shortages in value chains. In addition to these external shocks, MVCs face two internal mechanisms. First, the temptation of multinationals to reorganize their operations in a more regional manner. Second, the claim of many countries to produce and capture greater value added through their efforts to train people and develop ESG-based solutions. It is interesting to compare and analyze different types and levels of insertion of activities in GVCs. This paper examines four different cases in Morocco: phosphate, automotive, textile and agribusiness. We identify three trends. First, the government's strategic ambition to solve all problems, sometimes in a hurry, sometimes through a consistent policy of infrastructure provision. We identify a constant effort to prefer subsidizing local production to the emergence of strong and innovative local SMEs and locomotives. Second, we assess the ambition of some powerful multinationals in substituting, even partially, the role of government in key territories, and by deciding to achieve their short-term integration into the global economy. Third, all actors must address the challenges of ESG and sustainability investment.

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## I. INTRODUCTION

The Kingdom of Morocco, a major player in the international phosphate market, has succeeded in becoming a competitive hub in the automotive value chain linking Europe and Africa. A look at the performance of the Moroccan economy's integration in GVCs, including participation and position indices, shows how committed the country is to GVC development.

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However, Morocco's participation in some GVCs is still characterized today by low value added, poor upgrading, lack of innovation by SMEs (little risk-taking), few jobs for young people (market uncertainties, lack of growth prospects), and a strong dependence of the Moroccan economy on environmental conditions and the European market. As a result, Moroccan industry is trapped in certain low-value-added GVCs that hardly allow it to develop innovation and think about the 4th industrial revolution. We show that for a couple of industries, it is still difficult to take in hand the industrial, digital, social and environmental changes.

The objectives of this research are to:

1. Rethink and develop an approach to integrate Morocco into GVCs and serve the socio-economic development of sites where GVCs are in line with the UN Sustainable Development Goals,
2. Reflect on relevant and innovative investment programs in the four GVCs analyzed,
3. Define the operational model for SMEs, multinationals and public authorities, and identify the new positioning of Morocco itself.

## II. GLOBAL VALUE CHAINS - EMERGENCE AND EVOLUTION: A THEORETICAL BACKGROUND

GVC is the fragmentation of global production between several countries and companies advocating to invest in an ecosystem of suppliers. At the same time, it also promotes the transfer of technologies and good practices. Therefore, it is possible to produce in one place, consume in another, and control production and other segments of the value chain remotely and from another country. In this process, both countries and companies specialize in value-added tasks and functions without worrying about manufacturing an entire finished good. All countries participate in but in different ways depending on their comparative advantages<sup>1</sup>. All actors must cope with new external and internal factors that can transform the existing GVC organization.

In this globalizing form, fragmentation (Jones and Kierzkowski, 2001), offshore supply (Arndt, 1997), external orientation (Campa and Goldberg, 1997), production disintegration (Feenstra, 1998), sharing of world production (Yeats, 2001), vertical specialization

<sup>1</sup> <https://openknowledge.worldbank.org/handle/10986/3437>



(Hummels et al., 2001), outsourcing (Grossman and Helpman, 2002), global production networks (Hanson and et al., 2004, Ceo, et al., 2008), GVC governance (Gereffi et Fernandez-Stark, 2016), CSR and GVC (Bair, 2005), social, political and environmental integration (Levy 2008; Coe, Dicken, and Hess 2008), task exchanges (Grossman and Rossi-Hansberg, 2008), internalization theory and GVC (Strange & Humphrey, Benito et al, 2019), innovation and cooperation (Mudambi, 2008), GVC resilience (Bair, 2005 and 2015; Gereffi and Baldwin, 2020 and 2021), reflect the importance of GVCs in the relationship among countries, multinational firms, and civil society.

However, multinational firms that coordinate the activities and tasks of GVCs, are now under the scrutiny and mainly targeted for their social, governance, and environmental impact. Economists, analysts and civil society note that these business networks create significant negative externalities in both social and environmental (CNUCD, 2013; Bair et Palpacuer, 2015 ; ILOT, 2016 ; Kano et al 2020/2021 ; Ashwin & Kabeer, 2020; Gereffi et al. 2021/2022 ; Philips et al., 2022).

Firms have therefore started a social turn and a green turn. However, these actions are still often considered social washing and green washing. It leads to an intense criticism of multinational firms (MNEs). Massive contradictions do exist between the ESG practices and policies of firms and their behaviors and strategies that led to the rise of mistrust and injustice feelings among various stakeholders of GVC. Among these factors, we observe negative perception of GVC, high demand for jobs and integration of local SMEs, difficulty of dialogue and communication with stakeholders, low added value captured by developing countries, non-compliance with standards of rehousing of local populations, and environmental nuisances are the biggest challenges.

The concept of GVC sustainability is not limited to improving the social conditions of workers or broadening the participation of stakeholders in the value-sharing process. However, it aims to use resources reasonably, guarantee partners goods and services with good value for money, and ultimately maximize the well-being of all GVC participants. Therefore, we can anticipate that the GVCs of tomorrow will be value chains providing answers to local, social, and environmental problems and transform threats into opportunities.

As a result, ESG has become the main field of the struggle of actors to improve the private governance of GVC (Bair, 2015). For governance, several specialists suggested that actors, including social actors, find ways to take advantage of ESG and force change to adapt the business models of value chains towards models that allow the sustainability of activities and the active participation of all the driving forces of value chains. However, Gereffi and Meyer respectively demonstrate

how leading companies have managed to shape the field where this struggle is taking place, mobilizing ESG to control risk and maintain control along the value chain. It appears that ESG strives to absorb and disseminate social protest and political conflicts in this perspective.

Finally, the logic of sustainability, long-term governance, and collaborative innovation induce the systemic transformation of GVCs. A recent study by Kano et al. (2020) identifies new themes to challenge the conceptual frameworks for the analysis of GVC. It introduces an institutional and systemic perspective. It crosses the global performance of global value chains with different factors: value sharing, mapping of the GVC ecosystem, learning, impact of leading companies, social and environmental nuisances, digitalization, and trade agreements. Thus, the multidimensional review offers a broader and sustained perspective of GVC to further integrate them into collective dynamics with other stakeholders.

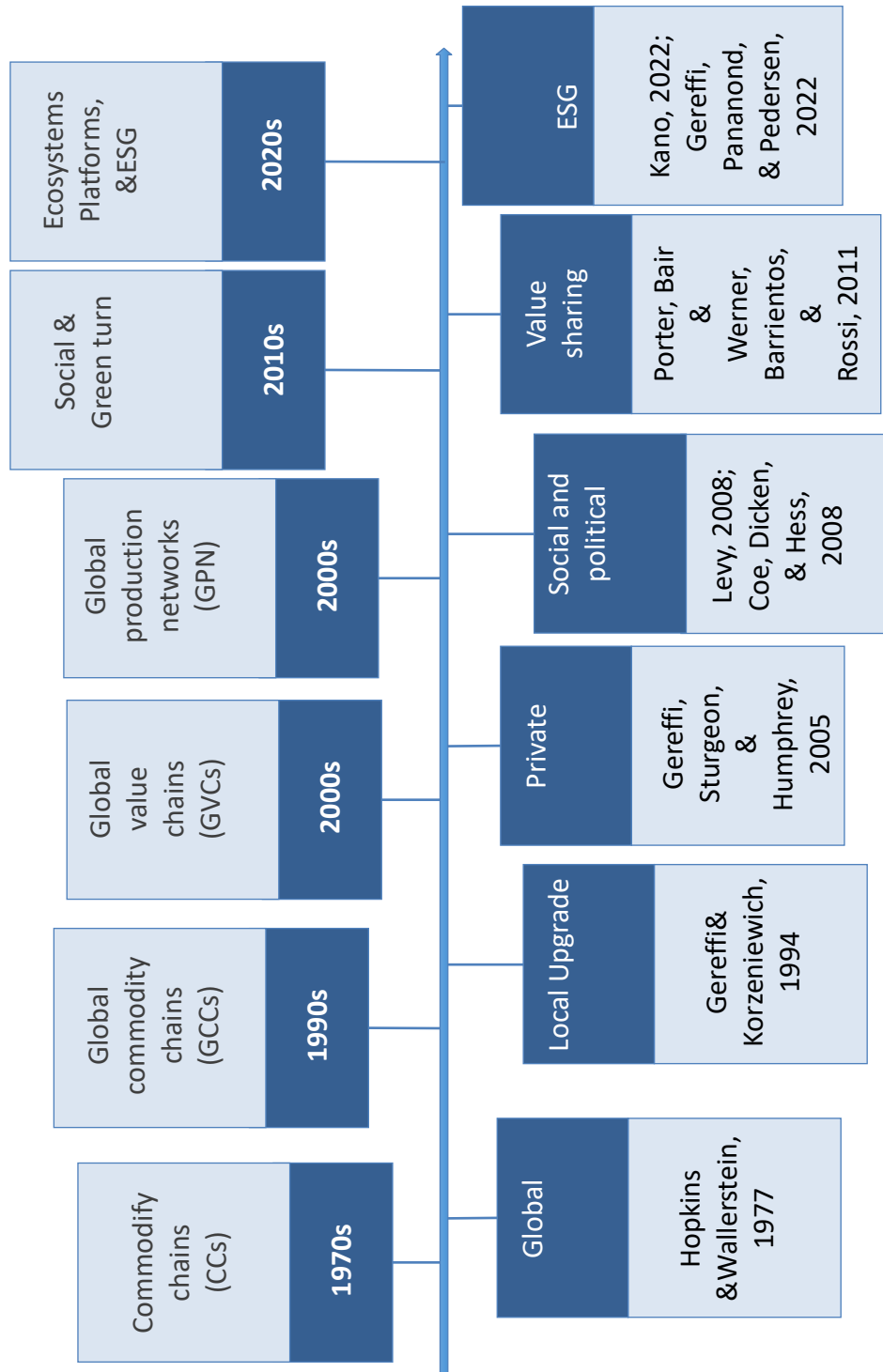
Another good example is a report entitled "Building Resilient Supply Chain, Revitalizing American Manufacturing, and Fostering Broad Growth," released in June 2021 by President Joe Biden's administration. It identifies five GVCs as vulnerable: semiconductors, batteries, metals, active ingredients, and large-scale public services. In this context, the authors of the McKinsey Global Institute (GSI) report on "Risk, Resilience and Rebalancing in GVCs" also suggest a dozen of measures like relocation of production, diversification of suppliers, strategic stockpiling, risk management capabilities, redundancy of transportation networks, and reduction of product complexity.

Moreover, several scholars have highlighted the importance of platforms and advanced technologies in better integrating suppliers and monitoring their inventories and capacities. Nowadays, automation is used to detect changes instantly in retail trends, allowing for quick adjustments in needed projections. Similarly, artificial intelligence (AI) and automation can help improve efficiency and productivity. The increase in e-commerce delivery solutions and the importance of short, decentralized, and customer-focused supply chains (Panwar et al., 2022) is considerable. Furthermore, other authors have pointed out that we are moving into a phase of "techno-nationalism." Post-pandemic governments are likely to play a much more significant role in orchestrating GVCs, especially for more sophisticated products, where they will actively support local knowledge development and production (Gereffi, 2021).

This paper considers this new context of internationalization shaping of the GVCs are organized in networks of countries (Asia, Morocco, Egypt, Turkey, Mexico, Eastern Central Europe) and SMEs, and forging new forms of relationships and innovations. ESG best practices, mergers, and strategic alliances between

companies to form more integrated groups, new localized and innovative production sites and the integration of local communities are at the heart of this transformation of GVCs.

In conclusion, about sustainability, the concept of GVC becomes even more useful, as it involves internal and external stakeholders in the process of creating added value and transforming current business models towards sustainable and inclusive models.



Source: Amachraa & Quelin, Avril 2022.

Figure 1: Emergence and Evolution of GVCs

a) *Contributions and Limitations of the Literature on GVCs: Tensions between Profitable Integration and Costly Domination*

Starting from a presentation of the complex relationship between multinational firms and national economy that highlights the crucial role of the multinational firms in the governance of GVC through the participation of countries and companies in the manufacture and trade of intermediate parts and components essential to final production (Jones and Kierskowski, 2001; Gereffi and Fernandez-Stark, 2016), we review the value-added trade as well as the different models of governance and integration of GVC. Thus, the GVC concepts are associated with the promotion of industrial upgrading and governance of multinational firms advocating the transfer of technology and know-how to emerging countries and investment in Research and Development in industrial countries (Gereffi et al, 2005; Bair, 2008 and 2015; Ryan P. et al. 2022, Kano et al 2021).

The notion of the GVC corporate network makes it possible to go beyond sectors of activity and national economies to establish new forms of participation and relationship (Hudson, 2004; Coe & Hess., 2008; Anner, 2015; Hammer & Plugor, 2019; Coe & Yeung, 2019), social and environmental criticism of GVC leading MNEs to support more entrenched collective dynamics and more strategic rapprochements (acquisitions, mergers or even a more regional organization) and define a more participatory and sustained political framework around shared interests and values. The multinational firm shares in value, but above all in its *raison d'être*, commercial conception, and technological standards. The goal is to secure its upstream integration and to face shortages along supply chains (mUNCTAD, 2013; Bair and Palpacuer, 2015; ILOT, 2016; Kano et al 2020/2021; Ashwin & Kabeer, 2020; Gereffi et al. 2021/2022; Philips et al., 2022, Amachraa & Quelin, 2022).

The GVC offers an appropriate policy framework to build a sustainable global system to guarantee its partner's products and services at the best value for money to ensure the maximum well-being of stakeholders with the fairest use of resources. The GVC is indeed a global perspective to activate all the contributions and initiatives of national economies by promoting investment, learning, and synergies. Thus, countries and companies seek a role to play in the global economy instead of destructive competition. This context also encourages MNEs to outsource innovation to SME networks to limit country and investment risks but also to upscale and improve business skills (Mudambi et al 2008; Strange & Magnan, 2018, Amachraa & Quelin, 2022).

In addition, the economic performance of the Global Value Chain will depend on its various activities

and functions. These contribute to this performance, which shifts the issue of the competitiveness of companies to the efficiency of value chains. These develop a global capacity to fragment production and coordinate it in a country's offer. As a result, the performance of GVC and the dynamics of development depend on the ability of foreign and local actors (suppliers and subcontractors) to offer innovative services to multinational firms and to set up productions that differentiate them from competitors, either through the specificity of the intermediate good itself, or through the specificity of quality and/or through innovative design processes, production, marketing, and development.

In global economics, the popularity of the GVC concept is marked by the fragmentation of global production among several countries and companies. Thus, more and more countries are getting involved in GVC integration policies. In these policies, the trend towards developing more integrated global groups and deep local integration is confirmed through a dynamic of mergers of companies and positioning of SMEs as service providers and sources of innovation proposals to GVC. This trend has fostered the global networking of multinationals, suppliers, and SMEs. In this perspective, clusters or technological innovation centers have become privileged tools of MNEs to promote adaptation, R&D, and innovation. The theoretical debate allows us to begin the analysis of the integration of the Moroccan economy into the Global Value Chains, where we are strongly interested in the competitiveness of GVC in Morocco, their adaptation, and the implementation of innovation to create integrative clusters.

In this complex and multidimensional integration process, there is no ready-made recipe for success. Still, good practices observed and reflections that should generate debate, it should not be imagined that Morocco's participation in Global Value Chains will be what has been achieved in other Asian countries. Cultures are not the same, nor are ecosystems, resources, technologies, price structures, price structures, markets, etc. On the other hand, Morocco must have its own place by its environment and its African ambition.

In a country like Morocco, favoring employment and projects with a human dimension appears to be the best way, which does not exclude the use of new technologies and participation in sophisticated value chains. The gap between international and local actors should also be reduced. Local actors are poorly mobilized and have little capacity and impact along the value chain. GVC subcontractors have little ambition and fail to offer services or innovations to different industries. Sophisticated value chains are therefore not integrated, and markets are very short-term.

### b) *Our Methodological Approach*

Doing this work is based on a triple approach: i) a study of the environment that has favored the emergence of new Global Value Chains in Morocco, ii) an analysis of the opportunities and threats that weigh on Morocco's model of participation in GVCs, and iii) prospects for the recovery of GVCs through innovation and entrepreneurship.

A triangular approach, allowing us to make a reading of several distinct but congruent facets, using macro-economic sources (OECD, WTO, Ministries, Trade, Exchange Office, Central bank...), industry analysis (ecosystems, sectoral federations...), and interviews with actors (MNEs, SMEs, and public actors...).

Instead of proceeding according to a purely sectoral value chain approach, the analysis of Morocco's participation in GVCs is systemic. It takes place at several levels that must be distinguished: at the national level, at the level of the multinational firm, at the level of the GVC, and the level of the SMEs (survey). Thus, in the first part, we will briefly describe how GVCs and their specificities have contributed to trade, economic growth, and development.

In a second step, we analyze some significant trends in Global Value Chains such as the fragmentation of global production, interdependencies, and the governance of multinational firms. The second part concludes with a subsection exploring the OECD's Trade-in Value Added (TiVA) database and discusses the integration policies of national economies. A third part examines the strengths of the Moroccan integration model by characterizing its participation in the GVCs and by evoking the signs of a transition of the automotive and phosphate sectors to increasingly specialized and complex activities and tasks. In this part, we have chosen to study four GVC, not only because of their importance but also because of their very different respective positions. The analytical framework for each GVC places the four industries along the value chain, characterizing them in terms of positioning, degree of specialization and level of autonomy. In this context, an analysis is carried out for each GVC assessing strengths, weaknesses, opportunities, and risks and threats.

### c) *What can we Learn from Morocco?*

In this paper, we have chosen to study four GVCs, not only because of their importance but also because of their very different respective positions:

1. For Agri-Food, the GVC is essentially market-driven. Morocco maintains a production capacity and cost advantage, but it must be careful about climate change and better manage its water resources in distress situations. The Agri-food value chain is backed by strong local agriculture: Morocco has

succeeded in creating national champions such as Cosumar, Lesieur, Copag Jaouda, etc. Their fast adaptation to proximity to customers and better management of scarce resources are required.

2. The automotive GVC is very well structured and is orchestrated by foreign MNEs. The Stellantis group has formed a powerful and more integrated ecosystem. However, the local SMEs often acts only in tier 3 and 4 levels as subcontractors. Innovation and value sharing become high expectations of Morocco partners.
3. The Morocco-born OCP group controls the GVC of phosphates. Morocco is positioning itself on R&D and fertilizers to expand its strategic positioning. As many international mining groups, OCP now faces two main challenges: A stronger regulatory environment that forces producers to review their business models and significant legal risks related to the effects of certain chemicals on human health.
4. The GVC of textile is dominated by Inditex, the large Fast Fashion Spanish group. Morocco must train a creative workforce and manufacture locally the fabric requiring a lot of energy and R&D but specialized in labor-intensive activities. Therefore, it is required for the case of Morocco to better capitalize on national success stories such as Diamantine and Marwa by proposing an authentic and traditional offer.

In sum, innovation and cooperation are the main requirements to develop and maintain a competitive advantage for local producers (Mudambi, 2008). Participation in GVC can help countries and companies in their process of improving product quality and developing value-added tasks (Giovanni, 2021). However, GVCs are multiple, and their operating models are diverse. It is therefore important that the country or the local company properly assess their up-scaling capabilities and choose a GVC with the same-shared values, and interests. In this vein, the solution lies in the principle of shared value, which involves creating economic value in a way that also spreads value for society by addressing its needs and challenges. Businesses must reconnect company success with social progress by creating new ways to achieve economic success (Porter and Kramer, 2011). Not to mention other factors come into play such as GVC governance (Gereffi, 2005) or industrial and trade policy (Pietrobelli and Staritz, 2018).

To our knowledge, on the one hand, the global performance of GVC become more and more linked to the positive and sustainable impact that must be generated by production and assembly operations in the territories of the countries where the firms and their subsidiaries operate. On the other hand, they must imperatively act on social acceptability and integrate

ESG as levers for GVC performance. These are essential components of the firms' strategy.

Moreover, our study shows how it is necessary to distinguish between global and traditional GVCs. The value chains of global businesses are today driven by international locomotives with which local producers are Tier #1 and #2 equipment manufacturers. However, leading companies are often multinationals and rarely set up Joint Ventures (JV) with Moroccan companies. In most case, the local SMEs often act only in Tier #3 as subcontractors, or even Tier #4 deeply dependent on the MNEs decision. This is not new but raises many concerns about the ability to capture the value and operate sustainable steps of value chains. The important challenge for Morocco today is to go backward gradually. The scheme would be subcontracting, then signing JV, and after becoming national locomotives, at least regional. This observation applies to Morocco's so-called "global professions" sectors such as automotive, aeronautics, and electronics.

For the GVC of the Agri-food industry, the value chain is surely backed by solid local agriculture. Morocco has national leaders such as Cosumar, Lesieur, and Copag Jaouda, etc. The same configuration applies to phosphate and fertilizer industries, and the fishing industry. However, actors take advantage of access to specific assets, but very few take the leadership in their own global GVC. The OCP group in the phosphate industry appears an exception. In addition, our diagnosis of the GVC of textiles and clothing highlights two trends that must be considered. First, the positioning of Turkey is based on a very competitive pricing policy fighting with local producers. Second, the upstream integration (fabric) is very expensive, thus requiring more capital, energy, and R&D. It is, therefore, appropriate for the case of Morocco to capitalize on national success stories such as Diamantine and Marwa by proposing an authentic and traditional offer, but it is far to obtain a solid control of a large part of textile GVC.

Considering the four case studies we analyze in this paper, it appears that GVCs governed by private national (OCP governance) or MNEs (case of Stellantis and Renault groups) adopt two complementary initiatives to implement their shared value strategies:

- An industrial initiative (purchasing processes dedicated to local companies),
- A societal initiative (sustainability and entrepreneurship programs).

Thanks to the strict control of an essential mining resource, the OCP Group has successfully completed an industrial transformation enabling it to make a transition toward high value-added products

(fertilizers and derivatives). Thus, R&D has become an essential area of activity and competence for OCP. In automotive, the merger of PSA and Fiat Chrysler to create Stellantis has led to a more integrated and competitive industrial group. The key infrastructures like Tangier Med Port and the HST are the backbone of this automotive GVC. MNEs take advantage of these huge national investment efforts, and the industrial ecosystems expect to take advantage for enlarging their scope of activities and control of value added.

Moreover, despite the support of the government, the less sophisticated GVCs (Agri-Food and Textile) remain dominated by buyers or global brands. Moroccan companies appear mostly like local producers, and they must find the industrial critical mass and improve the quality of products, in hyper-competitive contexts.



