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The conference has a double-blind peer-review process.

Any paper submitted for the conference is reviewed by at least two international reviewers with expertise in the relevant subject area. Based on the reviewers' comments, papers are accepted, rejected or accepted with revision. If the comments are not addressed well in the improved paper, then the paper is sent back to the authors to make further revisions. The accepted papers are formatted by the conference for publication in the proceedings.

Aims & Scope

In the 21st century, great changes are occurring in the management, economics and business in the world . During and after the covid-19 pandemic, new economic models, supply chains and monetary systems have been discussed. Traditionally, it is seen that change and transformation in the field of management, economics and business takes a little more time compared to fields such as health, technology and engineering. However, this situation seems to have started to change with the Covid-19 epidemic disease. It is expected that changes will occur in management, economics and business during and after the Covid 19 epidemic disease. For this reason, this conference focused on the changes and innovations in the field of manegement, economy and business that started with Covid 19. However, the organizing committee also recognizes the value of traditional knowledge in the management, economy and business. For this reason, the conference is also open to traditional studies in the field of management, economics and business.

The aim of the conference is to bring together researchers, business executives and administrators from different countries, and to discuss theoretical and practical issues in management, economics and business. At the same time, it is aimed to enable the conference participants to share the changes and developments in the field of management, economics and business with their colleagues.

Articles: 1-18

CONTENTS

The Eurasia Proceedings of Science, Technology, Educational & Social Sciences (EPESS)
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The Eurasia Proceedings of Science, Technology, Engineering & Mathematics (EPSTEM), 2023

Volume 32, Pages 1-7

IConMEB 2023: International Conference on Management Economics and Business

The US-China Trade War: A Constructive Analysis of the Causes and Methods of De-Escalation

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Abstract: A Global Perspective on the US-China Trade War: Causes, Consequences, and Implications. The US-China trade war, ignited by the protectionist rhetoric of former President Donald Trump, has had profound implications for global economic relations. This paper seeks to examine the chronological development of the trade war, its underlying causes, and the far-reaching consequences it has had on the relationship between the two superpowers. Additionally, it explores the potential ramifications for the Indo-Pacific region and the dynamics of the US-Russia relationship.The trade war has emerged as a complex issue, with both the US and China resorting to retaliatory measures, resulting in a vicious cycle of tariffs and sanctions. Through a thorough investigation, this paper aims to shed light on the impact of these measures on the competitive advantage of American companies compared to their Chinese counterparts. Furthermore, it delves into China's countermeasures and their effects on the country's economy and industrial development.To ensure a comprehensive analysis, the paper draws on a thorough literature review, referencing various studies that explore the root causes and economic impact of the trade war. It places the trade war within its historical context, drawing parallels with past conflicts such as the US-Japan trade war, and examines the political motivations behind the current tension between the US and China.The analysis incorporates relevant statistical data, including trade deficit figures and the composition of imports and exports between the two nations. By doing so, it aims to paint a clear picture of the economic ramifications of the trade war on both countries and the global economy.In conclusion, the paper underscores the necessity of adopting a pragmatic and rational approach to address the US-China trade war. It advocates for both nations to seek common ground while setting aside their differences to achieve mutually beneficial cooperation. Moreover, it emphasizes the significance of innovation, industrial upgrading, and international collaborations for China's economic development amid the ongoing trade war.By presenting a comprehensive examination of the US-China trade war and its implications, this paper contributes to a deeper understanding of the global economic landscape and the critical need for constructive engagement between major economies.

Keywords: Trade, US-china relations, Exchange rate policy, Pegged exchange rate, Chinese Yuan, Exports, Imports, Trade deficit.

Introduction

The US-China trade war has been a result of a nearly 4-year constant rhetoric of the 45th president of the United States Donald Trump on the importance of protection of US industry, particulary heavy industry. The populist policy of Mr. Trump has left the US economy in a worse shape than before the trade war. All signs point to an increasing degree of de-globalization. This had started with the trade wards, continued with the COVID-19 lockdowns and culminated in 2021-2022 with supply chain disruptions (Pató et al, 2020; 2022). The 2008 crisis created additional pressures that national economies are still facing today (Csiszárik-Kocsir, 2011a; 2011b; Csiszárik-Kocsir – Medve, 2012a; 2012b; Csiszárik-Kocsir – Fodor, 2013; Csiszárik-Kocsir et al, 2013).

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US-China tensions are escalating not only from an economic standpoint, but also from a military standpoint. The question is, which superpower will dominate the indo-pacific for the next century. The US should consider two possible fronts – the indo-pacific theatre, with a fierce trade and tech war with China, and a northern theatre with a possible confrontation with Russia. (Klitgaard & Schiele,1997) The Russia-Ukraine war had prompted US policy makers to supply military and funds to Ukraine. The loss of Ukraine would render the US incapable of containing China.

The trade war sets the stage for a new form of confrontation (Garai-Fodor et al, 2022a; Pervez et al, 2022). Such a confrontation can be regarded as a double-edged sword, since the nation which raises tariffs will be met with retaliation from the nation it raised the tariffs against (Garai-Fodor et al.,2022b; Garai-Fodor,2023) This retaliation might be in the form of sanctions or a counter increase in tariffs. When China joined the WTO in 2001 under the pressure from the Clinton administration the world was under a unipolar world order. The US made China a very strong economically advanced country (Foldi,2015a, 2015b; Fajgelbaum & Kandelwal, 2022).

This paper is concerned with the question: do trade deficits truly decrease the competitive advantage of American companies over Chinese ones. We also show the chronology of the trade war, its reasons and China's countermeasures.

The Beginning and Present Situation of China-US Trade War

It is widely believed that the symbol of the starting point of the CN-US trade war is that Trump signed a declaration announcing that tariffs on 60 billion US dollars of goods imported from China will be levied. (Baranyai et al., 2023) The Ministry of Commerce of China then immediately announced a countermeasure intending to impose tariffs on commodities imported from the United States. (Garai et al.,2023; Foldi & Medveczky, 2015)

But the outbreak of the CN-US trade war has a longer brewing period. Frankly speaking, after the United States provided China a PNTR in 2000, US-China trade entered a new era (Wang,2020; Shea, 2018; Sachs,2018). In 2001, China's entry into the WTO further promoted US-China trade relations (Lincicome, 2020; Foldi, 2015a; Chang et al.,2021)

At the same time, American businessmen complaining about Chinese regulations and intervention have gradually increased, and consecutive US governments have continuously received cases of Chinese protectionist laws and policies such as investment restrictions, import quotas, and forced transfers of technology by foreign companies (Groenwold í& He, 2007; Loblin et al.,2017) The United States' long-standing huge trade deficit with China has also repeatedly caused controversy between the two countries (Lau, 2019; Perverz et al.,2022)

In order to break China's trade barriers, President Obama has tried to isolate China and force it to change unfair trade practices through the Trans-Pacific Partnership Agreement (TPP).(Csapó et al.,2018;Bozsik et al.,2023) But as soon as Trump took office, as one of his campaign promises, Trump quickly announced the withdrawal of the United States from the TPP and in 2017 directed the Office of the United States Trade Representative to launch a trade investigation into China (Narine, 2018; Goboly & Foldi,2022; Fodor,2022). Before Trump announced tariffs on commodities imported from China on March 22, the US government successively announced punitive or additional tariffs on imports of mechanics, electronic devices and natural resources (Garai,2022; Garai et al., 2022; Bozsik, 2022).

Method

An Analysis of the Reasons for the China-US Trade War

The reason why US launched the trade war is that there is a trade deficit of 200 billion US dollars between the two countries. How did the $200 billion trade deficit come about? Is it really scientific and objective for the United States to calculate this trade deficit unilaterally?

According to the pictures, the US trade deficit with China in 2016 reached 347 billion US dollars, nearly 47.3% of the total US trade deficit in goods. Japan and Germany are the second largest countries with 9.4 percent and 8.9 percent, respectively.