Table 1: The Different Governance Models of GVC in Morocco

GVC	Governance	Place within the GVC	Challenges
<b>Phosphates and Derivatives</b>	<ul style="list-style-type: none"> <li>- Public governance</li> <li>- National mining resource</li> <li>- GVC orchestrated by OCP Group</li> <li>- Present throughout the entire value chain</li> </ul> <p><i>It is a Moroccan locomotive, with a corporate strategist around Business Unit network</i></p>	<ul style="list-style-type: none"> <li>• Mining</li> <li>• Fertilizers</li> <li>• Research and development (UM6P University)</li> <li>• Declared African ambition</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Energy and Green transitions</li> <li>&gt; A firmer regulatory environment requiring producers to renew their business models</li> <li>&gt; Significant legal risks arising from the effects of certain chemicals on human health</li> </ul>
<b>Automotive</b>	<ul style="list-style-type: none"> <li>- European decision center</li> <li>- GVC structured by MNEs</li> <li>- GVC particularly accelerated by 2 manufacturers: Stellantis and Renault</li> <li>- Foreign locomotives</li> </ul> <p><i>Moroccan SMEs are very little integrated</i></p>	<ul style="list-style-type: none"> <li>• Morocco has developed a modern infrastructure: The HST and the Tangier Med port are the backbone of this GVC</li> <li>• Electric and hydrogen car as further step</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Constraining environmental standards requiring heavy investments (CO2 standard).</li> <li>&gt; Upstream integration difficulties</li> <li>&gt; Value sharing</li> </ul>
<b>Agri-Food</b>	<ul style="list-style-type: none"> <li>- Market-driven governance</li> <li>- GVC governed by European market (Spanish in particular)</li> </ul> <p><i>Multiple GVCs (sardines, tomatoes, citrus, red fruits, etc.) supported by the State and at the crossroads of two national sectoral plans (PAI and PMV)</i></p>	<ul style="list-style-type: none"> <li>• Agricultural production capacity</li> <li>• Cost leadership</li> <li>• Product quality</li> <li>• Green (2nd phase of the Green Morocco Plan)</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Food and water security</li> <li>&gt; Health risks</li> <li>&gt; R&amp;D led by the private sector</li> <li>&gt; Global trade tensions</li> </ul>
<b>Textile and Clothing</b>	<ul style="list-style-type: none"> <li>- Buyer-driven value chains</li> <li>- Spanish and Turkish brands dominate Moroccan textile industry</li> </ul> <p><i>The Spanish Inditex Group controls Moroccan subcontractors</i></p>	<ul style="list-style-type: none"> <li>• Production cost</li> <li>• Industrial flexibility</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Ecological and recycling textile</li> <li>&gt; Market massification</li> <li>&gt; High elasticity of demand</li> <li>&gt; Sensitivity to prices</li> </ul>

In the context of Morocco, three actions can be implemented to accelerate the integration of Moroccan companies into Global Value Chains, including:

- The restructuring of Moroccan SMEs through the creation of a national program or Joint-Venture fund to set up a learning curve allowing a gradual integration of Moroccan players into the international dynamics of GVCs.
- The trend to mass-markets to obtain the necessary volume and critical mass that justify the canvassing and location of large locomotives.
- Supporting industrial dynamics through specific training and R&D led by the private sector. In this case, the Moroccan Automotive Center of Stellantis and the Industrial Competence Centers of OCP (ICC) open the way to the emergence of new innovative and localized production sites.

d) *Main Learnings from the Morocco's Economic Consolidation in the GVCs*

i. *Private-private Initiatives and Territories*

First, it is necessary to target both the sector level and at the level of suppliers (foreigners and Moroccan) before developing the roadmap dedicated to quality upgrading. Thus, the integration of Morocco into the GVCs cannot address the needs of all the leading companies. At the same time, the goal is not to replace existing GVCs. It is, therefore, necessary to clarify the targets of the integration policy on two main axes:

- A sector axis: The choice of target sectors must obey both the potential of the sectors, the specificity of the territories concerned, and the needs of GVC suppliers.
- A supplier axis: Beyond the traditional population of suppliers with a high level of capital and education (the easiest to access population), it is a question of

prioritizing the support of projects from the most structured parties (Professional Confederations, Business Networks, Chambers of Commerce, and Industry, etc.).

ii. *Clustering the SMEs*

One of the major determinants of GVC performance remains access to markets, particularly local markets. The regions where a growing number of GVCs are in Morocco (Tangier and Kenitra, in particular) are territories where the activities of these GVCs represent an important weight in the local economy and national GDP. Although efforts are currently being made in this direction, local perception remains the predominance of foreign or sometimes domestic suppliers. A committed perspective in this direction should be undertaken with the following objectives:

- The acceleration of "local content", either directly through an entrepreneurial and support process, or through a subcontracting strategy.
- Support for the emergence of local champions in certain priority sectors.
- Supporting local suppliers in their upgrade and consolidation process.

One direction might be to encourage the development of shared workshops, based on SMEs participation and mutualizing tools and equipment dedicated to innovation and new technologies. The objectives would be to create a favorable environment to innovation, like Makerspaces, with a cluster effect along the value chain that could crystallize the integration of local companies, anchoring and interacting with the other GVC structuring projects, through a global service offer:

- Entrepreneurial, digital, and financing support.
- Access to high-tech machines (numerically controlled, 3D printing, etc.) and low-tech also to support the professions like the industrial maintenance, parts and components, service to industry, renewable energies, circular economy, recycling, metal creation, and wood, etc.
- Manufacture of prototypes and innovations in the industrial exchanges within GVCs (parts and components, transfer of technologies).

The role of such ecosystems, cluster, or makerspaces in each GVC would help for a backward and upgrading move of SMEs in an emerging country. The vision to be designed for a global deployment should above all consider the specificity explicit to each of the GVCs. It must also be part of the system of governance structures and structuring projects undertaken by multinational firms or their subsidiaries. A strategy for duplicating GVC "Integrator Makerspace" is based on different factors: Identification of strategic

partners, skills transfer, specialized equipment, solution testing, feedback from the field and local learning, etc.

Table 2: From Subcontracting to SME Ramp-up: Moving up to a Better Control of Value Added?



iii. Favoring the MNEs Involvement in Sustainability Policies

In addition, to strengthen the sensitivity of the makerspace to sustainable development, it is possible to create sustainability challenges among leading companies and suppliers, either to submit technical problems encountered at the GVC manufacturing or assembly site, or problems related to sustainability such as product recycling, fighting against pollution, and lowering energy consumption. Examples of such challenges from the simplest to the more complex are related to recycling of obsolete production equipment, the second life of objects for sustainability, repairing parts and components by 3D printing, objects with very low energy consumption, or technical improvement to a machine currently in use.

Overall, the strategy for integration into GVCs must consider the ecosystem approach. Several stakeholders are currently operating at the level of GVC installed in Morocco. They have overall sectoral and functional orientations, and primarily address activities such as services, manufacturing, assembly, export, and even research and development. It is not a question for Morocco to replace these subsidiaries and suppliers.

In a context of uncertainty, multinational firms express more needs in terms of subsidiarity and coordination to have a close follow-up at territorial and local levels. Thus, Morocco and firms should consider this need for interrelationships:

- At the level of the choice of sector offers/tasks to be developed within the GVC.
- In terms of providing the necessary expertise, technology, and know-how.
- At the level of information to be offered to the target of local and foreign suppliers.

As suggested, it is time to implement innovation to create a national economy capable of overcoming GVC challenges and transitioning toward quality upgrading and sustainable development.

iv. Public-Private Collaborations

Moroccan State was at the origin of the major strategic choices of integration into the global economy. It is through superior comparative advantages and strong SMEs that the Moroccan economy should face the industrial, social, and environmental challenges of tomorrow. In this paper, we can bring some new elements likely to add to the reflection of the articulation between the GVCs and the national economy.

We observe how Morocco's participation has progressively evolved in advancing GVCs. The automotive ecosystem in Morocco is a good example. We also identified how the OCP Group has successfully innovated in implementing an agile ecosystem around phosphates and fertilizers. In cooperation with public entities, OCP also created the Mohamed VI Polytechnic University to become the new growth engine of the phosphate and derivatives industry. By extension, this modern university welcomes laboratories that can train future employees of some other GVCs.

Based on the analysis of previous experiences and practices of four different industries, we present and discuss what occurred by revealing the “why” and “how”. We map all global level actors involved in the four GVCs that appeared at the key moments in the process of GVCs’ development, but we also elaborate typologies of integration to show the diversity of positive interactions between the government, companies, and society around these processes.

Our approach allows us to analyze the integration of Morocco in the GVCs out of the four experiences (Agri-food, phosphates, automotive, and textiles) and to identify the favorable and unfavorable factors of local and global dynamics (and their social, economic, and environmental consequences) (Amachraa and Quélin, 2022). Thanks to our analysis, we show how mobilizing international and national actors around a long-term vision was favorable in Morocco’s case. Strategic-leading government, responsiveness of companies, diversity of clients and suppliers, national solidarity, and collaboration of Moroccan industrialists made Morocco a resilient and innovative country during the pandemic lockdown period.

#### v. *An Ambitious National Program*

The four industries study helps to identify that creative human capital, participatory governance, technology, water, and energy are the key components of a more sustainable and inclusive GVC integration strategy. The success of this strategy depends on the mobilization of all driving forces of the territories where the GVCs are located and the creation of an agile ecosystem of suppliers able to offer innovative proposals and services.

The challenge for Moroccan integration policy is therefore to be as close as possible to local actors, their needs, and their expectations in getting the most from the GVCs, to act and work mutually on the challenges of governance, ESG, value sharing and innovation.

More recently, the impact of the Covid-19 pandemic and the interdependencies within the GVCs have made it more than necessary to change the rules of the game involving government, business associations, communities, businesses, and citizen initiatives. The Sustainable Development Goals (SDG) and the New Development Model (NDM) of Morocco set up in 2021 have put local actors at the heart of their recommendations.

The systemic GVC approach can also be materialized through the building of a new industrial collaboration model among the different stakeholders whose purpose is to improve the value chain, develop new integration models, offer sustainable growth, and finally change the rules of the game. The objectives vary from encouraging the emergence of local players to attracting international investment with new value-added

tasks and functions, to stimulate the development of local clusters around industrial ecosystems and finally to encourage the development of other activities attracted by the industrial critical mass of large national firms or MNEs.

Overall, the Kingdom must have a concern for the sustainability of the GVC and strategic independence and it has the means to do so. It would also be necessary to avoid overly dominant positions on GVC that would hinder national private initiatives. GVC must consist mainly of a network of small and medium-sized enterprises capable of offering innovative services and supplying the domestic and African markets. In a few years, explore export market niches towards the USA and Asia.

### III. CONCLUSION

Morocco will have to be very vigilant about the quality of the GVC projects that will be presented to it and be wary of GVC that are only attracted by the tax system or who can leave before the change of the tax system. At the same time, in a context of increased competition, when investment commitments are made, they will have to be enforced, which is not always the case.

As for investors and multinationals, Morocco will need trusted foreign partners to transfer technology and markets to the country, but some priority should be given to domestic entrepreneurial investors to limit the risks of large international firms that do not hesitate to cut ties if they run into trouble.

The emergence of Morocco in the GVCs must create sustainable value while respecting the environment. The skills and resources of multinational firms and large groups must be put at the service of local industry. The new framework for Morocco's participation in GVCs should guarantee customers and suppliers the best value for money for products and services, ensure maximum collective welfare (stakeholders and local communities), and guarantee the most efficient use of resources.

The challenge of participating in sophisticated GVCs offers Morocco the opportunity to trigger all the potential initiatives and to co-build innovative ecosystems over time. Morocco needs to expand its current participation framework to include all stakeholders. The OCP experience offers the first elements of broad and sustained governance. It also seems relevant to us to question the projection of these experiences to Africa by OCP Group on the dimensions of governance and societal contribution (well-being of stakeholders and local communities)”.

Ultimately, there is no shortage of solutions to such global challenges. But a country's economic emergence in the GVC, i.e., the process that leads it to tasks and functions at both ends of the value chain, is

not just a matter of a favorable environment or infrastructure alone. Other prerequisites are essential, precisely the quality of human capital, R&D, innovation, support for SMEs, acceleration of energy and ecological transitions, the integration of strategic industries at national and regional level and investment in rare metals and batteries.

Our study opens up doors for future research in two themes. The first one is to look at how to strengthen the positive and sustainable impact of global value chains on local territories and actors, essential elements of the stability of GVCs. The second one is how synergies and strategic linkages among different GVCs can help all stakeholders evolve their business model towards more sustainability and shared value. The strategic rapprochement between the automotive industry and the mining industry to integrate rare metals and batteries or the growing role of fertilizer players in the structuring of the cereal value chain reinforce our orientation.

## REFERENCES RÉFÉRENCES REFERENCIAS

- Amachraa, A., and Quélin, B. (2022). Morocco Emergence in Global Value Chains: Four exemplary industries. Policy Center for the New South, April 7/22.
- Arndt, S. W. (1997). Globalization and the open economy. *The North American Journal of Economics and Finance*, 8(1), 71-79.
- Bair, J., & Palpacuer, F. (2015). CSR beyond the corporation: Contested governance in global value chains. *Global networks*, 15(s1), S1-S19.
- Baldwin, R., & Tomiura, E. (2020). Thinking ahead about the trade impact of COVID-19. *Economics in the Time of COVID-19*, 59, 59-71.
- CNUCD, 2013. Global value chains and development: Investment and value added trade in the global economy, UNCTAD/DIAE/2013/1 (New York and Geneva).
- Coe, N. M., Dicken, P., & Hess, M. (2008). Introduction: global production networks—debates and challenges. *Journal of Economic Geography*, 8(3), 267-269.
- Coe NM & Yeung HWC, 2019. "Global production networks: mapping recent conceptual developments," *Journal of Economic Geography*, Oxford University Press, vol. 19(4), pages 775-801.
- Gereffi, G. (2021). Increasing resilience of medical supply chains during the COVID-19 pandemic. UNIDO Industrial Analytics Platform.
- Gereffi G. et Fernandez-Stark K., 2016, global value chain analysi. Duke, Social Science Research Institute.
- Gereffi, G., Pananond, P., & Pedersen, T. (2022). Resilience Decoded: The Role of Firms, Global Value Chains, and the State in COVID-19 Medical Supplies. *California Management Review*.
- IMF, 2022. World economic outlook: War Sets Back the Global Recovery, International Monetary Fund, April 2022.
- IMIS, 2022. La chaîne de valeur du secteur automobile au Maroc, en perspective post crise covid-19. Policy paper.
- ILO (2016). Decent work in global supply chains. Report IV. Conference papers. 08 April 2016
- Jaadi, L., & Msadfa, Y. (2017). The complexity of the rise of Global Value Chains: The case of the automotive and aeronautics industries in Morocco and Tunisia. OCP Policy Center.
- Jones, R.W. and Kierzkowski, H. (2001) A Framework for Fragmentation. In: Arndt, S.W. and Kierzkowski, H., Eds., *Fragmentation. New Production Patterns in the World Economy*, Oxford University Press, Oxford, 17-34.
- Kano, L., Narula, R., & Surdu, I. (2021). Global value chain resilience: understanding the impact of managerial governance adaptations. *California Management Review*, 00081256211066635.
- Kano, L., Tsang, E. W., & Yeung, H. W. C. (2020). Global value chains: A review of the multi-disciplinary literature. *Journal of international business studies*, 51(4), 577-622.
- Kowalski, P., Gonzalez, J. L., Ragoussis, A., & Ugarte, C. (2015). Participation of developing countries in global value chains: Implications for trade and trade-related policies. *OECD Trade Policy*.
- Meng, B., Ye, M., & Wei, S. J. (2020). Measuring smile curves in global value chains. *Oxford Bulletin of Economics and Statistics*, 82(5), 988-1016.
- McKinsey Global Institute (2020), Risks, resilience, and rebalancing in global value chains. Report.
- Miller C et Jones L, 2013. Financement des chaînes de valeur agricoles, outils et leçons. FAO, Rome 2013.
- Mudambi, R. (2008). Location, control, and innovation in knowledge-intensive industries. *Journal of Economic Geography*, 8(5), 699-725.
- OCDE, 2017. Promoting sustainable global supply chains: international standards, due diligence, and grievance mechanisms OECD (2016, 2020). TIVA Database.
- Office des changes, 2022. Analyse multidimensionnelle de l'évolution du profil des exportateurs marocains.
- OMC, 2020. Global Trade Report: Government policies to promote innovation in the digital age. Report.



26. Panwar, R., Pinkse, J., & De Marchi, V. (2022). The Future of Global Supply Chains in a Post-COVID-19 World. *California Management Review*, 00081256211073355.
27. Phillips, W., Roehrich, J. K., Kapletia, D., & Alexander, E. (2021). Global Value Chain Reconfiguration and COVID-19: Investigating the Case for More Resilient Redistributed Models of Production. *California Management Review*, 00081256211068545.
28. Porter, M. E., & Kramer, M. R. (2011). Creating Shared Value. *HBR. Org Harvard Business Review*. Jan-Feb.
29. Ryan, P., Buciuni, G., Giblin, M., & Andersson, U. (2022). Global Value Chain Governance in the MNE: A Dynamic Hierarchy Perspective. *California Management Review*, 00081256211068544.
30. Shih, W. (2020, March 19). Is it time to rethink globalized supply chains? *MIT Sloan Management Review*.
31. Strange, R., & Humphrey, J. (2019). What lies between market and hierarchy? Insights from internalization theory and global value chain theory. *Journal of International Business Studies*, 50(8), 1401-1413.
32. Strange, R., & Magnani, G. (2018). Outsourcing, offshoring, and the global factory. *The Routledge companion to the geography of international business*, 60-77.
33. Sydow, J., Schübler, E., & Helfen, M. (2021). Managing global production networks: Towards social responsibility via inter-organizational reliability? *Cambridge University Pres*, 31 March 2021.
34. Taglioni, D., & Winkler, D. (2016). Making global value chains work for development. *World Bank Publications*.
35. United Nations Organization (2019). Accounting for Global Value Chains: GVC Satellite Accounts and Integrated Business Statistics. *Department of Economic and Social Affairs*.
36. World Bank (2017). *Global Value Chain Development Report 2017: Measuring and Analyzing the Impact of GVCs on Economic Development*.
37. Yeats, A. J. (1998). Just how big is global production sharing? Policy research working paper #1871, *World Bank. Development Research Group*, Washington DC.



## Benefits the SMEs Derive from Microfinance Institutions on Empowerment and Poverty Alleviation in Chazanga Compound, Lusaka, Zambia

By Mr. Francis Daka

*Gideon Robert University*

**Abstract-** The back bone of every economy is the private informal sector (SMEs) and most employment opportunities in Zambia largely focus on small and medium scale enterprises. Hence the contributions the sector makes to economic growth and development through job creation and can't be overemphasized. However, SMEs were almost dismissed from the formal financial sector in Zambia. The small and medium scale enterprises face difficulties in accessing the financial opportunities, enterprise development skills, face unfavourable regulatory bottlenecks and inappropriate market structures and these therefore, poses serious restriction to their growth and development in the economy. When microfinance was properly harnessed, could make significant contributions to the economic growth and development because it promotes higher investments leading to economic empowerment which in turn promotes confidence, self-esteem, and build capabilities, particularly for the vulnerable majority. In other words, it creates access to productive capital for the poor and subsequently reduces poverty.

**Keywords:** *poverty alleviation, microfinance institutions (MFIs), loan portfolio, financial accessibility, small and medium entrepreneurs (SMEs).*

**GJMBR-B Classification:** *JEL Code: M21*



BENEFITSTHESMESDERIVEFROMMICROFINANCEINSTITUTIONSONEMPOWERMENTANDPOVERTYALLEVIATIONINCHAZANGACOMPOUNDLUSAKAZAMBIA

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RESEARCH | DIVERSITY | ETHICS

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This research was carried out to examine financial accessibility and the roles it plays to the SMEs sector in Chazanga compound of Lusaka district. The study objective was to examine the benefits which SMEs derive from microfinancing and the roles it has played in the SMEs sector and the impact on poverty reduction in Lusaka district particularly Chazanga compound. The whole research covered fifty (50) small and medium entrepreneurs. The needed data for the study was generated from both primary and secondary sources. The research tools used to generate the primary data included informal, formal conversations and questionnaires. The secondary data was extracted from the books, articles, journals, presentation papers and news publication.

**Keywords:** poverty alleviation, microfinance institutions (MFIs), loan portfolio, financial accessibility, small and medium entrepreneurs (SMEs).

## I. INTRODUCTION

Microfinancing has become a credible and effective instrument for poverty alleviation and as such, its contributions to economic growth cannot be overemphasized. (Akinyemi, cited in Onuba 2008) The financing of small and medium scale enterprises are vital instruments for poverty alleviation in society. Therefore, SMEs play a crucial role in national

building, and providing them with needed facilities would assist in bridging the gap between the rich and the poor. (Onuba 2008). The available information from the Registrar of patent and Companies department indicates that about 40% of the companies registered are micro, small and medium enterprises (SMEs). This target group has been identified as the catalyst for economic growth of the country as they are the major sources income and employment. The Ministry of Small and Medium Enterprises had in 2022 estimated that the Zambian private sector consists of approximately 70,000 registered Limited companies and 10,000 registered partnerships. Therefore, the need to provide secure source of financing for the sector can't be overstressed. Since Zambia attained a middle income status with per capita of at least US\$1,000 by the year 2019, led by the vibrant private sector, within a decentralized democratic environment in which the country's was growing the economy or increasing the market value of all the final goods and services produced in the country in (GDP) by 6-8% every year. The main goal of Zambia's Growth and Poverty Reduction Strategy (ZGPRS) was to "sustainable economic growth, accelerated poverty reduction and the protection of the vulnerable and excluded within a decentralized, democratic environment. The intention was to eliminate the widespread poverty and growing income inequality, especially among the productive poor who constitute the majority of the working population".

The microfinance is that part of the financial sector which comprises of formal and informal financial institutions, small and large, that provide small sized financial services to all segments of the population, in rural and urban areas. These institutions cover a array ranging from indigenous rotating savings and credit associations, self-help groups, financial cooperatives, rural banks and commercial banks. The Zambian government supported these institutions in order to create the much needed jobs for the youths and improve their integration in the developing financial sector. The 2006 Nobel peace prize for Muhammed Yunus and the Grameen bank, stood as the proof that microfinance had become the hottest idea for solving the problem of poverty.