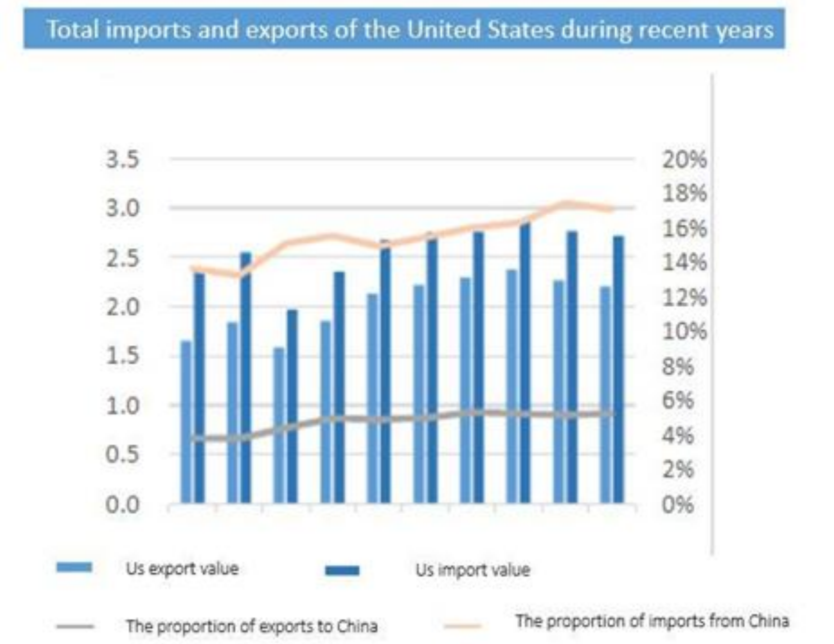

Figure 1. Total imports and exports of the US during recent years. Source: World Bank

Since China became a member of WTO, the trade deficit of the United States with China has gradually increased from 20.2% in 2001 to nearly 50%. However, the fact is that the deficit is overestimated under the US statistical method because of the statistical differences between the United States and China. China uses raw materials from European and American countries to process and assemble products, and then sells them to European and American countries. But the United States neglected this point when calculating the trade balance, which led to such a huge trade deficit between The United States and China. Therefore, although the trade surplus between the United States and China is in China, the interest surplus is in the United States. To sum up, it seems untenable to wage a trade war based on trade deficit alone. Moreover, Trump has a commercial background and cannot fail to understand the importance of it. Historical experience has proved that the contest between major powers, especially between the first and second powers, is not more an economic performance, but an international political act.

Figure 2. Composition of the US trade deficit. Source: World Bank

As is shown in Figure 3, the types of goods imported by the United States from all over the world are relatively average. The top three types of goods imported by the United States are mechanical, electronic and chemical and health products. Chinese goods make up 11%, 41% and 9% of the total imports of these three types of goods respectively. In addition, China's clothing and living and office supplies account for 41% and 32% of

America's imports, respectively. Therefore, electronics, clothing and living and office supplies are the most important three types of China's exports in the CN American trade structure.

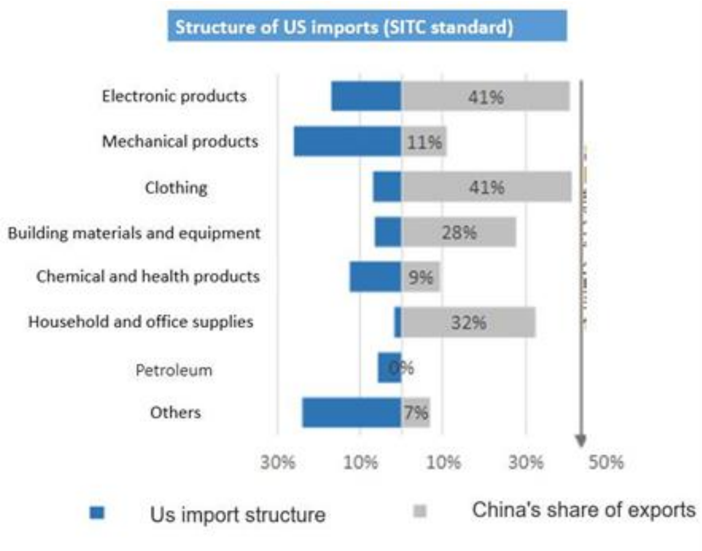

Figure 3. Structure of US imports. Source: World Bank

In Figure 4 we can see that the import of American goods in China, since the 2009 and 2012, the United States after some relax restriction on China's high-tech products exports, China's high-tech technology products imported from the United States have different degree of rebound, and high-tech products imported in 2016 fall also dragged down the growth. Thus, American restrictions on Chinese technology exports are an even more important obstacle to CN American trade.

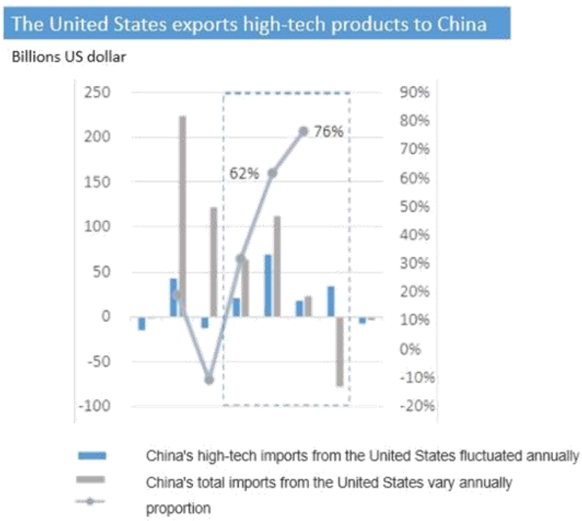

Figure 4. The US exports high-tech products to China. Source: World Bank

Back in the 1960s, the United States also launched a trade war against Japan on the basis of its trade deficit. During the 30 years from 1960 to 1990, the United States and Japan had played seven rounds of games on textiles, color TV, steel, automobiles, exchange rates, semiconductors and structural trade, which led to a 20-year downturn in Japan's economy. At the same time, there is another factor that cannot be ignored, namely, the impending mid-term elections in the United States. Looking back on history, we can easily find that almost all presidential candidates have attacked China in the campaign since China's rise. For example, during his presidential campaign, Trump made a lot of comments complaining about the US trade deficit against China, accusing China of manipulating its exchange rate, and even threatening to impose a 45% tariff on Chinese imports. In the face of the mid-term elections, it is not difficult to understand Trump's initiation of a trade war with China. Although campaign slogans do not imply a real policy toward China after election, they are a campaign strategy for candidates. Therefore, the CN-US trade war is not a sudden occurrence, more is the deep concern of the United States about China's rise.

China’s Countermeasure

While the trade war brings challenges to China's economy, it also provides opportunities for China's industrial upgrading and optimization. First of all, China implements an innovation-driven development strategy, promotes the optimization and upgrading of the manufacturing industry, and accelerates the deep integration of its application with industrialization. Since the beginning of reform and opening, China's manufacturing industry has maintained rapid growth and established an independent and integrated industrial system covering a wide range of sectors. At the same time, it has promoted industrialization and modernization and significantly enhanced China's overall national strength. There are obvious gaps in the capacity of independent innovation, efficiency of resource utilization, level of industrial structure, degree of informatization, quality and efficiency, environmental protection, and other aspects. China's task of transformation, upgrading and leapfrog development is still urgent and arduous. Premier of China government said on the 2016 Asian BBS that the focus of the made in China 2025 breakthrough should be mainly on the integrated development with the Internet and accelerating the development of China's industry (Hosain & Hossain, 2019). The core of made in China 2025 is to realize intelligent upgrading of manufacturing. The combination of the Internet, mass entrepreneurship and innovation, and made in China 2025 will lead to a new industrial revolution. Secondly, the Trump administration should be aware of the possible costs of starting a trade war, such as the rising cost of living and inflation of American residents, the trade deficit will not decrease if China reduces imports, and the decline of support in mid-term elections. There will be no winner in a trade war, and relevant industries in China will suffer from it. The government should do a good job in subsidizing the relevant losses to ensure the normal operation of relevant industries and minimize the losses. Third, China should take the One Belt and One Road initiative as an opportunity to unite with the Asia, Africa and Europe. China can make use of the good opportunity of "One Belt and One Road" and the achievements of "One Belt And One Road" strategy to unite the countries along the belt and road, promote the complementary advantages between China and the countries along the road, giving the promotion of the structural transformation, upgrading and optimization of the manufacturing industry, and achieve a win-win situation. Although developing countries account for the majority of the “Belt and Road” countries, as national support is strengthened, opportunities in the “Belt and Road” direction will not be ruled out in the future.

Conclusion

With the rise of the core competitiveness game among global powers, the protectionist color of the high-tech field will only become stronger and frictions will become more frequent in the future. The CN-US trade conflict may be inevitable, which will force China to accelerate its industrialization High-end chain promotion layout. We should learn from other countries in product design, pack the products as a whole, improve the quality of the products, use modern marketing methods and other brand wars, and strive to create international famous brands. When undertaking industries, China should choose high value-added or high-tech industries and abandon those industries with high pollution and high energy consumption. In addition, China should enhance and improve the service industry and tertiary sector, actively expand emerging markets, and tap new products with comparative advantage in export. China should also transfer some products with low added value to other countries for production through foreign direct investment, encourage enterprises to go to the world, so as to optimize the industrial structure. CN-US economic and trade issues have accumulated over time and space in the course of decades of development. Responsibility cannot simply be attributed to the Chinese side, nor can it be resolved overnight by "forced twisting". Recognizing this reality, we can really find the starting point for solving the problem. You know, the accumulation of thousands of miles, the accumulation of small streams into rivers and seas. Now, The United States and China agree to go step by step, which is the embodiment of seeking common ground while shelving differences and adopting a pragmatic and rational approach to constructive action. The United States and China should make every effort to ensure that bilateral relations develop along the right track. The economic and trade friction over the past year has fully proved that the comparison of the strengths of the United States and China has determined that neither party has the ability to "roll over" the other. The truth that "the trade war has no winner" is getting more and more popular. The factors of win-win cooperation are converging, and the more they gather, the stronger

Scientific Ethics Declaration

The authors declare that the scientific ethical and legal responsibility of this article published in EPESS journal belongs to the authors.