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According to King and Levine (1993), there seemed to be a positive relationship between the size of the financial sector and economic growth. Access to credit by both individuals and business houses, have been positively associated with asset growth, investment and overall economic growth. Microfinance offered the following services basic financial services such as loans, savings, money transfer services, micro insurance etc. The products help the people to run their businesses, build assets, smooth consumption and manage risks. The poor people in the communities address their financial needs through variety of informal relationships. The credit is always available from informal money lenders at a higher cost to borrowers (CGAP, 2006) The savings services available through a variety of informal relationships like savings clubs, rotating savings and credit associations and other mutual savings societies in local language called village banking. Although these clubs tend to be erratic and somewhat insecure. Traditionally, banks have not considered poor people to be viable market, rendering the SME sector to continue experiencing difficulties in accessing financial services. The SMEs don't have adequate know how information and research and development to innovate and remain competitive. Their limited international market exposure, low product quality, default in compliance with standards, and little access to international partnerships impede SMEs participation into global markets (BDSF, 2008). In addition, insufficient distribution channels often dominated by large firms also make difficult for SMEs to access financial markets. For now, there is an established, yet growing recognition of the importance of micro, small and medium scale enterprise (MSMEs) in sustained national economic growth, therefore little attention has been given to that sector of the economy.

## II. BENEFITS MICROFINANCE PRODUCTS AND SERVICES TO CHAZANGA COMPOUND

### a) *Employment*

When the entrepreneurs borrow, they create employment or opportunities for others. An increase in the employment benefits the local economy as the money circulates through local businesses and services in Chazanga compound.

### b) *Improvement of Businesses*

The provision of microfinance products and services in the compound has greatly helped the businesses to upscale their business operations by offering immediate financial resources and capital accumulation.

### c) *Reduction of Early Marriages in the Compound*

When the economically weaker families have access to credit at an affordable rate, the girl children in the community will be able to receive formal education

and reduce the chances of early marriages and teen pregnancies in the compound, thereby increase their chances of completing school would increase and hence more likely to obtain a fair paying job or higher education.

### d) *An Opportunity to Receive Education*

The children of the economically weaker families' miss education days due to agricultural activities and selling at the market so that they can earn help the family financially. Therefore, microfinance product and services aid such children by providing the funds to meet the financial needs of the families. That would give the opportunity to the children to complete their education.

### e) *Help in Reducing High Rate of Alcohol Consumption and Abuse*

Most compounds in Lusaka are densely populated, lack social amenities, clean drinking water and don't have enough entertainment ventures, so the source of entertainment for the youths is engaging in illicit activities like beer drinking, prostitution, criminal activities and smoking dagga. The microfinance companies provide the small loans to businesses in such localities, most of the youths will have something to do or will be employed by most of the entrepreneurs enabling them to stay away from illicit activities and alcohol consumption.

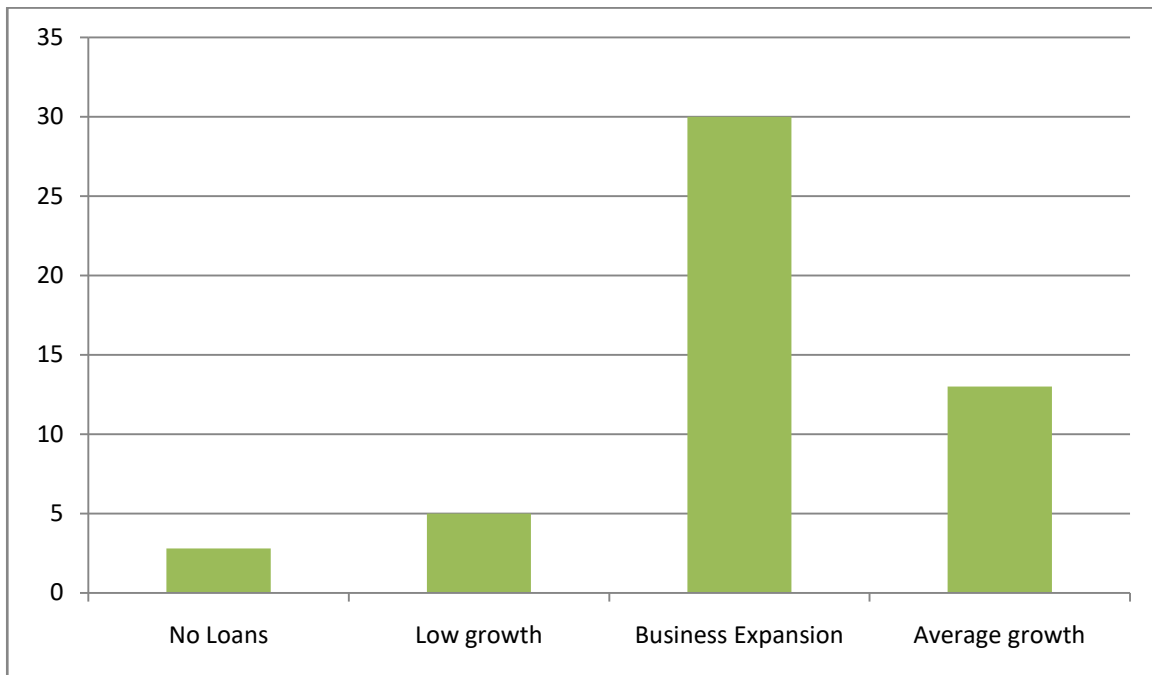
### f) *The Possibility of Future Investments Increase*

Poverty is a perpetual cycle. The scarcity of money results in lack of food and water, leading to lack of sanitary living conditions and malnutrition and illness. The microfinance products and services break this cycle by making more money available. Once the basic needs are met in the compounds, the people would think of the possibility of future investments because the people meet their basic needs.

## III. FINDINGS

This part of the article presents the actual findings from the field work, analysis and discussion of data presented in both qualitative and quantitative status. The results were based on the study which was conducted in Chazanga compound of Lusaka urban district.

During the research expedition, the main aim was to establish the benefits the SMEs derive from microfinancing on small businesses, growth, expansion and survival in Chazanga compound of Lusaka urban District. In the findings, it was learnt that the survival of the SMEs depended largely on whether the enterprises were able to generate the profits from the use of micro funds and easy access to micro credit. That was evidenced by all the SMEs who obtained microloans doing well and expanding their businesses.

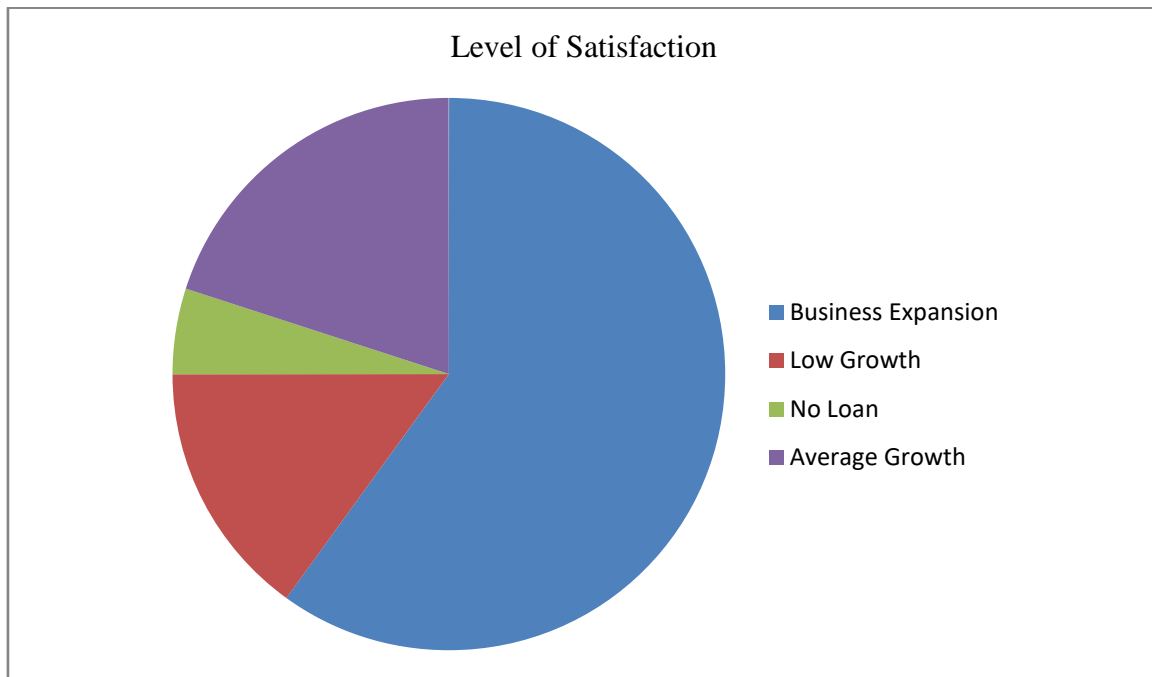


Source: Field Study 2022, Business Performance After Acquiring the Loan

Figure 1.0: Bar Graph Showing SMEs Level of Satisfaction on the Benefits of Microfinancing

The bar graph above, showed 30 entrepreneurs expressed satisfaction with the performance of the loans and that their businesses grew, expanded and were sustainable translating to 60%. The entrepreneurs extolled and commended the microfinance institutions as the tool which helped government to reduce poverty levels in the compound. 20 entrepreneurs stated that their businesses experienced average growth and were able to reach the break even point after getting the loans from the microfinance companies, this number translated to 20%. 15 entrepreneurs experience low growth rate translating to 15% but were still optimistic that their businesses would be pick one day while 5 entrepreneurs who never obtained any loans were still struggling with the business representing 5%. The majority of the people who had the opportunity to access the financial support implemented it in the businesses which pushed them out of the dependence syndrome and were then living far above the poverty datum line in the compound. They further listed the other benefits as development of skills, improvements in the customer services, high sales growth and expansion of customer base which in turn improved the income flow of the businesses.





Source: Author 2022

Figure 1.1: Pie Chart Showing Level of Satisfaction Derived from the Microloans from Mfis

According to the above pie chart 1.0, showed that 60% of the total number of the small and medium scale entrepreneurs interviewed their businesses picked up, grew and expanded when they received the capital injection in form of loans which were obtained from the existing microfinance institutions in Lusaka. The loans enabled their businesses to grow, expand and remained stable to date. The businessmen and women gave testimonies on drastic reduction of poverty in their families when they obtained the funding from the microfinance companies and that their business productivity was real. 20% of the group which obtained the loans recorded average growth which represented a breakeven point where the business neither made loss nor profit but maintained the working capital. 15% of the entrepreneurs' businesses recorded low growth although the businesses were still running smoothly. According to researcher's observations the businesses had low sales because of the high competition in the market and that their locations were still being developed. The final 5% of the entrepreneurs recorded very low growth because these people feared to get the loans due to loans conditions and requirements of providing the assets as collateral and also feared that they might be arrested if they had failed to pay back the loans.

#### IV. CONCLUSION

This study was focused on the benefits the small and medium scale entrepreneurs get from microfinance companies in Chazanga compound. Fifty (50) entrepreneurs were picked randomly in the

compound to take part in the research so as to enable the researcher establish the real benefits accrued to their businesses after obtaining the loans in relation to business profitability, poverty alleviation in their families, growth and expansion.

##### a) Practical Implications

This study showed that 95% of the small and medium scale entrepreneurs who obtained the loans from microfinance companies their businesses grew and expanded when they received additional capital which was injected in the business in form of loans. The loans enabled their businesses to grow, expand and remained stable. The businessmen and women gave testimonies on drastic reduction of poverty in their families as well when they obtained the funding from the microfinance companies and that their business productivity was real.

The research results also showed a clear picture of the 5% who never obtained the loans from MFIs for fear of losing their assets if they had failed to pay back the loans that their businesses remained stunted because they lacked additional capital to boost their operations.

In summary therefore, access to financial services from microfinance companies in Chazanga compound of Lusaka urban district, helped business growth, expansion, employment creation and reduced poverty for those entrepreneurs who obtained loan products and other services from MFIs. That further enhanced the income of the people and mandated the affordability of some basic necessities of life namely

education, shelter, health, good nutrition, clothing and clean piped water reticulation.

*b) Limitations of the Research*

This work has some limitations as follows:

1. The research should have been extended to other compounds in Lusaka urban district but was restricted to one (1) compound only due to financial constraints.
2. Some of the SMEs were not so open to share business information for fear of being attacked by the thieves and robbers.
3. The researcher took into consideration the tribal, religious, ethical, traditional and cultural beliefs of the respondents.
4. Some of the entrepreneurs never wanted to share both business and family information until after being paid.
5. The other entrepreneurs were not able to read and write; therefore they had difficulties to answer questions in the questionnaires.

## V. RECOMMENDATIONS FOR FURTHER RESEARCH

Recommended further researches should be done on the following areas:

1. The Post Office Microfinance Company which was introduced by the Zambian government in 2012 must be reintroduced to cater for both civil servants and business organizations.
2. Government credit unions should be introduced to enable entrepreneurs embark on the other financial products and services to ease the difficulties in the system and help serve the needs of the poor.
3. Reduction of interest rates; this proved as a deterrent to micro loans acquisition because most of the interest rates were quite high for business organizations.
4. The policies, rules, permits and other regulations on taxes and business registration should be relaxed to make it conducive to foster development of more businesses in Lusaka urban district.

## REFERENCES RÉFÉRENCES REFERENCIAS

1. Abraham, H. and Balogun, I.O (2012) Performance of Microfinance Institutions in Nigeria: an appraisal of self-reporting institutions to Mix Market.
2. African microfinance transparency (2010) transverse analysis of MFIs in Africa, 3rd volume.
3. Anne Nørgaard Jørgensen (2011), the profitability of microfinance institutions and the connection to the yield on the gross portfolio- an empirical analysis.
4. Anne-Lucie Lafourcade, Jennifer Isern, Patricia Mwangi, and Matthew Brown, MIX (2005) over view of the performance of microfinance institutions in Africa.

5. Anaro B. (2006, July 18). CBN Microfinance will empower the poor and create jobs.
6. Bogan V., Johnson W., Mhlanga N., July 2007, "Does Capital Structure Affect the Financial Sustainability of Microfinance Institutions?"
7. CGAP Brief, (2011) the performance of microfinance institutions – a sub-Saharan review
8. Chimbamba Lopo, (2005) microfinance and micro credit to small scale entrepreneurs.
9. Christian Kitenge Moembo Kingdome (2004) The Performance of the Zambian Microfinance Industry: A special focus on the members of the Association of Microfinance Institutions in Zambia.

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## Impact of COVID-19 on the Economy of Bangladesh

By Md. Rasel Molla

*Govt. Edward College*

**Abstract-** The study explores the impact of COVID-19 on the Bangladeshi economy. The researcher found that In Bangladesh, there were huge impacts of COVID-19 on various sector. There was a substantial impact on Readymade Garments Sector for spreading of corona virus diseases, losses of the RMG sector was gradually increasing in the COVID-19 pandemic, SME had also adversely effected by COVID-19, many enterprises closed their business activities during shutdown of industries for minimizing the spread of corona virus, Tourism sector also effect by the corona virus, lockdown of all cities provided restrictions on moving one city to another even one country to another, All the educational institutions closed during the pandemic, Capital market, Remittance, and GDP also fall down due to COVID-19. By seeing the before COVID-19 and during COVID-19 trends, the researcher concluded that there was a huge impact of COVID-19 on various sector. Government and Non-government institutions help people to fight this virus. We give some recommendations, which are given by researchers, policymakers, or international organizations. We do not know when this virus goes forever. We may live with this virus for a long term. We can minimize the impact of corona virus in our economy.

**Keywords:** COVID-19; economic shock; pandemic; RMG; SME.

**GJMBR-B Classification:** JEL Code: A10



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## I. INTRODUCTION

At the end of December 2019, Public health officials from China notify the World Health Organization that they are suffering a serious problem. People are suffering from an unknown virus was causing pneumonia like illness in Wuhan City (Verge media). They quickly identified that it was a coronavirus. They also said it was rapidly spreading through outside of the Wuhan. This virus now spreading all over the world. In Bangladesh there is a huge problems arises for this virus. The Bangladesh government lockdown many cities when they see that there are many people spreading this virus. All the educational, governmental and nongovernmental institutions and RMG sectors are temporarily shut down. The Asian Development Bank (ADB) anticipated that GDP of the world may lose from 0.089% to 40% due to COVID-19. Besides the developed countries, underdeveloped countries may suffer from this virus. Bangladesh is one of them. There are huge effect by this COVID-19 situation such as national and international

trade, Transport, Remittance, Private Job sectors and many more. The aim of this paper is to explore the impact of COVID-19 on Readymade Garments, Small and Medium Enterprise sector, Tourism sector, Educational sector, Capital market, Remittance, and GDP growth.

**Research Objectives:** The main objectives of the paper is to determine the impact of COVID-19 on the economy of Bangladesh. Various objectives are given below:

- To show the scenario of COVID-19 impact on the economy in Bangladesh.
- To overview the solution given by Policymaker, Researcher, and International Organization.
- To propose some recommendation about minimizing the impact of COVID-19.

## II. LITERATURE REVIEW

Many researches was conducted by the researcher of various country about the impact of COVID-19 on the economy. Siddiquee and Faruk (2020) Shahriar et al. (2021) Hassan et al. (2020, Hina et al. (2021), Indrajith (2021) and many other researcher found that there was a significant effect of COVID-19 on the economy.

Siddiquee and Faruk (2020) conducted a research about impact of corona virus (COVID-19) on the economy of Bangladesh. They revealed many sector that were influenced by corona virus such as investments, production, price levels, bills, advances, wages, foreign trade and remittances. The researcher used secondary data which was collected from Bangladesh Bank (BB) Bangladesh Bureau of Statistics (BBS), and the Ministry of Finance (MoF). They found that the local and foreign demand decreased, production reduced, Wages Rate index in the service and industry sector fall down that time due to COVID-19. Advances had no impact of COVID-19 but investment and bills have effected by the COVID-19. RMG sector also had an impact. According to Shahriar et al. (2021), there is additional strain on the labor market because of the outbreak of COVID-19. Due to the pandemic, several organizations have halted their recruitment processes to save money and so increase the number of Bangladeshi graduates who are out of work. As a result, the goal of this research is to find out how COVID-19 influences the employability of Bangladeshi graduates, which has a knock-on effect on household budgets and the overall

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health of the country's economy. These studies also show that graduates' lack of employability is primarily due to a lack of demand for qualified workers and an abundance of qualified candidates on the job market, as well as a weak educational system.

Hassan et al (2020), examine the impact of COVID-19 on the economy especially on Agriculture. The article contains a concise overview of the COVID-19 situation worldwide, its effects on fisheries, aquaculture, the agriculture of fruits, vegetables, and ornamental plants, as well as the status of the global and Bangladeshi food supply at the present time. The COVID-19 outbreak slowed down the GDP as well as other important economic sectors and indicators in Bangladesh as well as around the world, according to the cause-effect relationship theory. In addition to the economic blow, it is dealing with an uneven supply of food in all of its outlets. The short- and long-term projected scenario revealed that, in all South Asian nations, the service and manufacturing sectors are more severely impacted than the agricultural sector.

Indrajith (2021) studied about the Gross Domestic Product (GDP), tourism, employment, poverty, inflation, and export earnings in relation to Sri Lanka's economic crisis caused by COVID-19. Additionally, it is disclosed that the COVID-19 has a negative impact on employment and GDP. Due to customers' panicked purchases and disruptions in domestic production and distribution, the economy is put under further inflationary pressure. The government's further import restrictions drastically decrease imports, and the severe devaluation of the Sri Lankan Rupee raises the cost of imported goods. Additionally, the COVID-19 epidemic has had a severe impact on the textile and apparel industries as well as tourism. Lack of interest in working was a contributing factor to the rising unemployment rate, which was brought on by health concerns and a lack of job openings. Another study on USA conducted by Klein and Smith (2021), found that cities with core industries based on the mobility of information would experience higher unemployment rates at the end of 2020. Furthermore, they also find that the Hispanic or Latino populations are larger in the hardest-hit locations, which reflects the demographics of the workforce in the industries that are most affected and in the vulnerable areas. Shang and Zhang (2021) concluded a study about COVID-19 and its impact on global economy. The goal of the study was to compare the effects of different types of capitalist systems on the economy when disease outbreaks like the current coronavirus epidemic occur. With regard to the coordinated market economies of Germany, Sweden, and Japan as well as the liberal market economies of Australia, New Zealand, the United Kingdom, and Australia, the data analysis included an evaluation of the effects of the SARS, H1N1, and COVID19 viruses. According to the analysis, the LME economies were more susceptible to the effects of

disease epidemics than the CME economies, where the disease's effects were tempered by government interference.

### III. METHODOLOGY OF THE STUDY

Secondary was the vital sources to collect the data. Secondary data were collected from newspaper, articles, magazines and COVID-19 related website. Various books and article related to COVID-19 were also the valuable resource. For the aim of the literature review of the study, we studied various kinds of articles, journals, newspaper etc. After collecting information from reliable source this information are analyzed, and depict tables and graphs to acquire best results. The results showed impact of COVID-19 on various sectors by using the previous to recent years trend of all the sector. To illustrate data MS Office package is used here systematically.

### IV. COVID-19 AND ITS IMPACT ON THE ECONOMY OF BANGLADESH

#### a) *Readymade Garments Sector*

The readymade garments (RMG) sector in Bangladesh is the largest foreign currency earning industry. This is a hard time for Bangladesh as well as the whole world due to Coronavirus. Due to COVID-19 RMG sector in Bangladesh is suffering a crisis, with close down new business and cancelation of most of the existing orders. The RMG sector is the most crucial sector of Bangladesh (Maheen Sultan et. al). 3 billion dollars order cancellations occurred in the RMG industry in Bangladesh. Around 2 million workers and 4 million people (backward linkage industries, accessories, packaging factories, and transportation sector are directly involved in the RMG industry. Both export and import and export oriented industries are also at risk. The foreign earning (remittance) will come down so that foreign reserves in our country will also hit. Garment workers are coming back to Dhaka in this shutdown. The risk of COVID-19 diseases is also increased because there are huge numbers of workers working together in garments in Bangladesh (M Shahriar Azad Bhuiyan). According to Rana Dutta (2020), Coronavirus pandemic disrupts the supply chain of raw materials of the garments industry in Bangladesh. China is the most vital country that exports almost 50% of garments related raw material in Bangladesh. If this situation stays for a long time, it will break the entire supply chain management. For the COVID-19 pandemic not only China but also US and EU buyer are not travelling to Asian countries including Bangladesh. On the other hand, Bangladesh is also not travelling to any country, which they depend on for both import and export. In this situation, no business in our country cannot properly do their work. Almost every business is going to be static if this crisis will be continuing. This makes a huge loss in

the garments sector in Bangladesh. If we see the comparative statement on export of RMG, it shows that export of RMG is increased gradually over the years.