Acknowledgments or Notes

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A Machine Learning Approach to Financial Forecasting: A Case Study

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Abstract: This paper undertakes a machine learning-based forecasting of a subset of financial processes pertaining to the stock market for a particular period in Turkey. There are various machine learning/artificial intelligence algorithms ranging from multilayer perceptron to support vector machines that can be used, with varying degrees of success, for forecasting purposes. The forecasting task to be undertaken in this paper will be carried out in contexts inclusive of a number of crisis-associated complexities generating unusual fluctuations in the financial markets. These fluctuations could pose, for traditional methods, significant difficulties that could be predictably overcome by machine learning/artificial intelligence algorithms which could escape a reasonable range of the possible complications that could be encountered. We will employ a number of algorithms which we will compare and contrast in accordance with a chosen performance metric. Not all algorithms perform equally well but some yield results that could be comfortably and successfully used for further analysis. Successful policy analyses addressing some of the essential intricacies of financial processes are of both theoretical and practical significance. They could produce considerable welfare improvements in emerging economies such as Turkey. Possible ways in which such improvements could be modeled are worthy of future research.

Key Words: Stock market, Machine learning, Forecasting

Introduction

Financial processes may exhibit, in different contexts, a wide array of properties including stability, instability, various degrees of unpredictability and chaos. These properties could create considerable complications for the analysis of financial processes especially at crisis junctures. There are a number of works in the literature dealing with these properties, related issues and associated complications. Among these works are Beker (2014), Fedyk (2017), Ferrara & Guegan (2000) , Klioutchnikov, Musaev, Makshanov & Grigoriev (2023), Sigova, & Beizerov (2017), Rosengren (2014), Scholten (2016), Sinha, Horvath, Beason & Ross (2019), Tropeano (2010), Valenti, Fazio & Spagnolo (2018).

The range of complications associated with the analysis and forecasting of financial processes is fairly wide. Employing some of the state-of-art constructs such as machine learning/artificial intelligence algorithms may well prove to be highly effective in addressing some of those complications, as partly shown in works such as Kumar et. al. (2023), Li (2023), Yu (2008) and Nair & Mohandas (2015). In this paper, we will use a subset of the available algorithms for the purpose of accurately forecasting the changes in stock market averages at a particular juncture in Turkey. We explain the material, methods and results in the second section. The final remarks are presented in the concluding section.

Material, Methods and Results

Consider a stock market where shares of a number of firms are being traded. A diverse list of microeconomic and macroeconomic factors could influence the changes in stock market averages, not to mention the political and other factors that can be multidimensionally interconnected with the economic ones. Abstracting from the detailed modeling of the interconnections of these factors, which is beyond the scope of this short paper, we

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will, for the sake of simplicity and machine-learning-based-exposition, assume that the changes in stock market averages are influenced by the changes in bond rates, inflation rates, exchange rates and the general course (situation) or prospects of business activity. The particular algorithms we will make use of will enable us to forecast the stock market averages on the basis of algorithm-selected past variables and/or artificially constructed variables associated with the factors/variables within the system.

Forecasting via Machine Learning Algorithms

We can forecast the trajectory of changes in the stock market averages (the closing values) both within the chosen period as well as beyond the relevant period. We will choose a particular period characterized by the military coup-resulting political clashes influencing the financial system. The period in question extends from December 2013 to December 2016. Using the data for the period in question, which could be obtained from the websites of the Central Bank of Turkey, Turkish Statistical Institute and a number of private institutions, we will undertake machine-learning-based forecasting of the key variable chosen for the study.

The algorithms we will make recourse to are Multilayer Perceptron, support vector machines (SVM), M5P, Decision Table, KStar and Random Forest. An open-source program, namely WEKA, will be used to run these algorithms with a set-up where the change in stock market average (dy) is the target variable while the changes inflation rate, the bond rate, the exchange rate and the general course/situation of business as well as the HP-filter extracted cycle for the changes in the stock market averages are the “overlay variables” (General descriptions of the use of these algorithms are available in Witten (2022a,b).) The performance metric we will choose for the forecasting accuracy of the algorithms is “the normalized root mean squared error” (NRMSE), which is defined, for the sake of convenience, as the root mean squared error (RMSE) divided by the range of the changes in the stock market averages over the period in question (s), i.e.,

NRMSE = RMSE/s.

Let N denote the number of observations and s_n and s_n^p represent the actual and predicted values for n=1,…,N. RMSE is the square roof of the sum, from 1 to N, of all $(s_n - s_n^p)^2$ divided by N. The obtained NRMSE values for some of the attribute-selected machine learning algorithms are given in Table 1 below.

Table 1. The NRMSE values for different attribute-selected machine learning algorithms

	Multilayer Perceptron	SVM	M5P	Decision Table	KStar	Random Forset
NRMSE	0.0264	0.0036	0.0465	0.0702	0.0791	0.0970

For the algorithms in question, the NRMSE values pertaining to this particular case range from 0.0036 to 0.0970, which are, on average, fairly low, indicating a high degree of forecasting accuracy.We have used 70 % of the data for training and the rest for testing. For illustration purposes, let us present (in Table 2 and Table 3), for the training and testing period, the predictions which we have obtained via one of these algorithms, namely M5P.

Table 2. Predictions for the target variable with the training data (1-step ahead)

Instance#	Actual	Predicted	Error
13	-4798.31	-4909.387	-111.077
14	-3301.48	-3307.0982	-5.6182
15	3101.01	3347.7172	246.7072
16	-966.04	-789.4578	176.5822
17	-731	-496.4853	234.5147
18	-2340	-2107.2741	232.7259
19	-4700	-4495.5711	204.4289
20	-1005	-647.6348	357.3652
21	5204	5787.8451	583.8451
22	-4176	-3844.1476	331.8524
23	-3506	-3122.0738	383.9262
24	1754	2327.8154	573.8154
25	2333	2952.2177	619.2177

Table 3. Predictions for the target variable with the test data (1-step ahead)

Instance#	Actual	Predicted	Error
26	7454	8256.0979	802.0979
27	2060	2723.2695	663.2695
28	-7525	-7129.4869	395.5131
29	-986	-367.5721	618.4279
30	-1411	-783.4375	627.5625
31	562	1270.8356	708.8356
32	520	1247.8636	727.8636
33	2048	2842.2903	794.2903
34	-4541	-3928.3316	612.6684
35	4144	5040.8616	896.8616

The associated trajectories are given in Figure 1 and Figure 2

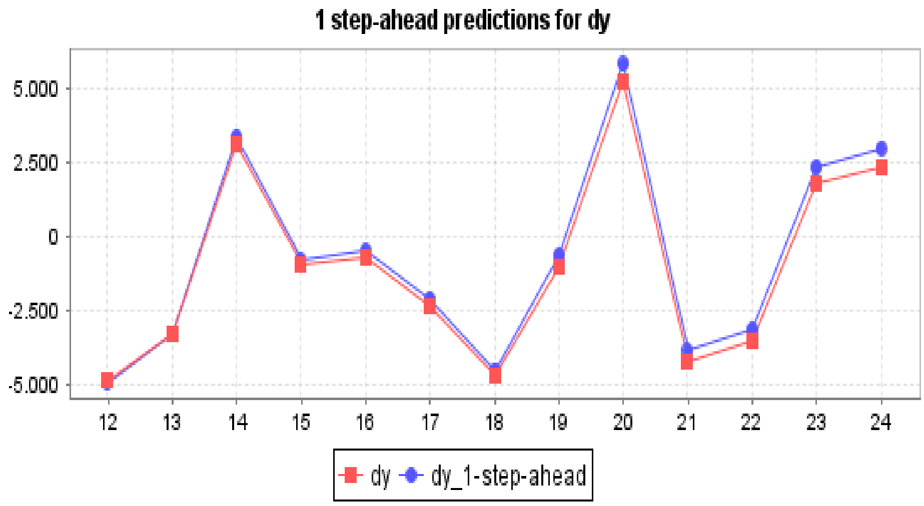

Figure 1. Predictions for the change in the stock market average (dy) with the training data

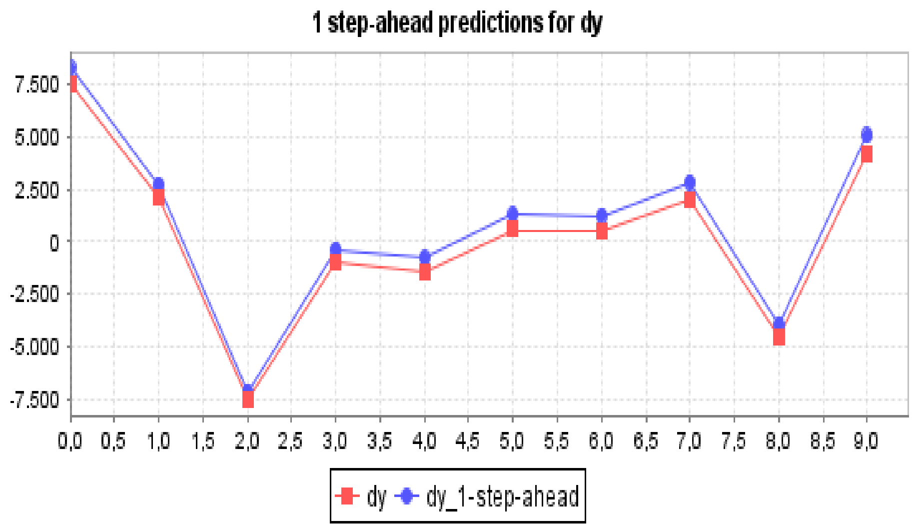

Figure 2. Predictions for the change in the stock market average (dy) with the testing data

Extension

So far, we have used some machine learning algorithms to derive the trajectory of the stock market averages. We can extend this framework so as to incorporate some these algorithms into simulation set-ups with feedback relations that can help better capture the intricacies of the real-life financial processes. Let us consider a system dynamics set-up where the stock market average is the stock variable, the change of which is the flow variable. Suppose that the changes in inflation rate (D-Inflation rate), the bond rate (D-Bond rate), the exchange rate (D-Exchange rate), the general course and prospects of business (D-General business conditions) are auxiliary variables influencing the flow variable. Suppose that there are microeconomic and macroeconomic stochastic factors (shocks/fluctuations) influencing the auxiliary variables in question. We will also assume that general business conditions are affected by the stock market averages. We can use the machine learning algorithms to estimate the weights with which the auxiliary variables influence the change in the stock variable. The system dynamics simulation diagram representing these relationships is given in Figure 4.

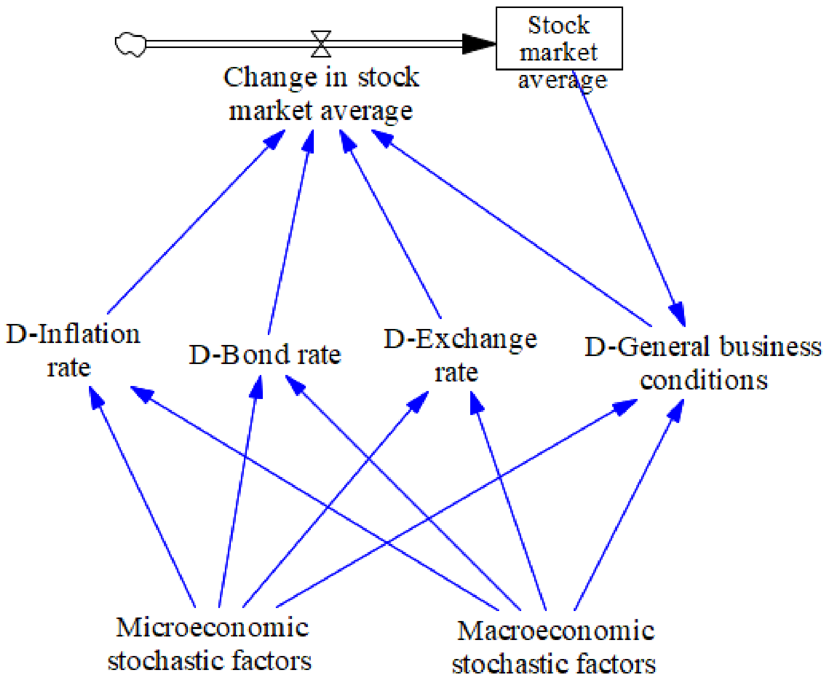

Figure 4. A system dynamics simulation diagram

With properly collected and constructed data set, we can estimate the relationships within the set-up and undertake system dynamics simulations of the trajectory of the stock market average (as well as the changes in the stock market average) incorporating the feedback relations within the system. We can even go further to incorporate additional complexities such as delays, strategic interdependencies and public policy interventions, which will enrich the framework so as to replicate, to a meaningful extent, the convoluted interactions in real-life financial processes.

Concluding Remarks

Machine learning algorithms are shown to be reasonably effective in forecasting the trajectory of the financial processes. The accuracy of the predictions in question may well justify their use for public policy purposes. Machine-learning-integrated hybrid methods could play a significant role in the formulations of optimal financial policies. The topic is worthy of future research.

Scientific Ethics Declaration

The author declares that the scientific ethical and legal responsibility of this article published in EPESS journal belongs to the author.

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Tobacco Market Transformation in Hungary

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Abstract: Smoking has emerged as a longstanding global concern, with a significant number of individuals within our immediate and bariatric circles becoming addicted to this detrimental habit. The gravity of the issue is reflected in the staggering statistics, as smoking claims the lives of more than six million people worldwide annually, earning its notorious title as the leading cause of preventable death according to the World Health Organization (WHO). Despite strict regulations and restrictions on smoking imposed by many countries to combat the escalating health risks, smoking habits persist as a major problem, particularly among young people. In the 1960s, smoking was widely accepted in society, and smoking rates remained high across nations. However, the tides began to turn with the growing awareness of the dire health risks associated with smoking. Health professionals and policymakers took active measures against smoking, contributing to a decline in its prevalence. Nevertheless, the extent of change in smoking habits varies significantly from country to country. The intricate web of factors influencing smoking habits encompasses social and economic elements, stress and mental health considerations, as well as the alluring temptations surrounding tobacco products. Raising awareness about the devastating health impacts of smoking and taking relentless action against this harmful habit are pivotal in reducing smoking rates globally. However, it is crucial to acknowledge the diverse cultural, socioeconomic, and psychological aspects that underpin smoking behavior to implement effective strategies tailored to specific regions and demographics. To combat the persistent smoking epidemic, comprehensive and integrated efforts are required, ranging from targeted public health campaigns to comprehensive tobacco control policies. Empowering individuals with knowledge about the hazards of smoking and equipping them with effective cessation resources can be transformative in curbing the addiction. Equally vital is fostering a supportive environment that promotes mental well-being and addresses stressors, offering healthier alternatives to cope with challenges. In conclusion, the fight against smoking demands unwavering commitment from policymakers, health professionals, and society at large. By understanding the complex drivers behind smoking habits and adopting a multifaceted approach, we can endeavor to save lives, promote healthier communities, and ultimately work towards a smoke-free future for generations to come.

Keywords: Smoking, Tobacco market, Consumers

Introduction

Smoking remains a global predicament, claiming the lives of approximately six million people worldwide each year. The World Health Organization (WHO) identifies smoking as the foremost preventable cause of death on a global scale. To address the escalating health risks, numerous countries have implemented stringent regulations and restrictions on smoking. However, smoking habits persist as a significant problem, especially among young individuals. In the 1960s, smoking was widely accepted across various societal strata, and smoking rates remained high in almost every country. However, a shift occurred with the increasing awareness of the grave health risks associated with smoking, accompanied by proactive measures taken by health professionals and decision-makers to combat smoking, resulting in a decline in prevalence. Nevertheless, the changes in smoking habits vary from country to country.

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The underlying drivers of smoking habits encompass a complex interplay of social and economic factors, stress and mental well-being considerations, as well as alluring temptations associated with tobacco products. Understanding these multifaceted aspects is vital in formulating comprehensive strategies to tackle smoking effectively.

To combat the persistent smoking epidemic, concerted efforts are required at the global, national, and community levels. Targeted public health campaigns can play a crucial role in raising awareness about the devastating health impacts of smoking, particularly targeting vulnerable populations such as youth and socioeconomically disadvantaged communities. Equipping individuals with accurate and compelling information about the dangers of smoking is pivotal in fostering informed decision-making regarding their health and well-being. Moreover, comprehensive tobacco control policies must be implemented to create a supportive environment that empowers smokers to quit and deters potential new smokers from starting. This includes imposing higher taxes on tobacco products, enforcing smoke-free public spaces, restricting tobacco advertising and marketing, and providing access to cessation support services. Additionally, integrating tobacco education into school curricula and engaging community leaders can aid in reinforcing anti-smoking messages and promoting healthy behaviors.

It is equally important to address the stressors and mental health issues that may lead individuals to resort to smoking as a coping mechanism. Implementing mental health support programs and stress reduction initiatives in workplaces and educational institutions can contribute to healthier coping mechanisms and reduce reliance on smoking.

Recognizing the power of peer influence, engaging youth in anti-smoking campaigns and encouraging them to be advocates for a smoke-free lifestyle can bring about positive social change. Encouraging smoke-free environments within families and social circles can reinforce the message that smoking is not the norm and foster supportive environments for quitting. Additionally, leveraging advancements in technology and social media platforms can amplify anti-smoking messages and reach larger audiences. Utilizing multimedia campaigns, mobile apps, and online support groups can provide accessible resources to those seeking to quit smoking.