Comparative Statement on Export of RMG And  
(Total Export of Bangladesh)

Year	Export of RMG (in Million Us\$)	Total Export Of Bangladesh (in Million Us\$)	% of RMG's to Total Export
2010-11	17914.46	22924.38	78.15
2011-12	19089.73	24301.90	78.55
2012-13	21515.73	27027.36	79.61
2013-14	24491.88	30186.62	81.13
2014-15	25491.40	31208.94	81.68
2015-16	28094.16	34257.18	82.01
2016-17	28149.84	34655.90	81.23
2017-18	30614.76	36668.17	83.49
2018-19	34133.27	40535.04	84.21

Source: BGMEA Website

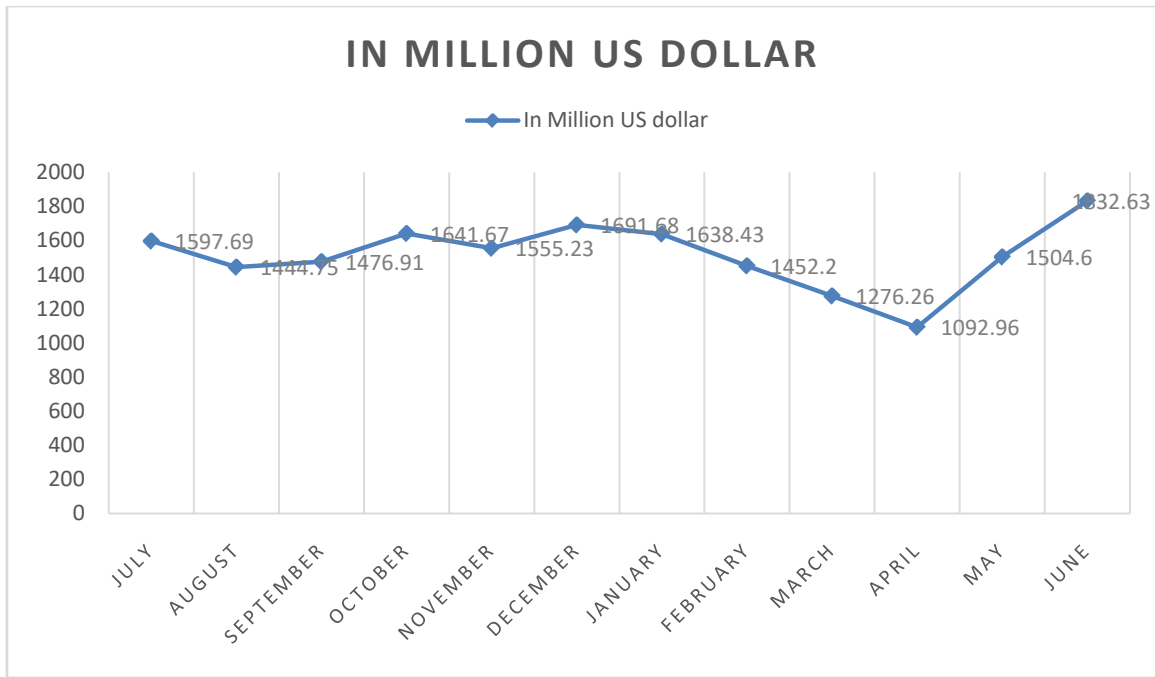
b) *Crisis on Remittances*

In 2019, Over 10 million migrants from Bangladesh sent 18 billion dollar that have a great importance in the economy. International remittances typically represent about 7% of Bangladesh's GDP. However, the COVID-19 pandemic had a serious impact on migrants from overseas in Bangladesh. They are mainly concentrated in countries with lockdown measures. Given the large number of Bangladeshi immigrants in the Middle East, the secondary economic effects of slow demand and falling oil prices may also put pressure on remittance flows.

The World Bank estimates that by 2020 total remittances from Bangladeshi migrant workers will fall to

\$ 14 billion, which will be 25% decreased from the previous year. According to data released by the Bangladesh Bank, remittances fell 25% this month compared to the same period, indicating that, unfortunately, a World Bank forecast is likely to be available. The decline in these benefits (traditionally averaging between \$ 300 and \$ 600 per month) will result in a significant loss of income for millions of households in Bangladesh.

Remittances	
2019-2020	In Million US dollar
July	1597.69
August	1444.75
September	1476.91
October	1641.67
November	1555.23
December	1691.68
January	1638.43
February	1452.20
March	1276.26
April	1092.96
May	1504.60
June	1832.63

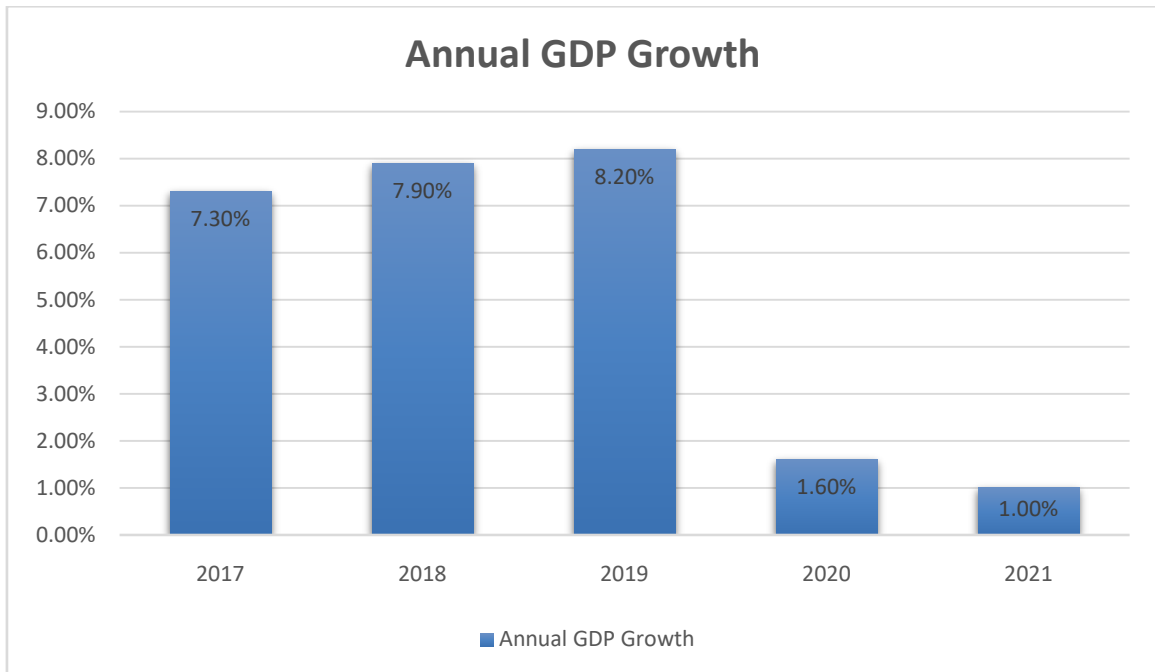


The table 2 and chart 1 shows the remittance changings in July 2019 to June 2020. As we see in the chart and table remittance growth decline February as compare to January, remittance growth decline March as compare to February, remittance growth decline April as compare to March. We see that in March and April of 2020 remittance are computed 1276.26, 1092.96 respectively, and these amounts are lower than the previous months.

**c) Crisis on GDP Growth**

The World Bank (WB) on June 8 released a hard-hitting forecast for the global economic outlook for June 2020. The growth rate of GDP will fall to 1.6% in the

current fiscal year. It may also fall sharply to 1% in the next (2021) financial year. Because of the coronavirus pandemic, the country's GDP growth rate will decline from a record 8.15% in the previous fiscal year to 1.6% in the current fiscal year. Earlier, the Economist Intelligence Unit (EIU) forecast that Bangladesh's GDP growth rate would be 1.6%. If the World Bank forecast to reduce GDP growth to 1.6%, it will be the lowest level in Bangladesh in 37 years. According to World Bank indicators (WDI) data, the country's GDP growth rate was 2.13 percent in the fiscal year 1981-82 (Mohsin Bhuiyan).



Source: World Bank's Website

d) *Crisis on Capital Market*

Global financial markets are suddenly responding to the ongoing coronavirus pandemic. The Covid-19 pandemic could have a major impact on the financial markets and institutions of almost every affected country. Bangladesh is one of them. Although the stock market has not been shown to dominate the Bangladeshi capital financing market, the Covid-19 pandemic is not easily spare it.

From February 2020, the volatile stock market in Bangladesh has begun to show the negative effects from the coronavirus pandemic. During the pandemic period from February 27, 2020, to June 10, 2020, the market value of stocks decreased by 11.50% compared to the daily average. The market fluctuation (standard deviation) is 2.20% (according to annual calculations, up to 98.30%). From last week of March 2020, the Dhaka stock exchange and Chittagong stock exchange was closed due to lockdown situation in Bangladesh. May 31, 2020, Dhaka stock exchange and Chittagong stock exchange resumed operations. However, the situation does not seem to have much hope yet. A few weeks before the announcement of the lockdown, the Bangladesh Securities and Exchange Commission (BSEC) introduced a price for all stocks of listed securities to restore the normal downward trend in the market. However, this does not appear to have had a significant impact on declining trade, and the onset of the Covid-19 pandemic has been exacerbated by adverse micro- and macro-effects. After the market recovery, investors turned gloomy and worried about the general economic and financial uncertainty, which was reflected in a sharp decline in trading activity. The main exchange transaction price reached its lowest level in 13 years in 2020 on June 5 that amounted to 430 million Tk. Given the unprecedented uncertainty and uncertainty caused by the Covid-19 pandemic, the Bangladeshi stock market could see difficult and severe consequences in the coming days (Suborna Barua. Et al).

e) *Impact on Global Education System*

The Covid-19 pandemic has had a major impact on the global education system. Schools, colleges and universities around the world have been closed to prevent the virus from spreading, as it is essential to avoid community gathering and maintain social distance to prevent the spread of the disease. Such an intervention is necessary in order to implement the "stay at home" approach in all ways. However, long-term closures face a variety of challenges for educational institutions and students. Of course, various temporary coping mechanisms have been put in place in the education system to deal with the unpredictable effects of the Covid-19 pandemic. Educational institutions in various countries have been closed. Due to the situation of Covid-19, the educational institution

(EI) will be closed from March 2020. At the start of the pandemic, Covid-19 extended national plans to close educational institutions until 2020. In March, however, now the time has been extended in almost all countries. In the United States, some institutions have announced that they will close this school year, while others have announced that they will remain closed until further notice. Australia is reopening schools, although many schools have not closed here (Coronavirus Covid-19 Update, 2020).

Canadian Education Minister Stephen Lecce has announced that all schools will be closed by at least May 31. In Japan, the state of emergency will continue until May 6, so educational institutions will also remain closed ("Coronavirus: Japan declares national emergency"). On April 27, BBC News has announced that China's Educational institutions has begun to open. Wuhan, where started the pandemic, will open schools from May 6. ("Coronavirus: Schools Start Reopening in China's Biggest Cities"). The duration of Educational institutions closure depends on the situation of Covid-19 in these countries (Nazmul et.al, 2020).

f) *Impact on Tourism Industry*

Tourism is a way of movement for most people in the modern world. According to the WTO (2020), International tourism supports sustainable growth for decades in a row. The report states that in 2019 there is 1.5 billion international tourists visited. Expected to reach 1.8 until 2030. The number of international tourists will reach 1 billion. The economic sector accounted for 4.4% of GDP in 2018. (World Bank, 2019). Bangladesh's international tourism spending is \$ 1.208 billion, In South Asian countries, it has quite reasonable value. Since the beginning of March, the Bangladeshi tourism industry has been adversely affected by the COVID-19 outbreak. Since early April, the number of COVID-19 patients in Bangladesh has continued to increase. Since mid-March, Bangladesh's local government has initiated a strict embargo on going tourists places. Hotel and motel owners must discourage tourists from living on their premises. As a result, tourism-related activities have stagnated. In addition, many domestic and foreign flights were canceled to prevent the spreading of virus.

The cancellation of flights has exacerbated the current economic situation. In order to prevent the spread of COVID-19, entry visas for tourists from all countries/ regions have been suspended. Since the beginning of the pandemic, the suspension of Chinese transactions due to the COVID-19 epidemic will affect not only China's GDP but also the world economy, as China accounts for about 15% of total GDP and trades with almost all countries. In terms of goods and services, Bangladesh has special trade relations with China. Bangladesh's total exports to China amounted to \$ 861 million, representing 2.2% of total Chinese exports, and imports accounted for \$ 15.1 billion, or 34%

of total Chinese exports. Due to the COVID-19 outbreak in January-December this year. Bangladesh's tourism industry could suffer 60 billion trail losses as the sector is most affected by the pandemic. The TOAB reports on April, 2020 that Travel agencies lost nearly 15 billion taka and sack 5,000 people to their job. However, it was reported to have lost 3.40 trillion Taka and had a ticket value of 3.05 trillion Taka. Losses over the past three months have been 1.86 trillion Taka and 1 billion Taka (TOAB, 2020). In Bangladesh, about 4 million people are directly or indirectly involved in tourism and travel. PATA (2020) estimates that COVID-19 currently provides around 300,000 jobs in industry. Figure 2 shows the number of risk assessment jobs faced by the tourism sector (Santusand Sohel, 2020).

#### g) *Impact on Small and Medium Enterprise*

The COVID-19 mandate and changes in health-related needs continue to affect business owners. From 2020 May (Second month after the introduction of restrictions on social exclusion), CPS data estimates from national representatives show that small business activity has declined sharply. From February 2020 to May 2020, the number of active business owners in the U.S. has dropped from \$ 15 million. Up to 12.8 million, i.e. 15%. The amount of Business owner in May 2020 actually rebounded a little from the April low of 11.7 million. The partial recovery increased 1.1 million business owners, or 7%, in February. While the return is encouraging, it still shows a significant short-term decline in business activity. In contrast, between the beginning and the end of the Great Recession, the number of active business owners fell by 730,000, or 5%. Overall, business ownership is relatively stable throughout the business cycle (Fairlie 2013; Parker 2018).

Between February and May, Business owners were lost 2.2 million (15 percent), including a significant decrease in subgroups such as owners who worked about two days a week (19 percent), and owners who worked four days a week (21 percent) incorporated businesses (11%). Judging from the total working time of all business owners, it decreased by 20 percent. Because of all these measures, May has been quite renewed from April's losses, but continues to show big losses. (Fairlie, 2020)

Small and medium-sized enterprises are the major point in the Bangladeshi economy and have directly created 7.8 million jobs, of which 31.2 million providing the livelihood. The COVID-19 pandemic has affected all walks of life and businesses, but those most affected by the shortest cash cycle, supply chain disruption and loss of sales are already vulnerable SMEs. In order to gain a comprehensive understanding of the current impact of the crisis on SMEs, Light Castle Partners & Sheba collaborated on an independent study on the impact of COVID-19 on Bangladeshi SMEs. The

study was conducted in late April. More than 230 respondents from SMEs in total in Bangladesh were involved in Trading and Production (48.4%), including perishable and cereals, poultry, dairy products, fisheries, jute and various industries and Service industry (51.6%), including food and catering, electrical services, laundry, beauty salons, MFS agencies and restaurants. They found Small and medium Enterprises locks hung over the business and generating 0 revenue. 28% of Small and medium Enterprises revenue drop at least 50%. Two-thirds of the Small and medium Enterprises have window of less than 4 months to survive in present situation. 40 percent of Small and medium Enterprises from service industry took a big hit and losses more than 50% percent (Light Castle Partner).

#### *Recovery Ideas Given by Policymaker, Researcher and International Organization:*

Shang-Jin Wei gives ten key to minimize the effect of Covid-19 on the book of Mitigating the COVID Economic Crisis: Act Fast and Do Whatever It Takes.

1. Accelerate the preparation before an outbreak hit. There will be a huge demand of testing kits, masks, protective cloths, hospital beds, and ventilator. Every country should collect this materials as soon as possible. Because these material is the major element to reduce and track the virus.
2. If the supply of local health products is limited, consider increasing imports from China, Japan, and other countries with related potential. Bangladesh need to import this material because some elements are rare in this country.
3. Develop appropriate emergency management plans to ensure that there are sufficient hospital beds used for infectious diseases, especially large-scale outbreaks, especially ICU beds.
4. Give advice to the normal people early, clearly, and forcefully to reduce the spread of the virus.
5. If there is, any sign of outbreak take necessary step to ensure social distancing as soon as possible.
6. The need for immediate assistance to employee, businesses and financial companies settles quickly.
7. Make a better use of technology such as offline retail shopping changed by online shopping.
8. Internet use in the all sector should increase that can give enhancement of long term economic growth.
9. A worldwide cooperative economic stimulus plan will be more effective than taking individual action to reduce the pressures of a global recession.
10. Minimizing the tariffs and non-tariff trade barriers in this situation can also assist a country to fight a pandemic-induced recession

Coronavirus pandemic give huge losses in various sector in the economy. Readymade garments, Education, Tourism, Capital Market etc are mostly



affected by pandemic. There are some solution given by authorities.

*World Economic Forum* said that the improved stimulus package announced by the Prime Minister is admirable and a step in the proper direction. The package provided nearly \$ 2.5 billion in short-term working capital financing for small and medium-sized industries. This is a bold step to protect the livelihoods of workers in this sector. This is the scale of this crisis and even such an incentive plan should be seen as a means of stopping it. What is even more worrying is that data from the Bangladesh Bureau of Statistics show that the informal sector in Bangladesh employs more than 50 million people. While this will have a major impact on the livelihoods of workers in the formal economy, there is no doubt that the informal sector will be hit harder. The Prime Minister rightly saw this as a challenge, and her decision to distribute food aid through Bangladesh's existing social security programs (such as feeding vulnerable groups and expanding vulnerable groups for six months) was also to be welcomed.

World Economic Forum suggest some solution to reduce the effect of this pandemic:

Bangladesh government should think about an unconditional cash transfer program is \$ 95 per month for the first three months, which equates to a minimum wage in the formal Bangladeshi sector. It will cost the government about \$ 14 billion, or 4% of GDP. While such cash transfer programs will always face specific problems, Bangladesh has a very modern network of mobile financial services that can improve the coverage of the program. Coordinated efforts may be made to involve non-governmental organizations working in the informal sector, mobile financial service providers and governments to provide much-needed social assistance. In taking such a positive step, Bangladesh will have to abandon its usual prudent and disciplined fiscal policy to keep its budget deficit below 5% of GDP.

*Asian Development Bank responses to the COVID-19 outbreak:* Asian Development Banks quickly and flexibly give feedback to the members. Some solutions are given by ADB.

- o Asian Development Banks give 20 billion dollar assistance package for the affected country in Asia and Pacific for saving lives and ensure economies recoveries as fast as possible.
- o Asian Development Banks delivering grants for food programs who are in crisis and medical needs like PPE, test kits, and laboratories.
- o Asian Development Banks providing budget support with affordable term for their developing members.
- o Asian Development Banks analyze the economic impact due to COVID-19 and better plan to recovery.

- o Asian Development Banks provides finance for trade and supply chain.
- o Asian Development Banks wages support schemes help to lose job of low-wage worker.
- o Asian Development Banks cash transfer program and other social security measures are targeted at poor and vulnerable groups and families, as well as women and girls.
- o Asian Development Banks coordinate with international financial institutions, WHO and UN agencies and development organizations.
- o Hasanul Banna (2020) an economist give some solution to minimize the effect:
- o The Government of Bangladesh and the Bangladesh Bank must make sure the troubled economy continues to function during the virus outbreak. In this regard, the government should entrust financial and non-financial institutions, educational institutions, all governments and NGOs need to create a cloud database Work from home so they can continue their work In this case, and it goes smoothly.
- o Lowering the interest rates by Bangladesh is a possible response because the shock is not just about demand management problems, but a multifaceted crisis that need to respond to monetary, fiscal and health policies.
- o The government should increase budget in health sector. To prevent the effect of the virus government should initiate health insurance policy.
- o It is necessary to support vulnerable families and businesses As a means of isolation and fear of infection may suddenly halt economic activity
- o It is also necessary to increase liquidity reserves for companies in affected industries in order to avoid debt default. In addition, reducing fixed charges, tax and credit tolerance will also reduce the pressure on companies facing a sharp drop in demand.

*Recommendations:* COVID-19 is a serious for our economy as well as our overall life. We do not know how and when this problem will be solved. But for safety of life we should maintain some rules regulation. Prevention is necessary to solve this problem. Here we suggest some recommendations about minimizing the impact of COVID-19 on economy.

- General people should aware of this problem. Social distancing is the best solution to stop spreading this virus.
- Internet is another major element to continue any kind of business, government and non-government institution. By using internet people can easily doing their work by staying at home.
- Educational Institutions should take necessary step to prevent the loss due to shut down all the institutions. Telecommunication Service Provider, Government, and all the educational institution

should help the student for digital learning. Now students can learn wherever they belong they do not go to school, college, and University.

- Reducing internet cost, tax, vat can help to reduce the SME and other Industries.
- Corporate Social Responsibility may be the better solution to prevent this pandemic. Banks, Financial Institutions, or any other Industry can help people by CSR activities. It will be helpful for our country. A lot of amount was used by previous year by doing CSR. This year all institutions should maintain CSR for preventing the loss due to COVID-19.
- Government should create fund for SME, RMG, and Tourism Industry. Because these sectors may suffer a serious loss due to COVID-19.

## V. CONCLUSION

The COVID-19 outbreak has dealt a severe blow to many countries with poor economic conditions prolonged lockdown partially or completely stops all economic activity, therefore low-income people are mostly unemployed, and they do not have access to food and social safety programs. The Bangladeshi government has announced a huge stimulus plan that will be helpful for affected people and their family. In this research, the researcher showed that there was a huge impact on economy will happened due to COVID-19. The RMG sector, GDP, Tourism sector, Capital market and Education sector were in danger. Each sector of the country were suffering loss due to lockdown. Garments were closed down for COVID-19. Export rate decreased and industry facing huge losses. Social awareness and internet could reduce some losses during COVID-19. In this study, the researcher describes some a researcher's recommendation regarding to Minimizing the impact of COVID-19. Lastly, the researcher suggests some possible solution which can be helpful for Bangladesh.