In conclusion, tackling the global smoking epidemic requires a multifaceted approach involving policy interventions, public health campaigns, education, mental health support, and community engagement. By prioritizing prevention and cessation efforts, fostering supportive environments, and empowering individuals with knowledge and resources, we can work together to reduce smoking rates and ultimately improve global health outcomes. It is essential for governments, public health organizations, and civil society to collaborate in an unwavering commitment to create a smoke-free world for current and future generations.

Literature Review

On May 20, 2020, the European Union implemented a ban on menthol cigarettes to prevent young people from becoming addicted to smoking. This legislation is part of the EU's Tobacco Products Directive, which was adopted in 2014. Flavored cigarettes and other tobacco products had already been banned in 2016, but products with a market share greater than 3%, such as menthol cigarettes, were granted an extension. As part of the directive, 65% of tobacco product packaging must now bear health warnings, and member states can also require all tobacco products to be sold in identical plain packaging. (Csiszárik-Kocsír & Garai-Fodor, 2018; (Garai-Fodor, 2022;Garai-Fodor & Popovics, et al., 2022).

The ban on menthol cigarettes came as a significant step forward in curbing smoking prevalence, especially among the youth. Menthol-flavored cigarettes were particularly appealing to young individuals due to their milder taste and cooling effect, which made them more palatable and easier to start smoking. By removing these flavored cigarettes from the market, the European Union aimed to reduce the attractiveness of smoking for young people and discourage them from starting this addictive habit. (Pervez et al., 2022;Tick, 2023).

According to data from the European Commission, 26% of the EU population smokes, with the 15-24 age group accounting for 29%. Smoking remains a major public health concern in the region, as it is responsible for a substantial number of premature deaths. (Csapó et al.,2018) The burden of smoking-related diseases and healthcare costs places significant strain on healthcare systems across EU member states. Therefore, implementing measures to reduce smoking prevalence and protect public health is of utmost importance.(Garai-Fodor & Szemere, et al., 2022).

Hungary has been at the forefront of adopting strict tobacco control regulations within the European Union. Notably, Hungary was among the first EU countries to completely ban nicotine-flavored e-cigarettes. While the ban on flavored electronic cigarettes is not yet universal across Europe, Hungary's proactive approach reflects its commitment to safeguarding public health and preventing young people from developing nicotine addiction through e-cigarette use.(Garai-Fodor et al., 2023).

Finland also had a similar ban in place, but it allowed the sale of tobacco-flavored e-cigarettes to continue. (Viktor et al., 2020)The differing approaches among EU member states highlight the complexity of regulating new tobacco and nicotine products. Striking the right balance between harm reduction for current smokers and preventing the initiation of smoking among non-smokers, especially young individuals, is a challenging task for policymakers.(Szeghegyi & Viktor, 2022).

In addition to the ban on flavored e-cigarettes, Hungary previously adopted regulations much stricter than those in Europe when it banned the sale of all flavored "capsule" cigarettes in May 2017. These capsule cigarettes were products with a flavored liquid-filled capsule embedded in the cigarette filter, which allowed smokers to crush the capsule and release the flavor into the smoke when desired. The ban on such products aimed to eliminate the allure of flavored cigarettes and make smoking less appealing to potential smokers. (Viktor & Szeghegyi, 2022).

The Hungarian government's commitment to stringent tobacco control measures has been supported by scientific research. Studies conducted in Hungary and other countries have shown that flavored tobacco products, including menthol cigarettes and flavored e-cigarettes, are attractive to young people and may encourage experimentation and initiation of smoking. By banning these products, Hungary aims to disrupt this process and reduce the likelihood of young individuals starting smoking.(Foldi, 2015a,2015b).

However, it is essential to monitor the impact of these regulations over time and evaluate their effectiveness in achieving the desired public health outcomes. Research studies can provide valuable insights into smoking behavior patterns, smoking prevalence among different age groups, and the overall success of tobacco control measures.(Szeghegyi & Viktor, 2022) By analyzing the data and adapting strategies accordingly, policymakers can continue to improve tobacco control efforts and protect the health of their populations.(Loblin et al., 2017).

The success of tobacco control measures not only depends on legislation but also on public awareness campaigns and access to smoking cessation support. Educating the public about the harmful effects of smoking, including the risks associated with flavored tobacco products and e-cigarettes, is crucial in deterring potential smokers and encouraging current smokers to quit. Additionally, providing effective smoking cessation resources, such as counseling, behavioral therapies, and pharmacological treatments, can assist individuals in overcoming nicotine addiction and making successful quit attempts.(Goboly & Foldi, 2022).

Furthermore, in the ever-evolving landscape of tobacco and nicotine products, continuous monitoring and research are necessary to keep pace with emerging trends. As new products enter the market, their potential impact on smoking prevalence and public health must be carefully examined. This proactive approach allows regulators to adapt their strategies and ensure that tobacco control policies remain effective and relevant. (Cooper et al., 2022).

In conclusion, the ban on menthol cigarettes in the European Union and the strict tobacco control measures adopted by Hungary demonstrate the commitment to protect public health and reduce smoking prevalence. (Gupta,2021) By removing flavored tobacco products, including menthol cigarettes and nicotine-flavored e-cigarettes, from the market, the EU and Hungary aim to make smoking less appealing to young people and discourage them from starting this harmful habit. Continuous research, evaluation of tobacco control measures, and public awareness campaigns are vital in achieving long-term success in combating smoking and its detrimental health effects.(Viktor & Garai-Fodor, 2023) (Viktor & Reicher, 2020) With collaborative efforts from governments, healthcare professionals, and the public, a tobacco-free future can be envisioned, promoting healthier lives and well-being for all.(Wang et al., 2021).

The Emergence of Heated Tobacco Technology

However, following these bans, Philip Morris introduced its product called "IQOS" to the tobacco market in Hungary. This product can achieve a similar effect on young people as flavored cigarettes did in the past.(Csiszárik-Kocsir & Garai-Fodor, 2018) (Garai-Fodor, 2022) (Csiszárik-Kocsir et al., 2013) (Csiszárik-

Kocsir – Medve, 2014) The main difference is that these products do not involve combustion during consumption, significantly reducing health risks. Nevertheless, using IQOS is still not entirely safe, as it requires inhaling aerosol, which may contain harmful substances.(Garai-Fodor et al., 2023) (Garai-Fodor, Szemere et al., 2022) Moreover, switching to IQOS does not guarantee complete cessation of smoking, as the device still contains nicotine. Before the introduction of IQOS, the majority of smokers used traditional cigarettes, but since its emergence, many have switched to this alternative tobacco consumption method. However, the introduction of IQOS has not significantly reduced smoking habits but rather presented an alternative for those seeking a healthier smoking option.(Garai-Fodor et al., 2022).

Subsequently, several companies introduced similar products to the market, such as British American Tobacco's "Glo." These products evoke similar effects in consumers as previous flavored cigarettes, especially since they allow the use of flavored tobacco inserts. Due to these trends, the European Union is now considering a ban on flavored tobacco inserts for heated tobacco technology products as well. If such a ban is enacted, the use of nicotine pouches could become more prominent in Hungary's tobacco market. It is worth noting that nicotine pouches are different from snus, as the latter contains tobacco, whereas nicotine pouches do not. Currently, snus is not allowed to be sold in Hungary. (O'Brien et al.,2021; Garai-Fodor & Csiszárik-Kocsir, 2018;Saáry et al., 2021; Varga &Csiszárik-Kocsir, 2015).

To combat the persistent issue of smoking among young people and to protect public health, governments and regulatory bodies must remain vigilant in adopting comprehensive tobacco control measures. This includes not only addressing flavored tobacco products but also continuously assessing emerging tobacco technologies and their potential impact on smoking prevalence. By implementing evidence-based strategies, public health campaigns, and regulatory actions, we can make significant strides in reducing tobacco use and creating a healthier environment for our future generations. In addition to banning flavored tobacco products, it is crucial to invest in public awareness campaigns that educate individuals, especially young people, about the dangers of tobacco use and the various alternatives available. These campaigns should focus on highlighting the health risks associated with smoking and using tobacco products, including heated tobacco devices and nicotine pouches. By promoting a better understanding of the potential risks, we can empower individuals to make informed decisions about their health and well-being. Furthermore, it is essential to provide accessible and effective smoking cessation programs and resources to support those who wish to quit smoking altogether. While alternatives like IQOS may be seen as a step towards harm reduction, the ultimate goal should be to encourage smokers to quit entirely and lead healthier lives. This can be achieved through counseling, behavioral therapies, and pharmacological treatments that have proven to be successful in helping individuals overcome nicotine addiction. Moreover, governments should collaborate with healthcare professionals and organizations to conduct research on the long-term effects of heated tobacco technology and nicotine pouches. Understanding the potential health risks associated with these products is critical in shaping effective tobacco control policies and regulations.

To ensure the success of these measures, enforcement and compliance monitoring are essential. Strict regulations should be put in place to prevent the marketing and sale of tobacco products to minors, and penalties should be imposed on those who violate these regulations. Retailers should be actively engaged in promoting responsible sales practices and verifying the age of customers before selling tobacco or alternative products (White et al., 2021).

In conclusion, while the introduction of heated tobacco technology products like IQOS has provided an alternative for smokers seeking a potentially less harmful option, it does not eliminate the risks associated with tobacco use. Governments and regulatory bodies must remain proactive in implementing comprehensive tobacco control measures that address not only flavored tobacco products but also emerging tobacco technologies. By investing in public awareness campaigns, smoking cessation programs, and research, we can work towards reducing smoking prevalence and protecting the health of our communities, especially the younger generations. It is a collective responsibility to create a tobacco-free future and prioritize the well-being of our society. (Bandi ez al., 2021).

Methods

Our interviewees, a group of 18 people, have been working for the company since 2007 as distributors in the old system, delivering tobacco products everywhere. The interview consisted of 28 questions and was conducted over a period of 3 months. Approximately 6 years ago, they transitioned to become territorial representatives when the National Tobacco Shop Supplier (ODBE) was established, and at that time, they became territorial marketing representatives at JTI (Japan Tobacco International). Their responsibilities include informing tobacco shop owners about legal changes or new products, encouraging the ordering of these new products, and managing the tobacco shops in their area. They also negotiate contracts with those tobacco shops that they see potential in and ensure the fulfillment of the contract terms. Through these contracts, they provide secondary placements of the company's products in illuminated displays, aiming to ensure loyalty to JTI. JTI is currently the 3rd largest tobacco company in the world and holds the 3rd place among tobacco companies in Hungary as well. They are leaders in tobacco sales, but their products sell the most in the market, indicating their market leadership in tobacco sales.

During the interview, we discussed the impact of regulations introduced in the tobacco industry over the years to promote smoking cessation. One significant regulation was the introduction of health warnings on tobacco products in the early 2000s, followed by the inclusion of various deterrent images. Over the years, customers initially expressed resistance to these new features, but later, they became accustomed to them. Tobacco shops even allow customers to switch images if they dislike a particular one. It was observed worldwide that the stress levels in a country influence the success of smoking cessation; countries with better living standards and a calmer environment tend to have higher success rates in smoking cessation. However, the most significant impact on smoking cessation seems to be the increase in tobacco prices. Thus, the tobacco market is anticipating the effects of further price increases on consumers, as it may result in reduced tobacco consumption or a shift towards the black market.

Regarding the future of the tobacco market, the introduction of heated tobacco technology may attract consumers due to its lower cost and the communication by some companies that it poses lower health risks compared to traditional cigarettes. The JTI representative believes that heated tobacco technology is the future, but it will require generational changes to establish a significant presence in the market. The current generation of smokers may not switch to heated tobacco products, and the shift towards these products will likely be driven by younger consumers. Currently, heated tobacco technology accounts for approximately 25% of the Hungarian cigarette market, a significant portion considering it has been present for only about 3 years, and the trend indicates that it will continue to grow. However, the market may diverge in the future, with some consumers opting for heated tobacco technology and others choosing cheaper products due to the price increases. The continuous tightening of advertising regulations has significantly restricted tobacco advertising over the years. Hostesses used to promote cigarettes, and various branded gifts were given as prizes in games. However, these forms of advertising are now forbidden. The current regulation allows the use of navigation cards for advertising until the end of 2022, where only new messages or new products can be communicated without mentioning any brands. The introduction of unit packaging in the future may open up more advertising opportunities for reduced-risk products as they can use colors freely to stand out on store shelves.

The tobacco law has been successful in reducing the direct service of tobacco products to individuals under 18 due to strict controls. It is much harder for young people to access tobacco products compared to the past when they were readily available in stores and pubs. However, determined individuals under 18 can still acquire tobacco products from acquaintances, but the level of control has reduced their chances of success. In recent years, there have been significant excise tax increases on tobacco products, and the prices have risen drastically. Despite these increases, the demand for cheaper, lower category cigarettes has been growing. Consumers are becoming more price-sensitive and are switching from premium to lower-priced cigarettes due to economic factors. The price difference between premium and lower category cigarettes has significantly widened, and the demand for cigars and rolling tobacco has also increased. Looking into the future, economic conditions may lead to declines in the legal trade market as people prioritize spending. The legal trade market may face challenges from the black market due to the price increases. Additionally, the demand for lower-priced tobacco products and reduced-risk products may continue to grow due to the increased costs of traditional cigarettes. JTI is also looking into the possibility of introducing heated tobacco products to the market, although the current political situation and regulatory changes in the European Union could influence the timing of its release.

Conclusion

The transformation in the tobacco market in Hungary has started in a positive direction, and the successful shift towards a healthier lifestyle in society can be observed. People are increasingly inclined towards healthier alternatives, transitioning to less harmful forms of tobacco consumption. The sales of traditional tobacco products, such as tobacco-filled products and conventional cigarettes, are expected to continuously decline over the years, and this trend will be further promoted by the growing popularity of heated tobacco technology and nicotine pouches. Several factors contribute to this transition. One significant determining factor is the extraordinary increase in prices, which has made heated tobacco products more affordable compared to traditional cigarettes. For economic reasons, people are more likely to turn to cost-effective alternatives. The introduction of unit packaging regulations for tobacco products does not apply to heated tobacco technology products, allowing them to retain their original colorful packaging and even be displayed in illuminated showcases. This provides a significant advantage for traditional cigarettes and tobacco products, enhancing their visibility in stores and potentially increasing their popularity. Health considerations also play a role in this transition. The lower odor and reduced health risks associated with heated tobacco technology make these products more appealing to consumers. Additionally, the return of flavored tobacco products holds great attraction for consumers and is expected to drive substantial growth in this market segment. Despite the price increases, the transformation in the tobacco market does not deter those seeking alternatives due to the harmful effects of smoking. Heated tobacco technology and nicotine pouches make quitting smoking more attractive and enable consumers to opt for a healthier lifestyle. Throughout this process, it is crucial that society becomes increasingly aware of the health risks involved and becomes willing to change their habits. The transformation in the tobacco market and the promotion of healthier alternatives encourage people to actively consider quitting smoking and choosing less harmful alternatives. The transformation of the tobacco market in Hungary is moving in a positive direction, offering hope that health issues related to smoking can be reduced. The increasing popularity of heated tobacco technology and nicotine pouches can aid in mitigating the harmful effects of smoking and lead people towards healthier lifestyles. Society's growing awareness and environmentally conscious approach play a crucial role in this transition.

Scientific Ethics Declaration

The authors declare that the scientific ethical and legal responsibility of this article published in EPESS journal belongs to the authors.

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Mapping the Progress of Strategic Communication in Austria (1984 – 2020)

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Abstract: This paper provides an analysis of the submission trends for the Austrian-PR-State-Award from 1984 to 2020. It was discovered that despite the increased public visibility, specialization, and technological advances in PR, there has been no significant change in the perception and treatment of public relations during this period. A symbolic-interpretive approach to PR is more often practiced than a dialogue-oriented, performance-oriented approach. Furthermore, PR professionals focus more on gaining internal influence than actual performance improvement. As a result, professionalization efforts cannot be fully utilized due to the imbalance resulting from the above. The paper also analyzes the impact of this imbalance and discusses the research gaps that may exist in relation to PR educational and training elements. Possible solutions to enhance the professionalization of the PR industry include a shift towards a dialogue-oriented and performance-oriented practice, along with strong educational systems and training elements to help bridge the gap between research and practice. Additionally, PR practitioners need to have a good understanding of the organization's goals and abilities in order to be able to strategize for maximum effectiveness. Through these measures, the PR industry can become more adept at managing complexity and leading organizations toward success.

Keywords: Public relations, Communication management, Professionalization

Introduction

Observing the industry over the last decades, it is striking that PR tries to professionalize in different ways but seems stuck in this process. Still, PR suffers a bad reputation in public, of which PR professionals are quite aware, as exemplified by the fact that 52.4% of PR practitioners across Europe complain about the "[p]oor reputation of professional communication and PR in society" (Zerfass et al., 2012). This dubious image of public relations goes hand in hand with a general impression that depicts prototypical representatives of the field as friendly, smiling, but naive "PR-ladies" or so-called "earls-of-sandwiches" on one side and the other side as reckless and sneaky spin doctors of public opinion. You might have to accept this negative public image when your first aim is to hone the interest of your own company.

In addition to facing a devastating reputation, PR departments also experience a challenging position as a functional area within their own organization: "A large majority of the respondents state (…) a lack of understanding of communication practice within the top management (84%) and difficulties of the profession itself to prove the impact of communication activities on organisational goals (75%)" (Zerfass et al., 2012).