## REFERENCES RÉFÉRENCES REFERENCIAS

1. Alam, N. Ruba, D. K., & Rowshan, S. (2020). Impact of Covid-19 pandemic on global education systems. *The Business Standard*.
2. Asian Development Bank (2020). ADB's Response to COVID-19 retrieved from: <https://www.adb.org/news/videos/adbs-response-covid-19-side-our-developing-members>
3. BGMEA Trade Information: <https://www.bgmea.com.bd/home/pages/Trade-Information>
4. Bhuiyan, M. (2020). World Bank forecasts only 1.6% GDP growth for Bangladesh. <https://tbsnews.net/economy/world-bank-forecasts-only-16-gdp-growth-bangladesh-90592>
5. Barua, S., Alam, A., Rahman, I., & Hossen, R. (2020). Mapping the Covid-19 implications for Bangladesh's stock market. <https://thefinancialexpress.com.bd/views/mapping-the-covid-19-implications-for-bangladeshs-stock-market-1594223057>
6. Baldwin, R. & Mauro, W. d. (2020). Mitigating the COVID Economic Crisis: Act Fast and Do Whatever It Takes. *CEPR Press*
7. Banna, H. (2020). Minimising the economic impact of Coronavirus in Bangladesh. *THE BUSINESS STANDARD*
8. Bhuiyan, M.S. A. (2020). Covid-19 and its impact on Bangladesh economy. <https://tbsnews.net/thoughts/covid-19-and-its-impact-bangladesh-economy-69541>
9. COVID-19 Impact on the SME Sector of Bangladesh. (2020). <https://www.lightcastlebd.com/insights/2020/05/09/covid-19-impact-on-the-sme-sector-of-bangladesh>
10. Deb, S. K., and Nafi, S. M. (2020). Impact of COVID-19 Pandemic on Tourism: Perceptions from Bangladesh. <http://dx.doi.org/10.2139/ssrn.3632798>
11. Dutta, Rana. (2020). COVID-19: An impending threat for Bangladesh RMG. <https://www.observerbd.com/details.php?id=245698>
12. D'Costa, J. P. (2020). How To Face Impact Of Coronavirus. <http://www.fintechbd.com/how-to-face-impact-of-coronavirus/>
13. Everything you need to know about the coronavirus. (2020). <https://www.theverge.com/2020/1/23/21078457/coronavirus-outbreak-china-wuhan-quarantine-who-sars-cdc-symptoms-risk>
14. Fairlie, R. W. (2013). Entrepreneurship, economic conditions, and the great recession. *Journal of Economics & Management Strategy*. <https://doi.org/10.1111/jems.12017>
15. Fairlie, R. W. (2020). THE IMPACT OF COVID-19 ON SMALL BUSINESS OWNERS: CONTINUED LOSSES AND THE PARTIAL REBOUND IN MAY 2020. *NATIONAL BUREAU OF ECONOMIC RESEARCH*.
16. Hina, Nawaz, Barbra, Nabyonga, and Hassan, Nawaz. (2021), The Impact of COVID – 19 on Pakistan's Export Oriented Economic Growth. In: *Economics and Business Quarterly Reviews, Vol.4, No.3, 114-125*.
17. Indrajith, V.S., (2021). Impact of COVID-19 on Economy of Sri Lanka. Available at SSRN: <https://ssrn.com/abstract=3911544> or <http://dx.doi.org/10.2139/ssrn.3911544>
18. Klein, A., Smith, E. (2021). Explaining the Economic Impact of COVID-19: Core Industries and the Hispanic Workforce. 1-18.
19. PATA Bangladesh Chapter (2020). PATA Bangladesh Chapter: COVID-19 impact on the Tourism Industry in Bangladesh. Available at: <https://www.pata.org/pata-bangladeshchapter-covid-19-impact-on-the-tourism-industry-in->

- bangladesh/#sthash.ZgATKzIW.dpuf. (viewed 10 June 2020).
20. Parker, S. C (2018). The economics of entrepreneurship. *Cambridge University Press*.
  21. Siddiquee, M. S. H., & Faruk, A (2020). COVID-19's Impact on Bangladesh Economy. *BIGD working paper, No 59*.
  22. SHAHRIAR, MS, ISLAM, KMA, ZAYED, NM, HASAN, KBMR, & RAISA, TS (2021). The Impact of COVID-19 on Bangladesh's Economy: A Focus on Graduate Employability. *The Journal of Asian Finance, Economics and Business*, 8 (3), 1395–1403. <https://doi.org/10.13106/JAFEB.2021.VOL8.NO3.1395>
  23. Shang Y, Li H and Zhang R (2021) Effects of Pandemic Outbreak on Economies: Evidence From Business History Context. *Front. Public Health* 9:632043. doi: 10.3389/fpubh.2021.632043
  24. Sultan, M., Hossain, M. S., Islam, S., Chowdhury., Naim, J., & Huq, F. (2020). Effect of COVID-19 on RMG sector and Trade Union efforts to mitigate fall out. *BIGD*.
  25. TOAB (2020), "Impacts on Bangladesh Tourism and TOAB due to COVID-19" Available at: <https://m.theindependentbd.com/online/travel-tourism> (viewed 04 May 2020).
  26. Total Coronavirus Cases in Bangladesh.(2020). <https://www.worldometers.info/coronavirus/country/bangladesh/>
  27. World Tourism Organization (2020). "World Tourism Barometer." Volume 18, Issue 1. Available at: [https://webunwto.s3.eu-west-1.amazonaws.com/s3fs-public/2020-01/UNWTO\\_Barom20\\_01\\_January\\_excerpt\\_0.pdf](https://webunwto.s3.eu-west-1.amazonaws.com/s3fs-public/2020-01/UNWTO_Barom20_01_January_excerpt_0.pdf) (viewed 10 April 2020).

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## Original Sin and Natural Cover in CEMAC Area

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**Abstract-** The purpose of this article is to see whether export gains are likely to neutralize, even partially, the effect of the valuation of US dollar-denominated debt in the EMCCA area. The aim is therefore to verify the effectiveness of the natural hedge. Taking the period 1995-2019, we use an empirical method based on the heterogeneous dynamic panel estimator with common-correlated effects. We find that the natural hedge is inefficient, i.e., the export gains from nominal exchange rate changes do not cover the original sin valuation effect of these same changes. The results of our estimates call for a rethinking of the integration of EMCCA countries into world trade, given that an integration based on the development of large-scale exports is a *sine qua non* for the effectiveness of natural hedging.

**Keywords:** exchange rate, foreign currency debt, natural hedge, original sin, trade.

**GJMBR-B Classification:** JEL Code: C23. E44. F31. F34. H63



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# Original Sin and Natural Cover in CEMAC Area

Scott Régifère Mouandat <sup>α</sup>, Richelmy Etendino Nkombe <sup>σ</sup> & Christin Baudrey Ndong Abessolo <sup>ρ</sup>

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## I. INTRODUCTION

L'hypothèse du péché originel, déjà utilisée pour expliquer l'émergence des crises financières de troisième génération (Eichengreen et Hausmann, 1999; Krugman, 2001) sous l'angle des effets bilans, est souvent reprise pour analyser les fragilités financières auxquelles font face les pays émergents et en développement (Borio et al., 2004; Eichengreen et al., 2005, 2007; Bordo et al., 2020).

Le péché originel, est principalement appréhendé, dans la littérature, comme l'incapacité des pays en développement à pouvoir libeller leurs emprunts dans leurs monnaies (Eichengreen et Hausmann, 1999 ; Hausman et Panizza, 2011)<sup>1</sup>.

Il faut noter, toutefois, que la présente définition n'est que le résultat des nombreuses mutations financières, puisqu'initialement ce phénomène distingue deux dimensions, la dimension internationale (l'incapacité des pays à s'endetter sur le plan externe dans leur propre monnaie), d'une part, et la dimension domestique (l'incapacité d'un pays à s'endetter sur le plan local, à long terme, à taux fixe et en monnaie domestique) pour laquelle l'aspect temporel a été introduit<sup>2</sup> (Prat, 2007).

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<sup>1</sup> Pour Eichengreen et al. (2007) et Hausmann et Panizza (2011), presque tous les pays sont affectés par ce phénomène de péché originel hormis les pays émetteurs des cinq plus grandes monnaies (le Dollar américain, la Livre Sterling, l'Euro, le Yen et le Franc suisse).

<sup>2</sup> Cf. Prat (2007) et Hausman et Panizza (2011) pour des détails sur le sujet.

Ainsi, la prise en compte des effets négatifs d'un tel phénomène, en terme de risque systémique, en général, de valorisation de la dette en cas de dépréciation de la monnaie domestique (Bordo et al., 2016, 2020) en particulier, a orienté les analyses sur les solutions adéquates pour en faire face.

A cet effet, trois grandes voies ont émergé (Aizenman et Lee, 2005; Eichengreen et al., 2007; Hausman et al., 2011; McCauley et Chan, 2014), la première s'intéresse au développement des marchés financiers domestiques afin de se prémunir du risque de change lié à l'endettement en devise (*l'hypothèse de rédemption du péché originel*), la seconde voie, quant à elle, s'articule autour des stratégies de désendettement (*hypothèse d'abstinence*), tandis que la troisième voie traite de la couverture par les exportations (*couverture naturelle*)<sup>3</sup>.

Le présent article s'intéresse particulièrement à cette dernière. A cet égard, nous cherchons à savoir si les gains d'exportations issus d'une dépréciation de la monnaie domestique sont de nature à absorber, même partiellement, l'effet de réévaluation de la dette extérieure dû à cette même dépréciation dans le cadre des pays membre d'une union monétaire telle que la CEMAC.

Le choix de cette zone tient globalement au fait qu'elle est composée d'un ensemble de petites économies ouvertes sur l'extérieur preneuses de prix et donc qui ne disposent pas d'un pouvoir de négociation dans le choix de la monnaie de libellé des exportations. Par ailleurs, la CEMAC ne dispose pas de marché financier domestique développé, ce qui rend d'autant plus pertinent l'étude du rôle de la couverture naturelle.

Le reste de l'article est composé d'une revue de la littérature (section 2), d'une discussion autour du choix de la mesure du péché originel (section 3), de la méthodologie (section 4), de l'estimation et de l'interprétation des résultats (section 5) et enfin de la conclusion (section 6).

## II. REVUE DE LA LITTÉRATURE

Depuis le travail séminal d'Eichengreen et al. (1999), le péché originel constitue une préoccupation

<sup>3</sup> Par couverture naturelle, il est entendu, la constitution d'un portefeuille de dette en parfaite adéquation avec la structure du commerce extérieur. Celle-ci présente l'avantage de son coût quasi nul.

majeure au sein des économistes, tant pour comprendre ses origines que pour appréhender ses effets sur l'économie des pays en développement.

S'agissant tout d'abord de ses origines, les premiers travaux en ont distingué globalement deux, notamment, la diversification internationale du portefeuille d'actifs, d'une part, et, l'asymétrie de taille entre les pays, d'autre part.

En effet, les analyses relatives aux déterminants du péché originel montrent que ce phénomène reflète essentiellement les caractéristiques des marchés financiers mondiaux; ceci en s'appuyant sur une analyse des coûts et des bénéfices d'une diversification des portefeuilles au niveau global (Eichengreen, Hausmann et Panizza, 1999, 2005).

En outre, en présence de coût de transaction, seuls les grands pays (pays industrialisés) sont en mesure d'emprunter à l'étranger dans leur propre monnaie. Ce fait échappe au contrôle des pays émergents et en développements qui ne peuvent que subir les conséquences de l'asymétrie de taille et des coûts de transaction entre pays (Eichengreen, Hausman et Panizza, 2005).

Dans le prolongement de ces travaux, la littérature s'est penché sur les facteurs tels que la qualité des institutions, le choix de régime de changes, l'historique de défaut et de forte inflation, la crédibilité monétaire ou encore de niveau de développement financier (Borio et Packer, 2004; Eichengreen et al., 2007).

Ainsi, pour Caballero et Krishnamurthy (2003), la dette en devise étrangère provient du sous-développement de marché financier local. Jeanne (2002) explique le péché originel par une imparfaite crédibilité monétaire. Le péché originel est donc renforcé par un faible degré de crédibilité, à l'origine d'une dollarisation de l'économie qui peut rendre les firmes vulnérables à une large dépréciation.

Burnside, Eichenbaum et Rebelo (2001) montrent que la stabilité du taux de change aboutit à une augmentation du péché originel. La stabilisation du taux de change génère, en effet, des problèmes d'aléa moral, ce qui incite à l'accumulation des positions non couvertes (surtout dans le secteur privé). Les possibilités de couverture existent, mais ne sont pas utilisées. C'est ainsi que l'on peut recommander un taux de change flottant afin d'encourager les firmes et les banques à se couvrir contre le risque de change, et donc à valoriser correctement ce dernier.

En ce qui concerne les analyses autour de ses effets sur l'économie<sup>4</sup>, le péché originel se traduit par une importante « dollarisation » de la dette (le dollar

constituant la principale monnaie de libellé de l'emprunt en devises) (Shin et Turner, 2015), ce qui est de nature à accroître la fragilité financière en cas de variations du taux de change. À terme, ces effets de bilans peuvent se traduire par une contraction de la production, une crise financière ou budgétaire.

Ainsi, l'exposition d'un secteur de l'économie au péché originel fait peser sur ce dernier un risque d'autant plus important qu'il ne peut pas trouver de contreparties susceptibles de lui permettre d'avoir un actif dollarisé à la hauteur de son passif. Si ces dernières existent, une couverture est possible et se concrétise par la réalisation d'une transaction sur un marché. Celui-ci est le vecteur de propagation du péché originel vers d'autres secteurs, qui seront touchés à leur tour par la dollarisation partielle de leur passif.

Le péché originel est alors une explication du risque systémique. Deux principaux enchaînements peuvent être identifiés. Premièrement, la charge d'une dette dollarisée peut tout d'abord devenir trop lourde pour les firmes produisant des biens non échangeables, entraînant l'insolvabilité de nombre d'entre elles. Ceci se répercute sur la solvabilité du secteur bancaire. La stabilité étant un bien public, l'Etat est poussé à intervenir devant les risques d'une faillite bancaire, ce qui altère sa propre situation, surtout si ses fondamentaux ne pas solides.

Deuxièmement, la crise peut provenir directement du secteur public, dont l'effet boule de neige de l'endettement, lié au péché originel, implique des difficultés de remboursement de ses dettes vis-à-vis du secteur bancaire. La crise se répercute alors sur les autres secteurs.

A la suite de cette littérature, la question qui en a suivi est alors de savoir comment faire face à ce phénomène ?

Une vaste littérature s'en est alors intéressée en se focalisant soit sur l'ajustement par les exportations (couverture naturelle) (Fujii, 2016), soit sur le développement des marchés financiers domestiques (Hausman, 2005; Hausman et al., 2011) et soit sur l'*abstinence* (Hausman et al., 2011).

Notre article s'intéresse à la première option. Ainsi, la prise en compte des effets relatifs au péché originel remet au goût du jour la question des revenus en devises et donc des réserves de change d'un pays (Eichengreen et al., 2007). En effet, l'accumulation de réserves (favorisé par les exportations) est considérée comme une assurance contre les risques attachés au péché originel<sup>5</sup> (Aizenman et al., 2007; Fujii, 2016).

Miller (1996) a démontré que plus le consommateur mondiale d'un pays est importante dans une devise, plus ce pays a tendance à prêter dans cette

<sup>4</sup> Cet article ne s'intéresse pas à cette partie de la littérature, déjà bien documentée. Le lecteur peut par exemple consulter l'article d'Akmar et al. (2005) pour des explications plus détaillées.

<sup>5</sup> Un pays qui ne dispose pas de revenus en devises subit les effets de la variabilité du taux de change de façon extrême (Fujii, 2016).

devise. En fait, si un pays importe d'un autre pays, il va donc prêter à ce dernier pour que ces revenus couvrent ses charges. Krugman (2003) a, quant à lui, étudié le rapport entre le service de la dette extérieure et le taux de change, de sorte que, pour lui, « la balance des transactions courantes mesure l'ampleur et la direction de l'emprunt international ». En d'autres termes, un déficit du compte des transactions courantes incite le pays à emprunter la différence dans la devise de son partenaire principal d'exportation afin de réduire les effets de la variabilité du taux de change.

L'étude de Krugman et al., (2003) rejoint celle de Miller (1996), puisque les auteurs montrent une relation entre l'orientation (structure) du commerce extérieur et la libellation de la dette extérieure.

Une telle configuration soulève la question de la monnaie de libellé des exportations. Il est ainsi nécessaire d'analyser la composition en devise des gains à l'exportation pour savoir si une dévaluation (dépréciation) stimule les exportations nettes de la même manière qu'elle réévalue la dette (Fujii, 2016).

Cependant, le choix de celle-ci répond à d'autres incitations. Ce choix canalise les incertitudes auxquelles sont confrontés le pays producteur et le pays acheteur, en termes de risque de change (Sokolova, 2015).

Ainsi, la première génération de modèles néo-keynésiens (NK) suppose que les prix sont déterminés dans la monnaie du pays producteur, ce que l'on appelle la facturation dans la monnaie du producteur» (PCP, *Producer currency pricing*) (Sokolova, 2015; Gourinchas et al., 2016). Dans ce paradigme, une dépréciation nominale réduit le prix des exportations par rapport aux importations (les termes de l'échange), améliorant ainsi la compétitivité.

Par ailleurs, un deuxième paradigme de tarification s'est développé. Pour Devereux et Engel (2003) et Goldberg et Tille (2008, 2013), les prix sont plutôt supposés être déterminés dans la monnaie du marché de destination, appelée «facturation en monnaie locale» (LCP, *Local currency pricing*). Dans ce paradigme, une dépréciation nominale augmente le prix des exportations par rapport aux importations, une augmentation des termes de l'échange, réduisant ainsi la compétitivité. Les deux paradigmes ont été largement étudiés dans la littérature en ce qui concerne leurs prédictions pour les résultats domestiques et les retombées internationales.

Toutefois, il y a très peu de preuves que la meilleure description de la tarification sur les marchés internationaux soit conforme au PCP ou au LCP. Au lieu de cela, la grande majorité du commerce est facturée dans un petit nombre de monnaies internationales<sup>6</sup>,

<sup>6</sup> Le dollar américain, l'Euro, le Yen, la Livre Sterling et aujourd'hui la monnaie chinoise, pour ne citer que celles-là.

avec le dollar des États-Unis jouant un rôle démesuré (Eichengreen, 2011; Goldberg et Tille, 2013; Gourinchas et al., 2016).

Une telle situation met en évidence les motifs stratégiques qui fondent l'analyse du choix de la monnaie de libellé des exportations, à travers l'hypothèse de la « négociation de la facturation » (Goldberg et Tille, 2013; Parker, 2016). En effet, les travaux relativement récents (Friberg et Wilander, 2008; Goldberg et Tille, 2008 2013 et 2016) indiquent que l'idée conventionnelle du pouvoir de négociation unilatéral des exportateurs sur la monnaie de libellé ne tient pas, étant donné que le contrat réel est négocié sur la base de trois facteurs fondamentaux, à savoir, le prix, la quantité, et la monnaie. Les trois possibilités de tarification de la monnaie sont alors le PCP, le LCP et le VCP (*Vehicule currency pricing*). Les deux premiers sont liés aux économies du vendeur et de l'acheteur, le troisième représente le choix de la monnaie d'un pays qui ne participe pas au contrat d'exportation. La monnaie VCP la plus populaire est le dollar américain.

Par conséquent, les deux pouvoirs de négociation de l'importateur et de l'exportateur sont considérés lors de la prise de décision sur la monnaie de libellé. Si les pouvoirs de négociation sont asymétriques et que les parties ont des préférences différentes, le choix de la monnaie est déterminé en faveur du parti qui détient un pouvoir de négociation plus élevé et peut donc ne pas être optimal pour la seconde partie. Aux termes de la transaction, la détermination du pouvoir de négociation se résume à deux aspects: importance relative de l'importateur pour l'exportateur, importance relative de l'exportateur pour l'acheteur.

Nous nous orientons vers cette littérature mais en faisant abstraction de la question de la composition en devises des exportations et surtout du choix de leur monnaie de libellé. En effet, les pays membres de la CEMAC, étant de petites économies ouvertes considérées comme des « *price taker* », elles disposent d'un pouvoir de négociation quasi nul. Cette configuration donne alors que les possibilités PCP et VCP à ces pays.

### III. DISCUSSION AUTOUR DE LA MESURE DU PÉCHÉ ORIGINEL EN ZONE CEMAC

Eichengreen, Hausmann et Panizza ont construit des indicateurs de péché originel international en se basant sur les statistiques concernant les valeurs mobilières et les créances bancaires publiées par la Banque des Règlements Internationaux (BRI).

Le premier indicateur proposé OSIN1i est calculé en soustrayant à un le ratio des titres internationaux émis par le pays i dans sa propre

monnaie sur la totalité des titres internationaux émis par le pays  $i$ :

$$OSIN1_i = 1 - \frac{\text{Titres émis par le pays } i \text{ en monnaie } i}{\text{Titres émis par le pays } i} \quad (1)$$

Par conséquent, plus le ratio tend vers 0 (l'indicateur tend vers 1) et plus le pays est soumis au péché originel, c'est à dire que la monnaie locale ne peut pas être utilisée comme la monnaie de libellé de la dette extérieure. Cet indicateur possède néanmoins quelques limites : d'une part, il fait référence uniquement à la dette sous forme de titres obligataires et néglige les autres types d'endettement (prêts bancaires) et d'autre part, il ne prend pas en compte les possibilités de couverture contre le risque de change par l'intermédiaire (l'utilisation) des swaps (Eichengreen, Hausman et Panizza, 2003)<sup>7</sup>.

$$INDEXA_i = \frac{\text{Titres + Prêts bancaires consentis au pays } i \text{ dans les principales monnaie}}{\text{Titres + Prêts bancaires consentis par le pays } i} \quad (2)$$

$$OSIN3_i = \text{Max} \left( 1 - \left( \frac{\text{Titres émis par le pays } i \text{ en monnaie } i}{\text{Titres émis par le pays } i} \right), 0 \right) \quad (3)$$

$$OSIN2_i = \text{Max}(INDEXA_i, OSIN3_i) \quad (4)$$

Par définition,  $OSIN2_i \geq OSIN3_i$  et empiriquement il semblerait qu' $OSIN1_i$  soit supérieur à  $OSIN2_i$ . Ces indicateurs, et notamment  $OSIN3_i$  ont été largement utilisés pour des études empiriques en ce qui concerne la capacité des économies émergentes à emprunter à l'étranger dans leur propre monnaie (Borio et Packer, 2004; Goldstein et Turner, 2004).