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Again in 2022, Linking Business Strategy and Communication continues to be one of the most urgent issues over the years (Zerfass et al., 2022). Additionally, Röttger emphasizes that PR has a, “lack of problem-solving competence”, which leads to empirically verifiable “encroachment effects” (2010, p. 21, translated by authors). This means that managers from outside the field (e.g., lawyers or engineers) are often more likely to be entrusted with the execution of PR tasks than trained PR managers (Dees & Döbler, 1997; Dozier, 1988; Nothhaft, 2011; Röttger, 2010; Wienand, 2003).

These impressions and their effects are fatal for a relatively young industry like PR and provide the framework for this study. The goal is to shed more light on how PR practitioners deal with communication issues and what accents have been set in the past to solve these problems better, i.e., more professionally.

Theoretical Foundation

Three main strategies point out how the PR industry deals with those challenges:

1. *Semantic positioning:* Academics, PR, and communication professionals, professional associations, agencies, and consultants are constantly trying to redefine the function mainly via coming up with different labels that should help to broaden the field and expand the area of responsibility (Dietrich, 2018) Grunig and Hunt set the most common definition when stating, “Public relations [...] is the management of communication between an organization and its publics (1984, p. 8); From thereon, terms such as Communication Management, Integrated Communication, Organizational Communication, and Corporate Communication, came up and as the latest example the discussion of the branch circulates around the label Strategic Communication.
2. *Gain internal influence:* PR is striving to be recognized as a management function and is trying “to unlock the boardroom“ (Bütschi & Steyn, 2006) and get access to the C-Suite (Nothhaft, 2011) or Dominant Coalition (Grunig & Hunt, 1984). This Management-Shift (Wehmeier, 2008) is driven by the idea of positioning the PR department as an essential function of organizations and playing a more substantial role in the internal Management Game (Simcic Brønn et al., 2016) to gain more influence on superior corporate strategy decisions.
3. *Improve actual performance:* PR work on their actual performance of what is done and which results can be expected. In other words, improving the primary mode of PR, in terms of delimited problems which PR is responsible for, strategies for coping with those problems, and actual measures realized when PR comes into play.

All three strategies try to pave the main path PR tries to walk to develop as a profession: “For decades now, communication management and public relations is transforming itself from an operational practice of preparing, producing, and disseminating communication materials into a full strategic management function, which includes speaking as well as listening, consulting as well as executing.” (Zerfass et al., 2012).

According to the general objection on fashion in management (Kieser, 1997), the first mentioned strategy (semantic positioning) is unsuitable for substantial changes, as numerous authors have rejected these initiatives of redefining PR via finding new labels. Theis-Berglmair (2013) argues for sticking to Public Relations as all communicative activities are subsumed sufficiently. And Röttger et al. too prefer the term Public Relations as it still suits all challenges of the communication industry best. They define Public Relations as, “all managed internal and external communication to support the organization’s interests and help to gain public legitimacy” (2018).

The second strategy (gaining internal influence) and third (improving actual performance) are theoretically founded much better and broader. They are dominating the discussion of the practical field over the last decades: “The profession is striving for a strategic position at the decision-making table to become a part of the strategic management of an organisation (…).” (Zerfass, et al., 2014). The whole Grunig-Paradigm (Macnamara, 2012) is to be subsumed with the term Management-Shift (Dees & Döbler, 1997; Raupp & Klewes, 2004; Wehmeier, 2008) and shall be discussed in more detail in the following.

Excellent PR – The Grunig paradigm

Grunig and Hunt (1984, p. 22) first distinguished four different models of public relations: Publicity, Public Information, Two-Way-Asymmetrical, and Two-Way Symmetrical (Table 1).

Table 1. Characteristics of four models of public relations – own presentation based on Grunig & Hunt (1984)

	Model			
Characteristic	Publicity	Public Information	Two-Way-Asymmetric	Two-Way-Symmetric
Purpose	Propaganda	Dissemination of Information	Scientific persuasion	Mutual understanding
Nature of Communication	One-way; complete truth not essential	One-way; truth important	Two-way; imbalanced effects	Two-way; balanced effects
Communication Model	Source -> Receiver	Source -> Receiver	Source <-> Receiver (Feedback)	Group <-> Group

In the context of the famous Excellence Studies (Grunig et al., 2002), those four models were subsumed in two different modes or approaches of practicing public relations: symbolic-interpretative and strategic management paradigm. Symbolic-interpretative-oriented Communication believes in PR as a buffering function. The main goal is to influence the publics and gain interpretative sovereignty over important topics, issues, and images. “Such organizations believe favorable impressions created by public relations can obscure their decisions and actions and, in turn, that they can behave in the way that managers with power want without interference from publics.” (Kim et al., 2013). PR, based on a strategic management approach, on the other hand, is conceptualized as a boundary spanner or bridging function. It strives to create opportunities and platforms for exchange, collaboration, and Co-Creation to enable win-win situations where all stakeholders benefit. PR departments claiming to be a bridging function, need to have access to the C-Suite (Bütschi & Steyn, 2006, p. 108; Nothhaft, 2011, p. 212) to be able to proactively shape the strategy of the whole organization rather than acting like an announcer who transports messages from the organization to the public and ensures that the public receives and accepts the organization's positions.

Grunig states that PR, of course, is realized in all four models and both of the two approaches. Still, he points out that excellent PR departments more often focus on a management approach: “The Excellence study concluded, therefore, that public relations makes an organization more effective when it identifies the most strategic publics of the organization as part of strategic management processes and conducts communication programs to cultivate effective long-term relationships with those publics (Kim et al., 2013).

Excellent PR - Revisited

Zerfass and colleagues have taken the discussion around excellence in Public Relations further and developed the Comparative Excellence Framework (Zerfass et al., 2016), which allows identifying excellent PR departments on the following characteristics: “Excellence is conceptually based on the internal standing of the communication department within the organisation (influence) and external results of the communication department’s activities as well as its basic qualifications (performance).” (Zerfass et al., 2022) This is based on the variables of advisory and executive influence as well as success and competence (Table 2). Excellent departments must achieve maximum values (6-7) in all four dimensions. (Zerfass, Buhmann, Tench, Verčič, & Moreno, 2021, 85 et seq.) It is striking that the departments in the area of influence (22.5% and 22.7%, respectively have the maximum value of 7) perform significantly better than in the area of performance (only 9.8% and 11.0% respectively achieve the total value of 7). This ratio has been relatively constant over the years.

Table 2. Excellent communication departments 2022 (Zerfass et al., 2022

		No manifestation (1) - Strong manifestation (7)						
		1	2	3	4	5	6	7
Influence	Advisory Influence	< 3%	4.5%	5.6%	10.7%	23.6%	31.7%	22.5%
	Executive Influence	< 3%	4.8%	5.8%	11.6%	19.1%	34.0%	22.7%
Performance	Success	< 3%	4.1%	7.0%	17.1%	31.7%	28.9%	9.8%
	Competence	< 3%	3.5%	6.8%	18.6%	29.7%	29.3%	11.0%

The Comparative Excellence Framework (Zerfass et al., 2016) makes it clear that the orthodox discourse on professionalization must be conducted on two levels: on the one hand, the performance of the PR department, and, on the other, its internal influence. The results of the European Communication Monitor show, however, that the PR industry is concentrating its professionalization efforts rather one-sidedly on increasing management skills to increase its influence in shaping organizational policy. Investments in communication-specific know-how or implementation skills (Szyszka, 1995) to achieve a higher level of performance are made to a much lesser extent. The perceived disadvantages in the internal management game are to be compensated by higher management skills.

Dietrich (2018) came up with the idea to conceive professional PR as a medal whose two sides of influence and performance affect each other mutually: High influence in the dominant coalition enables PR to help shape corporate strategy. This can create conditions and frameworks that facilitate higher communicative performance. This undoubtedly requires skillful acting in the internal management game. At the same time, however, corresponding performance (i.e., a high level of communicative problem-solving competence; i.e., performance) is a central prerequisite for increasing trust in the PR function and, in turn, for increasing influence. A mutually reinforcing dynamic of increase between performance and influence cannot be fully exploited in this unbalanced approach.

Research Objectives and Research Questions

To gain insights in more detail on the performance side of PR, we will present and discuss empirical data in the next step. The study aims to determine the status quo of PR practice empirically and which professionalization developments can be identified. The research questions were: (1) How can PR work - rated as excellent by the PR professionals themselves - be described in the central dimensions? (Analyzing the submissions to the Austrian State Award for Public Relations provides the unique opportunity to examine material the submitters have classified as outstanding and thus worthy of the State Award.) And, (2) What professionalization trends and developments can be perceived in Austrian PR practice between 1984 and 2020?

Research Design

The primary object of investigation is submissions to the Austrian State Award for Public Relations between 1984 and 2020. The primary approach follows an exegetical character insofar as not the stated aims are investigated, but rather the overall setup and themes are explored. The reconstruction of problems, goals, and strategic as well as tactical procedures in projects, which the actors involved consider excellent examples of their work, should enable more profound insights into the mode of PR practice. (A critical reflection on the limitations of the methodological approach can be found at the end of the article.)