En outre, d'autres auteurs ont développé d'autres indicateurs dans le but de quantifier le rapport dette en devises/dette totale. Ainsi, Burger et Warnock (2003) ont étendu la définition du péché originel aux marchés obligataires locaux tandis que Eichengreen et al., (2003, 2005) ne s'intéressaient qu'aux titres échangés à l'extérieur sur les marchés financiers internationaux.

<sup>7</sup> L'utilisation de données provenant de la BRI (Banque des Règlements Internationaux) implique que l'on comptabilise uniquement la dette des économies émergentes détenues par les banques reportant à la Banque des Règlements Internationaux. Autrement dit, les auteurs ne tiennent pas compte des engagements externes détenus par des organismes publics (dette multilatérale, bilatérale...) ni de la dette externe détenue par le secteur privé non financier. En outre, il faut considérer que les prêts bancaires non consentis dans les principales monnaies le sont dans la monnaie locale. Ces restrictions impliquent donc un biais lors du calcul des indicateurs de péché originel.

Les insuffisances relatives au premier indicateur ont conduit les auteurs à proposer trois autres indicateurs du péché originel qui intègrent, bien que partiellement, les limites précédentes.

Ces trois indicateurs sont construits comme suit:

Les auteurs montrent en effet que le péché originel est une conséquence indirecte d'un manque de crédibilité (historique d'inflation, politiques macroéconomiques et institutions défaillantes) entraînant un faible développement des marchés locaux de dette et donc un biais en ce qui concerne dans le choix de la devise d'endettement.

D'autres auteurs (Bordo et Meissner, 2005) ont proposé une classification différente du péché originel suivant un aspect historique en s'intéressant précisément aux emprunts extérieurs des pays libellés en devises ou portant une clause de garantie en or. L'aspect historique de ces études est intéressant dans la mesure où plusieurs faits marquants apparaissent très clairement : d'une part, au début du 20ème siècle, la place d'émission déterminait quasiment de manière systématique le libellé de la devise, d'autre part, le phénomène de péché originel est persistant dans le temps étant donné que l'accession d'une monnaie au statut de monnaie clé dépend historiquement des relations commerciales et de la place occupée par le pays en matière de commerce et de finance.

Ces indicateurs de péché originel diffèrent de ceux proposés par EHP (2002, 2003, 2005) étant donné qu'au début du siècle aucune nation n'émettait des titres libellés dans des monnaies « exotiques » : la

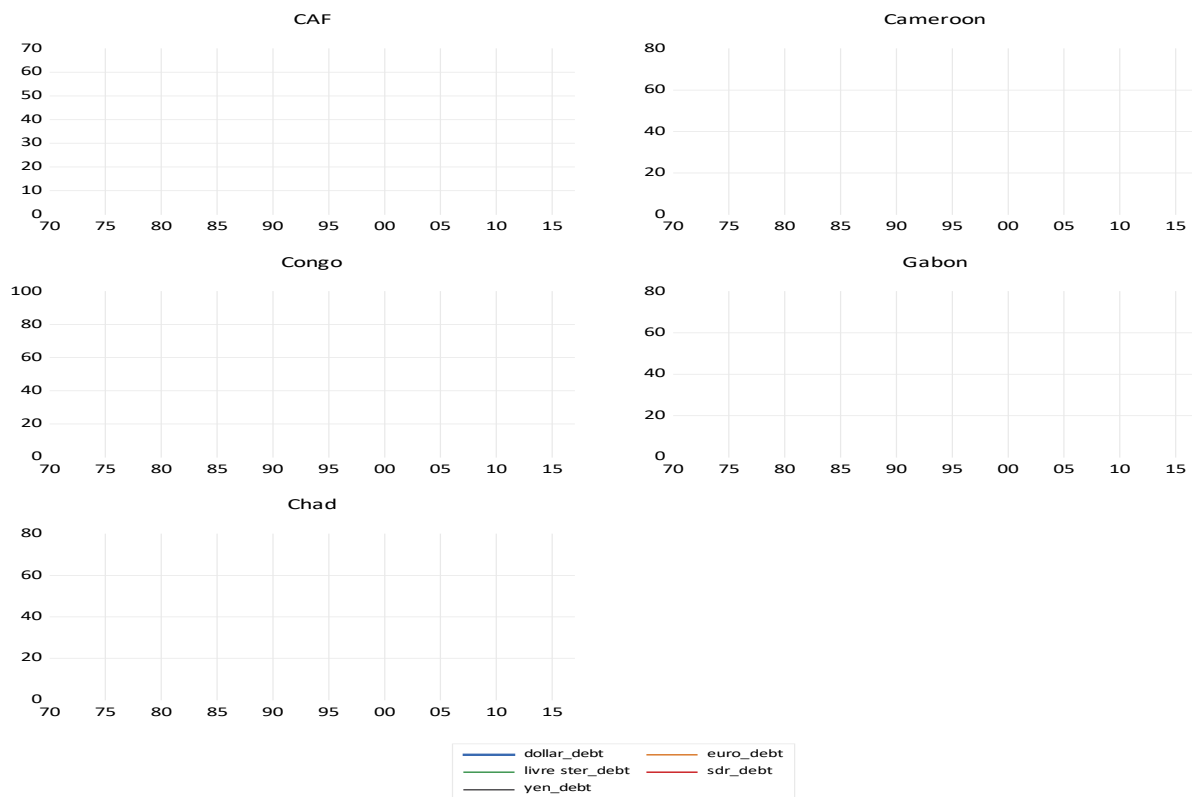
pertinence des indicateurs OSIN proposés est alors remise en question en ce qui concerne les analyses du choix de la devise d'endettement d'un point de vue historique (Bordo et Meissner, 2005).

Enfin, Claessens et al., (2007) ont proposé d'analyser la composition en devises des obligations d'Etat en utilisant le logarithme des ratios obligations souveraines en monnaie locale/PIB, la part des obligations souveraines en devises/PIB ainsi que la part des obligations souveraines en devise/obligations totales.

Dans certains pays en développement tels que les pays membres de la CEMAC, la mesure du péché originel est difficile à établir. Ainsi, l'état embryonnaire du marché financier de la zone et le problème de la disponibilité des données pour le calcul des indicateurs

OSIN, INDEXA, nous amène à utiliser le ratio de la dette extérieure libellée en dollar US<sup>8</sup>. Le choix de cet indicateur réside dans le fait que l'endettement extérieur des pays membres de la CEMAC est entièrement libellé en monnaies étrangères. Il n'existe pas pour ces pays des possibilités d'obtenir des prêts internationaux en franc CFA.

Bien que nous sommes conscient que l'endettement libellé en dollar US est un indicateur partiel du péché originel, nous trouvons qu'il en constitue une bonne mesure pour deux raisons dans la CEMAC (au-delà des raisons que nous venons d'évoquer). D'une part, cette dette représente la part la plus importante du portefeuille de la dette extérieure de ces derniers, comme l'indique la figure 1 suivante.



Source: Auteur à partir des données de la Banque Mondiale (2019)

Figure 1: L'évolution Des Parts Relatives Des Dettes En Devises De 1970 En 2017

La figure ci-dessus montre l'évolution des parts relatives des dettes libellées en monnaies étrangères sur la période 1970-2017 dans cinq (5) des six (6) pays membres de la CEMAC, la Guinée Equatoriale étant absente en raison de l'indisponibilité des données. On observe que la dette libellée en dollar US est plus élevée (sa courbe étant au-dessus des autres) et suit une progression croissante, comparativement aux dettes en DTS (Droits de Tirages Spéciaux), en Yen japonais, en Livre Sterling et en Euro.

D'autre part, les exportations de biens et services des pays membres sont principalement exprimées en dollars, malgré les multiples partenaires commerciaux<sup>9</sup>, confirmant ainsi la prééminence du paradigme VCP pour ces économies.

<sup>8</sup> Le pourcentage de dette extérieure à long terme publique et garantie par l'Etat contractée en dollars américains.

<sup>9</sup> USA, la Zone Euro, Chine, Japon, Australie, Emirats Arabes Unis, Inde...



#### IV. MÉTHODOLOGIE

Nous prenons appui sur le modèle Fujii (2016) qui analyse la relation entre la dette extérieure et le commerce international dans les pays à revenu moyen et faible. L'auteur analyse essentiellement la question de l'inadéquation de la composition en devise à la fois de la dette extérieure et des exportations, révélant ainsi les effets néfastes de la variabilité du taux de change en termes de bien-être.

Comme l'auteur, nous verrons si l'effet expansionniste (les gains d'exportations liés à une variation du taux de change nominal) est de nature à couvrir l'effet de valorisation de la dette extérieure (issu de la variabilité du taux de change).

Nous nous démarquons de l'auteur, en nous situant dans le cadre d'une union monétaire comme explicité plus haut, d'une part, et en faisant abstraction de la problématique du bien-être, d'autre part. Il s'agit en fait de voir si les exportations de la zone peuvent servir de couverture contre le péché originel.

##### a) Les Variables Du Modèle

Il s'agit de la variable expliquée et des variables explicatives.

##### 1°) La variable expliquée

La variable expliquée retenue est le péché originel augmenté du taux de change nominal<sup>10</sup> ( $A_{OSIN}$ )<sup>11</sup>. Il s'agit en fait de prendre en compte l'effet de valorisation de la dette libellée en dollar américain (due aux variations du taux de change nominal). Nous la définissons comme suit:

$$A_{OSIN}_{it} = US\_Dollar\_debt_{it} * \Delta(NER)$$

avec,

$A_{OSIN}_{it}$ , le péché originel augmenté des variations du taux de change nominal (augmented original sin) du pays  $i$  à la période courante;  $US\_Dollar\_debt_{it}$ , le ratio de la dette libellée en dollar américain du pays  $i$  à la période  $t$ ;  $\Delta(NER)$ , les variations du taux de change.

##### 2°) Les Variables Explicatives

Nous considérons quatre (4) variables explicatives:

- Les gains d'exportations ( $A\_EXPORT$ ). Il s'agit des gains d'exportations liés aux variations du taux de change. Prenant l'indice de la valeur des exportations comme proxy des exportations<sup>12</sup>, nous

l'augmentons des variations du taux de change, comme décrit dans la formule suivante :

$$A\_EXPORT_{it} = EXPORT_{it} * \Delta(NER)$$

avec,  $i$ , le pays et  $t$ , le temps;  $A\_EXPORT$ , les gains d'exportations issus des variations du taux de change;  $\Delta(NER)$ , les variations du taux de change nominal.

On s'attend à un signe négatif de son coefficient pour confirmer l'hypothèse selon laquelle la couverture naturelle est efficace pour les pays de notre échantillon.

- L'inflation (INFL), qui sera approximée par le logarithme de l'indice des prix à la consommation (IPC). Il s'agit d'une mesure pertinente de l'inflation dans les pays en voie de développement, en général, et dans la CEMAC, en particulier, en raison de la part importante des dépenses de consommation. La Banque Centrale de cette zone monétaire se fonde d'ailleurs sur cet indicateur (l'IPC) pour mesurer l'inflation. Le choix de l'inflation n'est pas sans fondement puisque la littérature (Borio et Packer, 2004) montre que l'historique de forte inflation explique en partie le péché originel. Ceci, est d'autant plus vrai qu'une faible crédibilité de la politique monétaire est associée à de niveaux élevés d'inflation, rendant difficile l'emprunt en monnaie domestique (Chamon, 2003). On peut alors s'attendre à un signe positif ou négatif de son coefficient, confirmant la corrélation entre les deux variables.
- Le niveau de développement financier (FINDEV). Caballero et Krishnamurthy (2003) attribuent le péché originel à un faible développement financier. Ce dernier est en général dû à la faiblesse de la base d'investisseurs. En effet, l'existence d'une base d'investisseur plus diversifiée et plus large, en constituant un facteur de développement financier, contribue à une hausse de l'emprunt en monnaie domestique. Nous allons mesurer cette variable par le ratio du crédit au secteur privé à l'instar de Borio et al. (2004). Un signe positif ou négatif de son coefficient est également attendu.
- la solvabilité du gouvernement (SOLVENCY). La présence du péché originel peut entacher la situation budgétaire des gouvernements, puisqu'une dépréciation de la monnaie domestique est susceptible d'accroître les ratios d'endettement (Haussman et al., 2003; Mouandat, 2021). Une telle configuration est de nature à rendre la gestion de la dette difficile car le remboursement de la dette suggère de disposer des excédents budgétaires mais surtout des revenus en devises (Panizza et Flassbeck, 2008). Cette variable sera mesurée par

<sup>10</sup> Le taux de change franc CFA/dollar US.

<sup>11</sup> Nous prendrons le logarithme.

<sup>12</sup> Les valeurs des exportations sont la valeur actuelle des importations (f.o.b) convertie en dollars américains et exprimée en pourcentage de la moyenne pour la période de référence (2000).

le solde budgétaire hors dons qui est la différence entre les recettes publiques et les dépenses publiques (dons exclus)<sup>13</sup>.

b) *La Spécification Du Modèle*

Spécifié à des fins d'estimations, le modèle prend la forme linéaire suivante:

$$A\_OSIN_{it} = \gamma_0 + \gamma_1 A\_OSIN_{it-1} + \gamma_2 A\_EXPORT_{it} + \gamma_3 INFL_{it} + \gamma_4 FINDEV_{it} + \gamma_5 SOLVENCY_{it} + \varepsilon_{it} \quad (7)$$

avec,  $i$  le pays et  $t$ , l'indice temporel;  $\gamma_0$ , la constante du modèle;  $\gamma_i, i = [1 \dots 5]$ , les coefficients associés aux variables explicatives du modèle;  $\varepsilon_{it}$ , le terme de l'erreur qui suit une loi normale centrée réduite.

Notons que la variable  $A\_OSIN_{it-1}$ , qui détermine la dynamique du modèle, est incluse pour capturer une éventuelle persistance du péché originel en zone CEMAC.

## V. LA VÉRIFICATION EMPIRIQUE ET L'INTERPRÉTATION DES RÉSULTATS

Nous nous situons dans le cadre d'une modélisation en panel dynamique. Il s'agit d'un cadre

a) *L'analyse Econométrique Préliminaire*

Tableau 1: Les Statistiques Descriptives

	A_OSIN	A_EXPORT	INFL	FINDEV	SOLVENCY
Mean	4,262	4,903	1,976	8,799	10,020
Median	4,426	4,938	1,959	8,464	-0,9326
Maximum	4,768	6,127	2,272	22,056	166,988
Minimum	1,474	1,607	1,858	2,097	-23,990
Std. Dev.	0,624	0,779	0,086	4,490	31,279
Observations	125	125	125	125	125

Source: Auteur

Le tableau 1 expose les statistiques descriptives de notre régression. Les valeurs maximales et minimales montrent l'existence d'un point aberrant pour la variable SOLVENCY. Ce tableau montre également de faibles disparités (écart-type) pour les variables A\_OSIN, A\_EXPORT, et INFL mais une disparité relativement forte pour la variable SOLVENCY et FINDEV.

<sup>13</sup> Même si un nouvel indicateur de la solvabilité budgétaire a été admis dans la CEMAC en 2017, notamment le solde budgétaire de référence. Il est fondé sur le solde budgétaire global et intègre une règle d'épargne financière des ressources pétrolières. Il prend en compte toutes les recettes, y compris les dons, et n'exclut aucune dépense. Le solde budgétaire de référence est égal au solde budgétaire global moins l'épargne financière de l'année. Il est défini en pourcentage du PIB et doit être supérieur ou égal à 1,5%. En tablant sur un seuil de -1,5% du PIB, le nouveau solde offre une certaine flexibilité temporelle dans la poursuite de l'équilibre budgétaire.

qui engendre une faible colinéarité entre les variables explicatives en syncrétisant à la fois la dimension individuelle et temporelle et tient compte simultanément de la dynamique de comportement et leur éventuelle hétérogénéité, ce qui n'est pas possible avec des séries temporelles ou en coupes transversales. Ce cadre est alors parfait pour étudier les unions monétaires hétérogènes, telle que la CEMAC.

Les données utilisées proviennent de deux sources essentiellement. Celles du calcul de  $A\_OSIN$  et de  $A\_EXPORT$  sont issues à la fois de la base de donnée de la Banque Mondiale (la dette libellée en dollar américain) et de la base de donnée de la BEAC (le taux de change nominal). Les données des variables INFL, FINDEV et SOLVENCY proviennent également de la Banque Mondiale.

La période d'étude va de 1995 à 2019 et le nombre de pays est de cinq (5), notamment, le Gabon, le Cameroun, le Congo, la République Centrafricaine et le Tchad. Le choix de ladite période et l'absence de la Guinée Equatoriale ont été conditionnés par la disponibilité des données.

i. *L'analyse de la multicolinéarité*

La multicolinéarité est un problème qui survient lorsque certaines variables du modèle mesurent le même phénomène. Une multicolinéarité prononcée s'avère problématique, car elle peut augmenter la variance des coefficients de régression et les rendre instables et difficiles à interpréter.

La lecture du tableau 2 ci-après prouve l'existence d'une faible corrélation entre la plupart des variables explicatives et la variable expliquée, mais une corrélation relativement élevée est observée entre l'effet de valorisation de la dette libellée en dollar américain et les gains d'exportations (0,517) (qui laisse présager une éventuelle inefficacité de la couverture naturelle en zone CEMAC) et le développement financier et l'inflation (0,598). Ces corrélations partielles, étant compris entre 0,5 et 0,7, amènent à conclure à une multicolinéarité modérée, ce qui n'entache pas la robustesse des

résultats. En effet, tant qu'il n'existe pas de colinéarité parfaite, la multicollinéarité ne viole pas les hypothèses liées au modèle (Cosnefroy et Sabatier, 2011).

Tableau 2: La Matrice Des Corrélations

	A_OSIN	A_EXPORT	INFL	FINDEV	SOLVENCY
A_OSIN	1,000	0,517	0,283	0,075	-0,347
A_EXPORT	0,517	1,000	0,198	-0,163	-0,206
INFL	0,283	0,198	1,000	0,598	-0,355
FINDEV	0,075	-0,163	0,598	1,000	-0,150
SOLVENCY	-0,347	-0,206	-0,355	-0,150	1,000

Source: Auteur

### ii. Le Test D'indépendance

L'estimation d'un modèle de panel nécessite de vérifier au préalable la dépendance inter-individuelle des séries. L'intérêt de cette étape est de guider le modélisateur sur la procédure à privilégier pour les tests de racine unitaire et de cointégration, d'une part, et surtout pour l'estimateur approprié, d'autre part.

Bien qu'il existe d'autres tests, à l'instar du test LM de Breusch et Pagan (1980) et du test LM échelonné de Pesaran (2004), nous utilisons ici le test CD (*cross dependence*) de Pesaran (2004) qui s'accommode mieux aux données de panel contenant de faibles unités transversales et temporelles. Ce test est fondé sur une statistique CD qui se décline comme suit:

$$CD = \sqrt{\frac{2T}{N(N-1)}} \left( \sum_{i=1}^{N-1} \sum_{j=i+1}^N \hat{\rho}_{ij} \right) \quad (6)$$

avec,

i et j, les indices d'individu; t, l'indice de temps; N et T, respectivement le nombre d'individus et le nombre de mesures de temps;  $\rho$ , l'estimateur de corrélation entre les erreurs.

Le tableau suivant résume le résultat de ce test. Il montre que nous sommes en présence d'une dépendance interindividuelle. En effet, on observe que la probabilité de la statistique CD est inférieure à 5%.

Tableau 3: Le Test D'indépendance De Pesaran (2004)

Test	Statistic	Prob.
Breusch-Pagan LM	18,365	0,049
Pesaranscaled LM	1,870	0,061
<b>Pesaran CD</b>	<b>3,607</b>	<b>0,000</b>

Source: Auteur

### iii. Le Test De Racine Unitaire

Nous effectuons un test de racine unitaire afin de vérifier la stationnarité des variables du modèle. Nous privilégions, à cet effet, un test de seconde génération qui est fondée sur l'hypothèse de dépendance inter-individuelle. En effet, contrairement aux approches développées dans le cadre des tests de première génération, les tests de deuxième génération ne considèrent pas nécessairement que les corrélations inter-individuelles de la variable expliquée sont uniquement dues à une corrélation inter-individuelle des résidus. Ils envisagent notamment le cas où les corrélations de cette variable proviennent de la présence d'une ou plusieurs composantes communes.

Tout le problème consiste alors à proposer le test permettant la prise en compte la plus générale des

différentes formes possibles de dépendance entre individus. Nous utilisons le test de Pesaran (2007), qui analyse l'existence d'une racine unitaire dans un contexte de dépendance interindividuelle en augmentant le test d'Im, Pesaran et Shin (2003). Ce qui permet d'obtenir un modèle augmenté de type CIPS (*Cross-Sectionally Augmented IPS*). La statistique est définie ainsi qu'il suit:

$$CIPS(N, T) = N^{-1} \sum_{i=1}^N t_i(N, T) \quad (7)$$

avec,  $t_i(N, T)$  est la statistique de Dickey-Fuller Augmentée transversalement pour la ième unité de la section transversale.

Les résultats du test sont résumés dans le tableau suivant.

Tableau 4: Le Test De Pesaran (2007)

Variables En Niveau	CIPS	Conclusion	Variables En Différence Première	CIPS	Conclusion
A_OSIN	1,318	NS	D(A_OSIN)	-3,099***	I(1)
A_OSIN (-1)	-1,328	NS	D(A_OSIN (-1))	-3,015***	I(1)
A_EXPORT	-2,484**	I(0)	D(A_EXPORT)	-3,462***	I(1)
INFL	-1,668	NS	D(INFL)	-3,771***	I(1)
FINDEV	-1,986	NS	D(FINDEV)	-3,879***	I(1)
SOLVENCY	-2,040	NS	D(SOLVENCY)	-3,782***	I(1)

I(0) : intégrer en niveau; I(1) : intégrer en différence première; NS: non stationnaire; \*\*: stationnaire à 5% et 10%; \*\*\*: stationnaire à 1%, 5% et 10%.

Source: Auteur A Partir Du Logiciel Eviews 12

Le tableau 4 montre que toutes les variables du modèle sont stationnaires en différence première. Il est alors possible de vérifier l'existence d'une relation à long-terme entre la variable A\_OSIN et les variables A\_EXPORT, INFL, FINDEV et SOLVENCY.

#### iv. Le Test De Cointégration De Westerlund (2007)

La cointégration est une propriété essentielle en économétrie. Elle permet de vérifier si les séries étudiées ont une relation à long-terme. Nous utilisons le test de Westerlund (2007) qui présente l'avantage de

prendre en compte la dépendance entre les observations et l'hétérogénéité des paramètres. Il s'agit d'un test qui est constitué en fait de quatre tests:  $G_a$ ,  $G_t$ ,  $P_a$  et  $P_t$ . Les deux premiers tests sont appelés tests de moyennes de groupe et l'hypothèse alternative est qu'au moins une observation possède des variables cointégrées. Les deux derniers sont nommés des tests de panel et dans ce cas, l'hypothèse alternative est que le panel, considéré comme un tout, est cointégré.

Tableau 5: Le Test De Westerlund (2007)

Statistic	Value	z-value	p-value
$G_t$	-3,931	-3,480	0,000
$G_a$	-6,613	1,851	0,968
$P_t$	-8,912	-3,793	0,000
$P_a$	-5,949	0,990	0,839

Source: Auteur a Partir De Stata 16

Selon le tableau 5, l'hypothèse de cointégration est acceptée pour les tests  $G_t$  et  $P_t$  avec un taux de significativité de 5%. On peut ainsi conclure il existe au moins une relation de long-terme entre les variables du modèle.

#### b) L'estimation Du Modèle

L'estimation de notre modèle repose sur la méthode de panel dynamique hétérogène à coefficients communs corrélés (Pesaran, 2015; Ditzén, 2018). Il s'agit d'une nouvelle classe de modèle économétrique dont l'avantage est de prendre en compte la dépendance en coupe transversale des observations et l'hétérogénéité des paramètres du modèle. Son intérêt est avéré dans le cas où les observations de l'échantillon sont des pays, d'une part, et membres d'une union monétaire, d'autre part.

En effet, ces pays peuvent avoir en commun des facteurs qui sont susceptibles d'être corrélés avec

certaines variables indépendantes du modèle. Pour le cas des pays de la CEMAC, on peut prendre l'exemple du choc pétrolier de 2014 (baisse drastique du cours du baril de pétrole) qui a eu des effets communs sur leurs économies<sup>14</sup>.

L'estimation en panel dynamique hétérogène à coefficient communs corrélés supporte l'estimateur des effets corrélés communs (CCE) de Pesaran (2006), l'estimateur des effets corrélés communs dynamiques (DCCE), proposé par Chudik et Pesaran (2015), l'estimateur du groupe moyen (MG, Pesaran et Smith, 1995) et l'estimateur du groupe moyen regroupé (PMG, Pesaran et al 1999).

Les résultats de l'estimation sont inscrits dans le tableau 6 suivant:

<sup>14</sup> Les pays membres de la CEMAC, étant majoritairement dépendants du pétrole, sont vulnérables à une baisse du cours du baril.

Tableau 6: Résultats De L'estimation

Variables	Variable expliquée : A_OSIN		
	Coefficients	Statistiques	Prob
A_OSIN(-1)	0,257	2,33	0,020
A_EXPORT	0,240	0,65	0,517
INFL	-0,790	-0,35	0,730
FINDEV	0,069	1,72	0,080
SOLVENCY	-0,010	-2,29	0,022
R-squared: 0,18 R-square (MG): 0,97 F-stat: 6,52 Prob(F-stat): 0,00 Nombre d'observations: 120			

Source: Auteur a Partir De Stata 16

La lecture du tableau 6 montre que le modèle est globalement significatif car la probabilité de Fisher est nulle (Prob (F) <0,05). De plus, il ressort que le péché originel est un phénomène persistant dans les pays membres de la CEMAC. En effet, on observe que la variables A\_OSIN (-1) est positive et significative, exprimant l'idée qu'un accroissement de 5%, augmente le péché originel de la période courante de 25,7%. Par ailleurs, la variable A\_EXPORT, qui représente l'effet expansionniste des exportations, n'a pas le signe attendu. Elle est par contre positive mais non significative, ce qui montre que les gains d'exportations liés aux variations du taux de change nominal ne couvrent pas l'effet de valorisation du péché originel résultant de ces mêmes variations. Un tel résultat permet de voir que la couverture naturelle n'est pas efficace en zone CEMAC. Le variable INFL n'explique pas le péché originel dans la zone, puisque sa probabilité est supérieure à 1%, 5% et 10%. Ainsi, l'inflation n'est pas de nature à affecter l'évolution du péché originel dans la CEMAC. La variable FINDEV est, quant à elle, positive et significative. Le niveau de développement est une explication de la présence du péché originel dans la CEMAC. Toutefois, cette explication est très marginale (6,9%) à un niveau de risque de 10%. Ceci est cohérent puisqu'il s'agit d'une zone composée d'un ensemble de petites économies pauvres possédant un marché financier domestique embryonnaire, même si quelques évolutions sont observées depuis 2010 (Magnan-Marionnet, 2016). Enfin, la solvabilité des gouvernements contribuent à réduire le péché originel, même si cette réduction n'est que de l'ordre de 1% lorsque la variable SOLVENCY augmente de 5%.

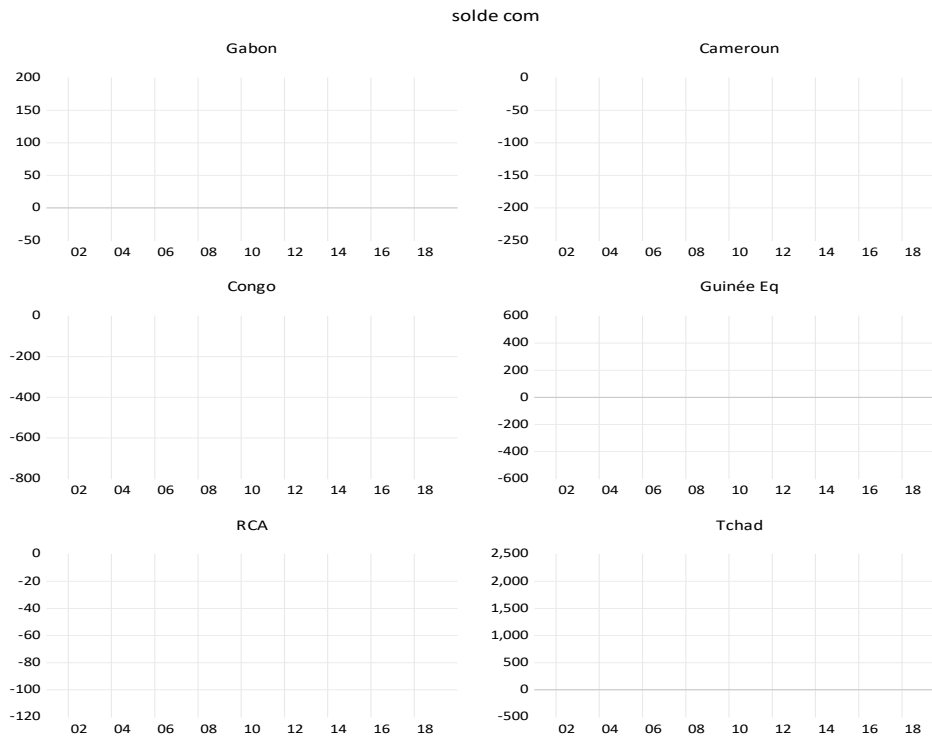
### c) L'interprétation Des Résultats

Les résultats de nos estimations ont montré l'inefficacité de la couverture naturelle en zone CEMAC. Un tel résultat pourrait globalement s'expliquer par la persistance des déficits du compte de transactions courantes.

En effet, une adéquation parfaite entre la composition en devise de la dette et celle du commerce extérieur est une condition nécessaire à l'efficacité de la couverture nature. L'explication tient au fait que, dans cette situation, les effets des fluctuations du taux de change en termes de valorisation de la dette en devises sont susceptibles d'être neutralisés par les gains ultérieurs d'exportations issus de ces mêmes fluctuations, au moins en moitié, permettant ainsi d'éviter les crises de la dette (Fujii, 2016).

Or, la lecture des résultats (tableau 6) montre que dans la CEMAC, cette situation ne se vérifie pas. La valorisation de la dette libellée en dollar US n'est pas compensée par les gains d'exportation. Ce résultat pourrait être expliqué par le fait que les pays membres de cette zone sont des importateurs nets. Les exportations ne sont alors pas suffisantes pour réduire la vulnérabilité aux fluctuations du taux de change nominal. La figure 2 suivante montre l'évolution du solde commercial des pays de l'échantillon entre 2001 et 2019.





Source: Auteur

Figure 2: L'évolution Du Solde Commercial Entre 2001 Et 2019

Cette figure montre que la plupart des pays membres de la CEMAC font face à une persistance du déficit de la balance commerciale sur la période 2001-2019, même si on observe une différence pour le Tchad, qui seul possède une situation inverse. Ceci confirme l'idée que le commerce extérieur ne constitue pas une couverture contre le péché originel et surtout ses effets en termes de valorisation de la dette libellée en dollar américain.

Une insertion plus accrue au commerce extérieur est une condition *sine qua non* à l'efficacité de la couverture naturelle.

## VI. CONCLUSION

Le présent travail a analysé la question de la couverture naturelle dans la CEMAC sur la période 2000-2019. Nous trouvons que cette dernière n'est pas efficace, autrement dit, l'effet de valorisation de la dette libellée en dollar US n'est pas neutralisé par les gains d'exportations.

Notre approche est originale, tant économiquement qu'économétriquement. En effet, sur le plan économique, la question de la couverture naturelle n'a encore jamais été analysée dans les pays de la CEMAC, d'une part, et nous utilisons une approche du péché originel différente de la littérature en proposant un indicateur original et pertinent pour ce type de pays, d'autre part. Sur le plan économétrique, nous utilisons une classe nouvelle de modèle

économétrique dont l'avantage est de fournir des résultats qui prennent en compte la dynamique dans un panel hétérogène sous l'angle de la dépendance interindividuelle (Chudik et al., 2015). Un tel cadre est cohérent dans les analyses des unions monétaires hétérogènes, telle que la CEMAC.

Les résultats de nos estimations invitent à repenser l'insertion des pays de la CEMAC au commerce mondial, étant entendu qu'une insertion fondée sur le développement d'exportations à grande échelle est une condition *sine qua non* à l'efficacité de la couverture naturelle.

## REFERENCES RÉFÉRENCES REFERENCIAS

1. Akmar, N., et S, Colliac (2005): « Les Implications Systémiques du Péché Originel Financier ».
2. Bordo M. D. et C. Meissner (2005). Financial Crises, 1880-1913: The Role of Foreign Currency Debt. NBER Working Papers 11173, National Bureau of Economic Research.
3. Bordo, M. D. et Meissner, C. M. (2016). Fiscal and financial crises. Handbook of Macroeconomics, Elsevier, 2A, 355-412.
4. Bordo, M. D. et Meissner, C. M. (2020). Original Sin and Great Depression. NBER, n°27067.
5. Borio, C., et F. Packer (2004). Risque-pays: évaluation des nouvelles approches. Rapport trimestriel BRI, Décembre.

6. Breusch, T.S., and Pagan, A.R., (1980). The Lagrange multiplier test and its applications to model specification in econometrics. *Revue of Economic Studies*, 47(1), 239–253.
7. Burnside, C., M. Eichenbaum et S. Rebelo (2001): « Hedging Financial Fragility in Fixed Exchange Rate Regimes. *European Economic Review* 45(7).
8. Caballero R. et Krishnamurty A., (2003). Excessive dollar debt: Financial development and under insurance. *The Journal of Finance*, LVIII (2).
9. Chudik, A., and M. H. Pesaran. (2015a). Large panel data models with cross-sectional dependence: A survey. In *The Oxford Handbook Of Panel Data*, ed. B. H. Baltagi, p. 2–45. Oxford: Oxford University Press.
10. Cosnefroy, O., et Sabatier, C., (2011). Estimation de l'importance relative des prédicteurs dans un modèle de régression multiples. *Intérêts et Limites des Méthodes récentes. L'Année psychologique*, 111(2), 253-289.
11. Claessens, S., Klingebiel, D., and Schmukler, S. L., (2007). Government Bonds in Domestic and Foreign Currency: the role of institutional and macroeconomic factors. *Revue of International Economics*, 15(2), 370-413.
12. Devereux, M. and Engel, C., (2003). Monetary policy in the open economy revisited: Price setting and exchange rate exibility. *Review of Economic Studies*, 7(4), DOI:10.2139/ssrn.1009490.
13. Ditzen, J., (2018). Estimating dynamic common-correlated effects in Stata. *The Stata Journal*, 18(3), 587-617.
14. Eichengreen B. (2011). *Exorbitant Privilege: The Rise and Fall of the Dollar and the Future of the International Monetary System*. Oxford University Press.
15. Eichengreen B. et R. Hausmann (1999). Exchange rate and financial fragility. NBER, Working paper, 7418, novembre, DOI 10.3386/w7418.
16. Eichengreen B., (2011). *Exorbitant Privilege: The rise and fall of the Dollar and the future of the International Monetary System*. Oxford University Press.
17. Eichengreen B., Hausmann, R. et Panizza, U. (2007). Currency Mismatches, Debt Intolerance and Original Sin: Why are they not the same and why it matters. NBER, 121-170.
18. Eichengreen B., R. Hausmann et U. Panizza (2005). *The Pain of Original Sin*. Chicago University Press.
19. Friberg, R, et Wilander, F., (2008). The currency denomination of exports - A questionnaire study. *Journal of International Economics*, 75(1), 54-69.
20. Fujii, E., (2016). External Debt and International Trade: Another Mismatch. Working Paper No 5519, Avril 2016.
21. Golberg, L et C, Tille (2013). A bargaining theory of trade invoicing and pricing. Federal Reserve Bank of New York, Staff Report, n° 611.
22. Goldberg, L et Tille, C., (2016). The Micro, Macro, and Strategic Forces in International Trade Invoicing. *Journal of International Economics*, 102(C), 173-187.
23. Goldberg, L. S. and Tille, C. (2008). Vehicle currency use in international trade. *Journal of International Economics*, 76(2), 177-192.
24. Gourinchas, P-O, Gospinath, G, Casas, C, et Diez, F., (2016). Dominant currency paradigm. NBER, Working Paper 22943.
25. Hausmann, R. and Panizza, U. (2003). On the determinants of Original Sin: an empirical investigation. *Journal of International Money and Finance*, 22, 957-990.
26. Hausmann, R. et Panizza, U. (2011). Redemption or Abstinence ? Original Sin, Currency Mismatches and Counter Cyclical Policies in the New Millennium. *Journal of Globalization and Development*, 2, 1-33.
27. Im, K.S., Pesaran, M.H., and Shin, Y., (2003). Testing for unit roots in heterogeneous panels. *Journal of Econometrics*, 115 (1), 53–74.
28. Krugman, P., (2001): « Crises: The Next Generation? », *Razin Conference, Université de Tel Aviv, 25-26 mars*.
29. Krugman P. et M. Obstfeld (2003): « *Économie Internationale* », 4<sup>e</sup> édition.
30. McCauley R. et T. Chan (2014). Les variations de change déterminent la composition des réserves. Rapport trimestriel BRI, Décembre 2014.
31. Miller V., (1996). Exchange rate uncertainty, consumption preferences and the currency denomination of the external debt. *Applied Financial Economics*, 6(3), 199-211..DOI 10.1080/096031096334222.
32. Mouandat, S., R., (2021). La dette optimale au Gabon : une analyse en termes de composition en devise. *Journal of Academic Finance*, 12(1), 132-149 DOI 10.5281/zenodo.5052659.
33. Parker, M., (2016). Price-setting behaviour in New Zealand. *New Zealand Economic Papers*, DOI: 10.1080/00779954.2016.1189957.
34. Pesaran, M., H.,(2006). Estimation and inference in large heterogeneous panels with multifactor error structure. *Econometrica*, 74, 967–1012.
35. Pesaran, M. H., and R. P. Smith. (1995). Estimating long-run relationships from dynamic heterogeneous panels. *Journal of Econometrics*, 68, 79–113.
36. Pesaran, M. H., Y. Shin, and R. P. Smith. (1999). Pooled mean group estimation of dynamic heterogeneous panels. *Journal of the American Statistical Association*, 94, 621–634.
37. Pesaran, M.H., (2004). General diagnostic tests for cross section dependence in panels. Cambridge

Working Papers in Economics n°0435, Faculty of Economics, University of Cambridge.

38. Pesaran, M.H., (2007). A simple panel unit root test in the presence of cross-section dependence. *Journal Applied Econometrics*, 22(2), 265–312.

39. Pesaran, M.H., (2015). Testing weak cross-sectional dependence in large panels. *Econometric Reviews* 34, 1089–1117.

40. Westerlund, J., (2007). Testing for Error Correction in Panel Data. *Oxford Bulletin of Economics and Statistics*. 69(6), 709-748.

41. Chamon M., (2003). Why can't Developing countries borrow from abroad in their own currency. SSRN Electronic Journal 10.2139/ssrn.320001.

42. Sokolova, M. V., (2015): « Strategic currency choice in international trade », *Doi: 10.13140/RG.2.1.4692.0402*.

ANNEXE

• Westerlund (2007)

```
. xtwest A_OSIN A_EXPORT INFL FINDEV SOLVENCY, constant lags(1) leads(0)
```

Calculating Westerlund ECM panel cointegration tests.....

Results for H0: no cointegration  
With 5 series and 4 covariates

Statistic	Value	Z-value	P-value
Gt	-3.931	-3.480	0.000
Ga	-6.613	1.851	0.968
Pt	-8.912	-3.793	0.000
Pa	-5.949	0.990	0.839

• Common-Correlated Effects estimation of heterogeneous dynamic panel

```
. xtccce2 A_OSIN D.A_OSIN A_EXPORT INFL FINDEV SOLVENCY, crosssectional(A_EXPORT INFL FINDEV SOLVENCY) cr_lags(0)  
(Dynamic) Common Correlated Effects Estimator - Mean Group
```

Panel Variable (i): Id	Number of obs	=	120
Time Variable (t): years	Number of groups	=	5
Degrees of freedom per group:	Obs per group (T)	=	24
without cross-sectional averages	=	18	
with cross-sectional averages	=	14	
Number of cross-sectional lags	F(50, 70)	=	6.52
variables in mean group regression	Prob > F	=	0.00
variables partialled out	R-squared	=	0.18
	R-squared (MG)	=	0.97
	Root MSE	=	0.09
	CD Statistic	=	2.30
	p-value	=	0.0213

A_OSIN	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
Mean Group:					
A_EXPORT	.2407159	.3715683	0.65	0.517	-.4875445 .9689763
INFL	-.7909411	2.287909	-0.35	0.730	-5.275159 3.693277
FINDEV	.0687849	.0399235	1.72	0.085	-.0094637 .1470336
SOLVENCY	-.0106231	.0046388	-2.29	0.022	-.019715 -.0015311
D.A_OSIN	.2568605	.1100074	2.33	0.020	.04125 .4724711

Mean Group Variables: A\_EXPORT INFL FINDEV SOLVENCY D.A\_OSIN  
Cross Sectional Averaged Variables: A\_EXPORT INFL FINDEV SOLVENCY  
Heterogenous constant partialled out.

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Fellows receive a printed copy of a certificate signed by our Chief Author that may be used for academic purposes and a personal recommendation letter to the dean of member's university.

Career

Credibility

Exclusive

Reputation



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Fellows can use the honored title of membership. The "FMBRC" is an honored title which is accorded to a person's name viz. Dr. John E. Hall, Ph.D., FMBRC or William Walldroff, M.S., FMBRC.

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Credibility

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Career

Credibility

Reputation



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Career

Credibility

Financial

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Exclusive





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ASSOCIATE OF MANAGEMENT AND BUSINESS RESEARCH COUNCIL is the membership of Global Journals awarded to individuals that the Open Association of Research Society judges to have made a 'substantial contribution to the improvement of computer science, technology, and electronics engineering.

The primary objective is to recognize the leaders in research and scientific fields of the current era with a global perspective and to create a channel between them and other researchers for better exposure and knowledge sharing. Members are most eminent scientists, engineers, and technologists from all across the world. Associate membership can later be promoted to Fellow Membership. Associates are elected for life through a peer review process on the basis of excellence in the respective domain. There is no limit on the number of new nominations made in any year. Each year, the Open Association of Research Society elect up to 12 new Associate Members.



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A AMBRC member gets access to a closed network of Tier 2 researchers and scientists with direct communication channel through our website. Associates can reach out to other members or researchers directly. They should also be open to reaching out by other.

Career

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ASSOCIATE	FELLOW	RESEARCH GROUP	BASIC
<p>\$4800 lifetime designation</p> <hr/> <p>Certificate, LoR and Momento 2 discounted publishing/year Gradation of Research 10 research contacts/day 1 GB Cloud Storage GJ Community Access</p>	<p>\$6800 lifetime designation</p> <hr/> <p>Certificate, LoR and Momento Unlimited discounted publishing/year Gradation of Research Unlimited research contacts/day 5 GB Cloud Storage Online Presense Assistance GJ Community Access</p>	<p>\$12500.00 organizational</p> <hr/> <p>Certificates, LoRs and Momentos Unlimited free publishing/year Gradation of Research Unlimited research contacts/day Unlimited Cloud Storage Online Presense Assistance GJ Community Access</p>	<p>APC per article</p> <hr/> <p>GJ Community Access</p>



# PREFERRED AUTHOR GUIDELINES

**We accept the manuscript submissions in any standard (generic) format.**

We typeset manuscripts using advanced typesetting tools like Adobe In Design, CorelDraw, TeXnicCenter, and TeXStudio. We usually recommend authors submit their research using any standard format they are comfortable with, and let Global Journals do the rest.

Alternatively, you can download our basic template from <https://globaljournals.org/Template.zip>

Authors should submit their complete paper/article, including text illustrations, graphics, conclusions, artwork, and tables. Authors who are not able to submit manuscript using the form above can email the manuscript department at [submit@globaljournals.org](mailto:submit@globaljournals.org) or get in touch with [chiefeditor@globaljournals.org](mailto:chiefeditor@globaljournals.org) if they wish to send the abstract before submission.

## BEFORE AND DURING SUBMISSION

Authors must ensure the information provided during the submission of a paper is authentic. Please go through the following checklist before submitting:

1. Authors must go through the complete author guideline and understand and *agree to Global Journals' ethics and code of conduct*, along with author responsibilities.
2. Authors must accept the privacy policy, terms, and conditions of Global Journals.
3. Ensure corresponding author's email address and postal address are accurate and reachable.
4. Manuscript to be submitted must include keywords, an abstract, a paper title, co-author(s) names and details (email address, name, phone number, and institution), figures and illustrations in vector format including appropriate captions, tables, including titles and footnotes, a conclusion, results, acknowledgments and references.
5. Authors should submit paper in a ZIP archive if any supplementary files are required along with the paper.
6. Proper permissions must be acquired for the use of any copyrighted material.
7. Manuscript submitted *must not have been submitted or published elsewhere* and all authors must be aware of the submission.

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Plagiarism is not acceptable in Global Journals submissions at all.

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Authors are solely responsible for all the plagiarism that is found. The author must not fabricate, falsify or plagiarize existing research data. The following, if copied, will be considered plagiarism:

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- Ideas
- Findings
- Writings
- Diagrams
- Graphs
- Illustrations
- Lectures



- Printed material
- Graphic representations
- Computer programs
- Electronic material
- Any other original work

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2. Drafting the paper and revising it critically regarding important academic content.
3. Final approval of the version of the paper to be published.

### Changes in Authorship

The corresponding author should mention the name and complete details of all co-authors during submission and in manuscript. We support addition, rearrangement, manipulation, and deletions in authors list till the early view publication of the journal. We expect that corresponding author will notify all co-authors of submission. We follow COPE guidelines for changes in authorship.

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### Acknowledgments

Contributors to the research other than authors credited should be mentioned in Acknowledgments. The source of funding for the research can be included. Suppliers of resources may be mentioned along with their addresses.

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## PREPARING YOUR MANUSCRIPT

Authors can submit papers and articles in an acceptable file format: MS Word (doc, docx), LaTeX (.tex, .zip or .rar including all of your files), Adobe PDF (.pdf), rich text format (.rtf), simple text document (.txt), Open Document Text (.odt), and Apple Pages (.pages). Our professional layout editors will format the entire paper according to our official guidelines. This is one of the highlights of publishing with Global Journals—authors should not be concerned about the formatting of their paper. Global Journals accepts articles and manuscripts in every major language, be it Spanish, Chinese, Japanese, Portuguese, Russian, French, German, Dutch, Italian, Greek, or any other national language, but the title, subtitle, and abstract should be in English. This will facilitate indexing and the pre-peer review process.

The following is the official style and template developed for publication of a research paper. Authors are not required to follow this style during the submission of the paper. It is just for reference purposes.





### ***Manuscript Style Instruction (Optional)***

- Microsoft Word Document Setting Instructions.
- Font type of all text should be Swis721 Lt BT.
- Page size: 8.27" x 11", left margin: 0.65, right margin: 0.65, bottom margin: 0.75.
- Paper title should be in one column of font size 24.
- Author name in font size of 11 in one column.
- Abstract: font size 9 with the word "Abstract" in bold italics.
- Main text: font size 10 with two justified columns.
- Two columns with equal column width of 3.38 and spacing of 0.2.
- First character must be three lines drop-capped.
- The paragraph before spacing of 1 pt and after of 0 pt.
- Line spacing of 1 pt.
- Large images must be in one column.
- The names of first main headings (Heading 1) must be in Roman font, capital letters, and font size of 10.
- The names of second main headings (Heading 2) must not include numbers and must be in italics with a font size of 10.

### ***Structure and Format of Manuscript***

The recommended size of an original research paper is under 15,000 words and review papers under 7,000 words. Research articles should be less than 10,000 words. Research papers are usually longer than review papers. Review papers are reports of significant research (typically less than 7,000 words, including tables, figures, and references)

A research paper must include:

- a) A title which should be relevant to the theme of the paper.
- b) A summary, known as an abstract (less than 150 words), containing the major results and conclusions.
- c) Up to 10 keywords that precisely identify the paper's subject, purpose, and focus.
- d) An introduction, giving fundamental background objectives.
- e) Resources and techniques with sufficient complete experimental details (wherever possible by reference) to permit repetition, sources of information must be given, and numerical methods must be specified by reference.
- f) Results which should be presented concisely by well-designed tables and figures.
- g) Suitable statistical data should also be given.
- h) All data must have been gathered with attention to numerical detail in the planning stage.

Design has been recognized to be essential to experiments for a considerable time, and the editor has decided that any paper that appears not to have adequate numerical treatments of the data will be returned unrefereed.

- i) Discussion should cover implications and consequences and not just recapitulate the results; conclusions should also be summarized.
- j) There should be brief acknowledgments.
- k) There ought to be references in the conventional format. Global Journals recommends APA format.

Authors should carefully consider the preparation of papers to ensure that they communicate effectively. Papers are much more likely to be accepted if they are carefully designed and laid out, contain few or no errors, are summarizing, and follow instructions. They will also be published with much fewer delays than those that require much technical and editorial correction.

The Editorial Board reserves the right to make literary corrections and suggestions to improve brevity.



## FORMAT STRUCTURE

***It is necessary that authors take care in submitting a manuscript that is written in simple language and adheres to published guidelines.***

All manuscripts submitted to Global Journals should include:

### **Title**

The title page must carry an informative title that reflects the content, a running title (less than 45 characters together with spaces), names of the authors and co-authors, and the place(s) where the work was carried out.

### **Author details**

The full postal address of any related author(s) must be specified.

### **Abstract**

The abstract is the foundation of the research paper. It should be clear and concise and must contain the objective of the paper and inferences drawn. It is advised to not include big mathematical equations or complicated jargon.

Many researchers searching for information online will use search engines such as Google, Yahoo or others. By optimizing your paper for search engines, you will amplify the chance of someone finding it. In turn, this will make it more likely to be viewed and cited in further works. Global Journals has compiled these guidelines to facilitate you to maximize the web-friendliness of the most public part of your paper.

### **Keywords**

A major lynchpin of research work for the writing of research papers is the keyword search, which one will employ to find both library and internet resources. Up to eleven keywords or very brief phrases have to be given to help data retrieval, mining, and indexing.

One must be persistent and creative in using keywords. An effective keyword search requires a strategy: planning of a list of possible keywords and phrases to try.

Choice of the main keywords is the first tool of writing a research paper. Research paper writing is an art. Keyword search should be as strategic as possible.

One should start brainstorming lists of potential keywords before even beginning searching. Think about the most important concepts related to research work. Ask, "What words would a source have to include to be truly valuable in a research paper?" Then consider synonyms for the important words.

It may take the discovery of only one important paper to steer in the right keyword direction because, in most databases, the keywords under which a research paper is abstracted are listed with the paper.

### **Numerical Methods**

Numerical methods used should be transparent and, where appropriate, supported by references.

### **Abbreviations**

Authors must list all the abbreviations used in the paper at the end of the paper or in a separate table before using them.

### **Formulas and equations**

Authors are advised to submit any mathematical equation using either MathJax, KaTeX, or LaTeX, or in a very high-quality image.

### **Tables, Figures, and Figure Legends**

Tables: Tables should be cautiously designed, uncrowned, and include only essential data. Each must have an Arabic number, e.g., Table 4, a self-explanatory caption, and be on a separate sheet. Authors must submit tables in an editable format and not as images. References to these tables (if any) must be mentioned accurately.



## Figures

Figures are supposed to be submitted as separate files. Always include a citation in the text for each figure using Arabic numbers, e.g., Fig. 4. Artwork must be submitted online in vector electronic form or by emailing it.

## PREPARATION OF ELETRONIC FIGURES FOR PUBLICATION

Although low-quality images are sufficient for review purposes, print publication requires high-quality images to prevent the final product being blurred or fuzzy. Submit (possibly by e-mail) EPS (line art) or TIFF (halftone/ photographs) files only. MS PowerPoint and Word Graphics are unsuitable for printed pictures. Avoid using pixel-oriented software. Scans (TIFF only) should have a resolution of at least 350 dpi (halftone) or 700 to 1100 dpi (line drawings). Please give the data for figures in black and white or submit a Color Work Agreement form. EPS files must be saved with fonts embedded (and with a TIFF preview, if possible).

For scanned images, the scanning resolution at final image size ought to be as follows to ensure good reproduction: line art: >650 dpi; halftones (including gel photographs): >350 dpi; figures containing both halftone and line images: >650 dpi.

Color charges: Authors are advised to pay the full cost for the reproduction of their color artwork. Hence, please note that if there is color artwork in your manuscript when it is accepted for publication, we would require you to complete and return a Color Work Agreement form before your paper can be published. Also, you can email your editor to remove the color fee after acceptance of the paper.

## TIPS FOR WRITING A GOOD QUALITY MANAGEMENT RESEARCH PAPER

Techniques for writing a good quality management and business research paper:

**1. Choosing the topic:** In most cases, the topic is selected by the interests of the author, but it can also be suggested by the guides. You can have several topics, and then judge which you are most comfortable with. This may be done by asking several questions of yourself, like "Will I be able to carry out a search in this area? Will I find all necessary resources to accomplish the search? Will I be able to find all information in this field area?" If the answer to this type of question is "yes," then you ought to choose that topic. In most cases, you may have to conduct surveys and visit several places. Also, you might have to do a lot of work to find all the rises and falls of the various data on that subject. Sometimes, detailed information plays a vital role, instead of short information. Evaluators are human: The first thing to remember is that evaluators are also human beings. They are not only meant for rejecting a paper. They are here to evaluate your paper. So present your best aspect.

**2. Think like evaluators:** If you are in confusion or getting demotivated because your paper may not be accepted by the evaluators, then think, and try to evaluate your paper like an evaluator. Try to understand what an evaluator wants in your research paper, and you will automatically have your answer. Make blueprints of paper: The outline is the plan or framework that will help you to arrange your thoughts. It will make your paper logical. But remember that all points of your outline must be related to the topic you have chosen.

**3. Ask your guides:** If you are having any difficulty with your research, then do not hesitate to share your difficulty with your guide (if you have one). They will surely help you out and resolve your doubts. If you can't clarify what exactly you require for your work, then ask your supervisor to help you with an alternative. He or she might also provide you with a list of essential readings.

**4. Use of computer is recommended:** As you are doing research in the field of management and business then this point is quite obvious. Use right software: Always use good quality software packages. If you are not capable of judging good software, then you can lose the quality of your paper unknowingly. There are various programs available to help you which you can get through the internet.

**5. Use the internet for help:** An excellent start for your paper is using Google. It is a wondrous search engine, where you can have your doubts resolved. You may also read some answers for the frequent question of how to write your research paper or find a model research paper. You can download books from the internet. If you have all the required books, place importance on reading, selecting, and analyzing the specified information. Then sketch out your research paper. Use big pictures: You may use encyclopedias like Wikipedia to get pictures with the best resolution. At Global Journals, you should strictly follow here.



**6. Bookmarks are useful:** When you read any book or magazine, you generally use bookmarks, right? It is a good habit which helps to not lose your continuity. You should always use bookmarks while searching on the internet also, which will make your search easier.

**7. Revise what you wrote:** When you write anything, always read it, summarize it, and then finalize it.

**8. Make every effort:** Make every effort to mention what you are going to write in your paper. That means always have a good start. Try to mention everything in the introduction—what is the need for a particular research paper. Polish your work with good writing skills and always give an evaluator what he wants. Make backups: When you are going to do any important thing like making a research paper, you should always have backup copies of it either on your computer or on paper. This protects you from losing any portion of your important data.

**9. Produce good diagrams of your own:** Always try to include good charts or diagrams in your paper to improve quality. Using several unnecessary diagrams will degrade the quality of your paper by creating a hodgepodge. So always try to include diagrams which were made by you to improve the readability of your paper. Use of direct quotes: When you do research relevant to literature, history, or current affairs, then use of quotes becomes essential, but if the study is relevant to science, use of quotes is not preferable.

**10. Use proper verb tense:** Use proper verb tenses in your paper. Use past tense to present those events that have happened. Use present tense to indicate events that are going on. Use future tense to indicate events that will happen in the future. Use of wrong tenses will confuse the evaluator. Avoid sentences that are incomplete.

**11. Pick a good study spot:** Always try to pick a spot for your research which is quiet. Not every spot is good for studying.

**12. Know what you know:** Always try to know what you know by making objectives, otherwise you will be confused and unable to achieve your target.

**13. Use good grammar:** Always use good grammar and words that will have a positive impact on the evaluator; use of good vocabulary does not mean using tough words which the evaluator has to find in a dictionary. Do not fragment sentences. Eliminate one-word sentences. Do not ever use a big word when a smaller one would suffice. Verbs have to be in agreement with their subjects. In a research paper, do not start sentences with conjunctions or finish them with prepositions. When writing formally, it is advisable to never split an infinitive because someone will (wrongly) complain. Avoid clichés like a disease. Always shun irritating alliteration. Use language which is simple and straightforward. Put together a neat summary.

**14. Arrangement of information:** Each section of the main body should start with an opening sentence, and there should be a changeover at the end of the section. Give only valid and powerful arguments for your topic. You may also maintain your arguments with records.

**15. Never start at the last minute:** Always allow enough time for research work. Leaving everything to the last minute will degrade your paper and spoil your work.

**16. Multitasking in research is not good:** Doing several things at the same time is a bad habit in the case of research activity. Research is an area where everything has a particular time slot. Divide your research work into parts, and do a particular part in a particular time slot.

**17. Never copy others' work:** Never copy others' work and give it your name because if the evaluator has seen it anywhere, you will be in trouble. Take proper rest and food: No matter how many hours you spend on your research activity, if you are not taking care of your health, then all your efforts will have been in vain. For quality research, take proper rest and food.

**18. Go to seminars:** Attend seminars if the topic is relevant to your research area. Utilize all your resources.

**19. Refresh your mind after intervals:** Try to give your mind a rest by listening to soft music or sleeping in intervals. This will also improve your memory. Acquire colleagues: Always try to acquire colleagues. No matter how sharp you are, if you acquire colleagues, they can give you ideas which will be helpful to your research.

**20. Think technically:** Always think technically. If anything happens, search for its reasons, benefits, and demerits. Think and then print: When you go to print your paper, check that tables are not split, headings are not detached from their descriptions, and page sequence is maintained.



**21. Adding unnecessary information:** Do not add unnecessary information like "I have used MS Excel to draw graphs." Irrelevant and inappropriate material is superfluous. Foreign terminology and phrases are not apropos. One should never take a broad view. Analogy is like feathers on a snake. Use words properly, regardless of how others use them. Remove quotations. Puns are for kids, not grunt readers. Never oversimplify: When adding material to your research paper, never go for oversimplification; this will definitely irritate the evaluator. Be specific. Never use rhythmic redundancies. Contractions shouldn't be used in a research paper. Comparisons are as terrible as clichés. Give up ampersands, abbreviations, and so on. Remove commas that are not necessary. Parenthetical words should be between brackets or commas. Understatement is always the best way to put forward earth-shaking thoughts. Give a detailed literary review.

**22. Report concluded results:** Use concluded results. From raw data, filter the results, and then conclude your studies based on measurements and observations taken. An appropriate number of decimal places should be used. Parenthetical remarks are prohibited here. Proofread carefully at the final stage. At the end, give an outline to your arguments. Spot perspectives of further study of the subject. Justify your conclusion at the bottom sufficiently, which will probably include examples.

**23. Upon conclusion:** Once you have concluded your research, the next most important step is to present your findings. Presentation is extremely important as it is the definite medium through which your research is going to be in print for the rest of the crowd. Care should be taken to categorize your thoughts well and present them in a logical and neat manner. A good quality research paper format is essential because it serves to highlight your research paper and bring to light all necessary aspects of your research.

## INFORMAL GUIDELINES OF RESEARCH PAPER WRITING

### **Key points to remember:**

- Submit all work in its final form.
- Write your paper in the form which is presented in the guidelines using the template.
- Please note the criteria peer reviewers will use for grading the final paper.

### **Final points:**

One purpose of organizing a research paper is to let people interpret your efforts selectively. The journal requires the following sections, submitted in the order listed, with each section starting on a new page:

*The introduction:* This will be compiled from reference matter and reflect the design processes or outline of basis that directed you to make a study. As you carry out the process of study, the method and process section will be constructed like that. The results segment will show related statistics in nearly sequential order and direct reviewers to similar intellectual paths throughout the data that you gathered to carry out your study.

### **The discussion section:**

This will provide understanding of the data and projections as to the implications of the results. The use of good quality references throughout the paper will give the effort trustworthiness by representing an alertness to prior workings.

Writing a research paper is not an easy job, no matter how trouble-free the actual research or concept. Practice, excellent preparation, and controlled record-keeping are the only means to make straightforward progression.

### **General style:**

Specific editorial column necessities for compliance of a manuscript will always take over from directions in these general guidelines.

**To make a paper clear:** Adhere to recommended page limits.

### *Mistakes to avoid:*

- Insertion of a title at the foot of a page with subsequent text on the next page.
- Separating a table, chart, or figure—confine each to a single page.
- Submitting a manuscript with pages out of sequence.
- In every section of your document, use standard writing style, including articles ("a" and "the").
- Keep paying attention to the topic of the paper.





- Use paragraphs to split each significant point (excluding the abstract).
- Align the primary line of each section.
- Present your points in sound order.
- Use present tense to report well-accepted matters.
- Use past tense to describe specific results.
- Do not use familiar wording; don't address the reviewer directly. Don't use slang or superlatives.
- Avoid use of extra pictures—include only those figures essential to presenting results.

#### **Title page:**

Choose a revealing title. It should be short and include the name(s) and address(es) of all authors. It should not have acronyms or abbreviations or exceed two printed lines.

**Abstract:** This summary should be two hundred words or less. It should clearly and briefly explain the key findings reported in the manuscript and must have precise statistics. It should not have acronyms or abbreviations. It should be logical in itself. Do not cite references at this point.

An abstract is a brief, distinct paragraph summary of finished work or work in development. In a minute or less, a reviewer can be taught the foundation behind the study, common approaches to the problem, relevant results, and significant conclusions or new questions.

Write your summary when your paper is completed because how can you write the summary of anything which is not yet written? Wealth of terminology is very essential in abstract. Use comprehensive sentences, and do not sacrifice readability for brevity; you can maintain it succinctly by phrasing sentences so that they provide more than a lone rationale. The author can at this moment go straight to shortening the outcome. Sum up the study with the subsequent elements in any summary. Try to limit the initial two items to no more than one line each.

*Reason for writing the article—theory, overall issue, purpose.*

- Fundamental goal.
- To-the-point depiction of the research.
- Consequences, including definite statistics—if the consequences are quantitative in nature, account for this; results of any numerical analysis should be reported. Significant conclusions or questions that emerge from the research.

#### **Approach:**

- Single section and succinct.
- An outline of the job done is always written in past tense.
- Concentrate on shortening results—limit background information to a verdict or two.
- Exact spelling, clarity of sentences and phrases, and appropriate reporting of quantities (proper units, important statistics) are just as significant in an abstract as they are anywhere else.

#### **Introduction:**

The introduction should "introduce" the manuscript. The reviewer should be presented with sufficient background information to be capable of comprehending and calculating the purpose of your study without having to refer to other works. The basis for the study should be offered. Give the most important references, but avoid making a comprehensive appraisal of the topic. Describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will give no attention to your results. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here.

*The following approach can create a valuable beginning:*

- Explain the value (significance) of the study.
- Defend the model—why did you employ this particular system or method? What is its compensation? Remark upon its appropriateness from an abstract point of view as well as pointing out sensible reasons for using it.
- Present a justification. State your particular theory(-ies) or aim(s), and describe the logic that led you to choose them.
- Briefly explain the study's tentative purpose and how it meets the declared objectives.



**Approach:**

Use past tense except for when referring to recognized facts. After all, the manuscript will be submitted after the entire job is done. Sort out your thoughts; manufacture one key point for every section. If you make the four points listed above, you will need at least four paragraphs. Present surrounding information only when it is necessary to support a situation. The reviewer does not desire to read everything you know about a topic. Shape the theory specifically—do not take a broad view.

As always, give awareness to spelling, simplicity, and correctness of sentences and phrases.

**Procedures (methods and materials):**

This part is supposed to be the easiest to carve if you have good skills. A soundly written procedures segment allows a capable scientist to replicate your results. Present precise information about your supplies. The suppliers and clarity of reagents can be helpful bits of information. Present methods in sequential order, but linked methodologies can be grouped as a segment. Be concise when relating the protocols. Attempt to give the least amount of information that would permit another capable scientist to replicate your outcome, but be cautious that vital information is integrated. The use of subheadings is suggested and ought to be synchronized with the results section.

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*Materials may be reported in part of a section or else they may be recognized along with your measures.*

**Methods:**

- Report the method and not the particulars of each process that engaged the same methodology.
- Describe the method entirely.
- To be succinct, present methods under headings dedicated to specific dealings or groups of measures.
- Simplify—detail how procedures were completed, not how they were performed on a particular day.
- If well-known procedures were used, account for the procedure by name, possibly with a reference, and that's all.

**Approach:**

It is embarrassing to use vigorous voice when documenting methods without using first person, which would focus the reviewer's interest on the researcher rather than the job. As a result, when writing up the methods, most authors use third person passive voice.

Use standard style in this and every other part of the paper—avoid familiar lists, and use full sentences.

**What to keep away from:**

- Resources and methods are not a set of information.
- Skip all descriptive information and surroundings—save it for the argument.
- Leave out information that is immaterial to a third party.

**Results:**

The principle of a results segment is to present and demonstrate your conclusion. Create this part as entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Use statistics and tables, if suitable, to present consequences most efficiently.

You must clearly differentiate material which would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matters should not be submitted at all except if requested by the instructor.



**Content:**

- Sum up your conclusions in text and demonstrate them, if suitable, with figures and tables.
- In the manuscript, explain each of your consequences, and point the reader to remarks that are most appropriate.
- Present a background, such as by describing the question that was addressed by creation of an exacting study.
- Explain results of control experiments and give remarks that are not accessible in a prescribed figure or table, if appropriate.
- Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or manuscript.

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- Do not include raw data or intermediate calculations in a research manuscript.
- Do not present similar data more than once.
- A manuscript should complement any figures or tables, not duplicate information.
- Never confuse figures with tables—there is a difference.

**Approach:**

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Put figures and tables, appropriately numbered, in order at the end of the report.

If you desire, you may place your figures and tables properly within the text of your results section.

**Figures and tables:**

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Infer your data in the conversation in suitable depth. This means that when you clarify an observable fact, you must explain mechanisms that may account for the observation. If your results vary from your prospect, make clear why that may have happened. If your results agree, then explain the theory that the proof supported. It is never suitable to just state that the data approved the prospect, and let it drop at that. Make a decision as to whether each premise is supported or discarded or if you cannot make a conclusion with assurance. Do not just dismiss a study or part of a study as "uncertain."

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- Recommendations for detailed papers will offer supplementary suggestions.



**Approach:**

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<i>Discussion</i>	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
<i>References</i>	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring





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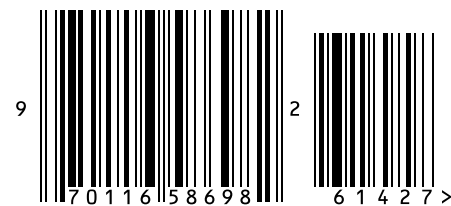
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