Description of Data Set

The Austrian State Award for Public Relations was initiated for projects implemented between the 1st of January 1984 and the 30th of June 1985. Since this time, the award has been given out annually. The Austrian Association for Public Relations (PRVA) granted exclusive access to the project documents submitted from inception until 2020. Unfortunately, no submissions from 1988 to 1999 are archived in the PRVA office and, therefore, could not be included in the analysis. The data corpus, thus, comprises the sum of 1,030 submissions in the period from 1984 to 1987 and from 2000 to 2020. This considerable period enables the investigation of trends and developments in different periods based on the same underlying variables.

Table 3. Number of project submissions for Austrian state award for public relations in cluster 1 and cluster 2 categories

Cluster Type	Categories	Observations	Overall
Cluster 1	1984-1987	71	436
	2000-2003	95	
	2017-2020	270	
Cluster 2	2000-2005	145	937
	2006-2010	191	
	2011-2015	281	
	2016-2020	320	

The annual data are aggregated into higher-order clusters to increase the number of observations and improve the identification of patterns (although the submissions from 1988 to 1999 could not be included). Two types of clusters are formed: Cluster 1 includes three four-year categories starting with the initial period, whereas Cluster 2 accounts for five and six-year periods from 2000 until 2020. In this way, Cluster 1 is designed to provide information on long-term changes, while Cluster 2 allows tracking current developments throughout the last twenty years on a seamless base.

Table 3 provides an overview of the two cluster types and their categories. Cluster 1 splits the overall period into three sub-categories that can be analyzed as markers in time. Cluster 2 displays a more fine-grained picture of essential developments by zooming into the last twenty years. Due to its concentration in the most numerous sample years, the second cluster type contains more than twice as many observations compared to the first and, therefore, may serve to highlight important trends throughout the underlying two decades.

Conceptual Content Analysis

Based on the indicated project submission, a conceptual concept analysis is implemented to classify important characteristics (Mayring, 2010, p. 24). As a rule, this type of analysis structures formal aspects and content-related characteristics of the investigation material. In principle, it can be assigned to qualitative social research. However, it is regarded as a prime example of overcoming the contradiction between quantitative and qualitative research in that both methods are closely intertwined. Gläser and Laudel (2010, p. 197) indicate the following steps for content analysis:

- Creation of a closed categorical system in preparation for the analysis
- Splitting up of text in elements of analysis
- Investigation of text for relevant information
- Assignment of information to predefined categories (coding)

All submitted documents exhibit a similar structure: (1) Starting point / Definition of problem, (2) Target groups for dialogue, (3) Definition of objectives, (4) Formulation of strategy, (5) Selected measures, and (6) Evaluation. Based on this setup, the categories can be retrieved in the respective chapters. A variable such as Problems & Objectives of the Organization can be gleaned from the first chapter on problem definition. The individual categories of this variable are formulated based on the approach by Eisenegger and Imhof (2009) that proposes a classification into functional-factual, social-moral, and expressive organizational problem statements.

Frequency Analysis

The Austrian State Award for Public Relations submissions often contain formulations that do not allow a clear assignment of the described strategic or tactical procedures in the individual concepts. This can be seen, for example, in the abundance of dialogue groups or stakeholders that are addressed in each case, in a wide range of goals that are to be achieved using the respective PR project, and a generally broad bundle of measures that are implemented using a large number of instruments in different combinations is implemented. When analyzing the submissions for the Austrian State Award for Public Relations, itis noticeable, among other things, that possible communication modes are used, such as types of media (one-way, two-way, social media, and events). Furthermore, projects are often implemented via a mix of owned, paid, and earned media. And, of course, no organization focuses and reduces its direction of impact to purely inbound or outbound.

The consequence is that in major categories, the respective item characteristics cannot be assigned exclusively and selectively since quantifications in the sense of a distribution or a ranking are difficult to objectify with the naked eye. As a result, these categories would lose their ability to discriminate, and the entire analysis would lose its meaningfulness due to the coding. For this reason, an IT-supported frequency analysis was used. It makes general tendencies in PR practice visible across all concepts by assuming a connection between the number of terms and content mentioned and their meaning in the specific context – in this case, the planning and implementation of PR projects (for the foundation and methodological discussion of this approach, see Titscher, Wodak, Meyer, & Vetter, 1998, 80 et seq.). By compressing the PR-relevant terminology into a manageable number of meta-labels generated from the material, a relation of different strategic and tactical approaches or dispositions of the PR actors can be read.

Table 4. Provides an overview of the variables and their categories generated based on conceptual content and frequency analysis.

Variable	Categories	Analysis
Dialogue Groups & Stakeholders	internal external internal & external	Conceptual Content Analysis
Organizational Problem & Objectives	functional-factual social-moral expressive	Conceptual Content Analysis
Organizational Policy	unchanged organization/product changed organization/ product new organization/product	Conceptual Content Analysis
Main Trigger of Problems	internal external	Conceptual Content Analysis
Direction of Impact	inbound outbound inbound & outbound	Frequency Analysis
Communication Mode	one-way two-way Social Media Event	Frequency Analysis
Types of Media	earned media paid media owned media	Frequency Analysis

Empirical Results

The first thing that stands out is that the composition of the dialog groups has changed massively (highly significant). The distinction was made between internal and external dialog groups. Whereas at the beginning of the study period, more than four-fifths of the stakeholders were exclusively external, this proportion has fallen to around half over the years (see Figure 1). On the one hand, there has been a slight increase in the number of projects focused purely on an internal target group. Still, on the other hand, there have been simultaneous considerations of both external and internal stakeholders. This shows that the importance of internal groups has increased to a highly significant degree. Even if a PR project is primarily externally oriented, the internal workforce is involved and at least informed about these activities.

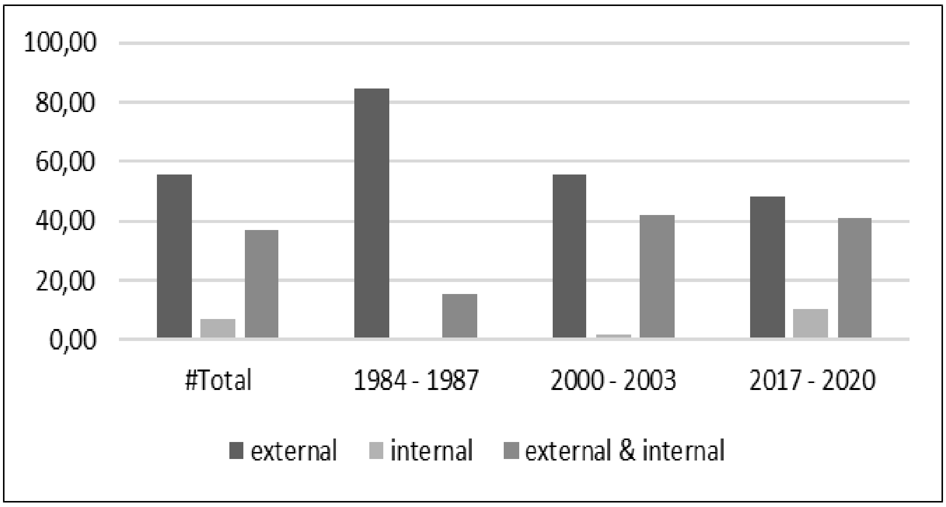

Figure 1. Addressed dialog groups and stakeholders (Cluster 1: 1984-2020)

A closer look at the development over the last 20 years (Cluster 2) confirms this trend that internal dialog groups are gaining importance. Only slight fluctuations in the distribution are discernible (see Figure 2).

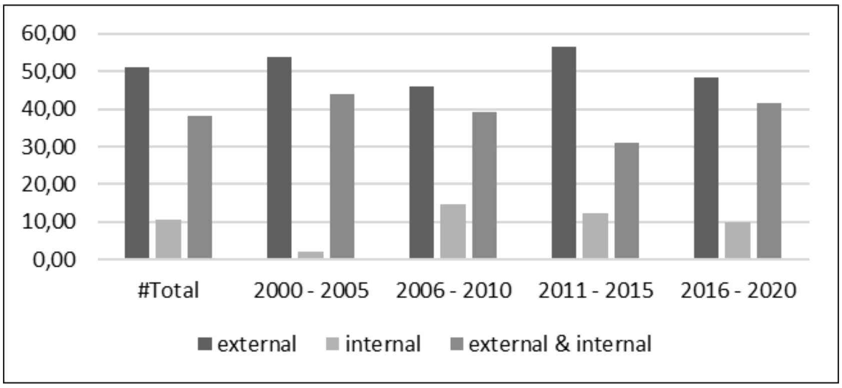

Figure 2. Addressed dialog groups and stakeholders (Cluster 2: 2000-2020)

Presenting the next results, we follow Eisenegger and Imhoff's distinction (2009) by differing organizational problems with functional-factual, social-moral, and expressive orientations. It can be seen that most of the projects (54.36%) in Cluster 1 (see Figure 3) were expressive. The percentage of functional-factual-oriented projects increased slightly, whereas the social-moral orientation decreased slightly (all changes are in a non-significant range).

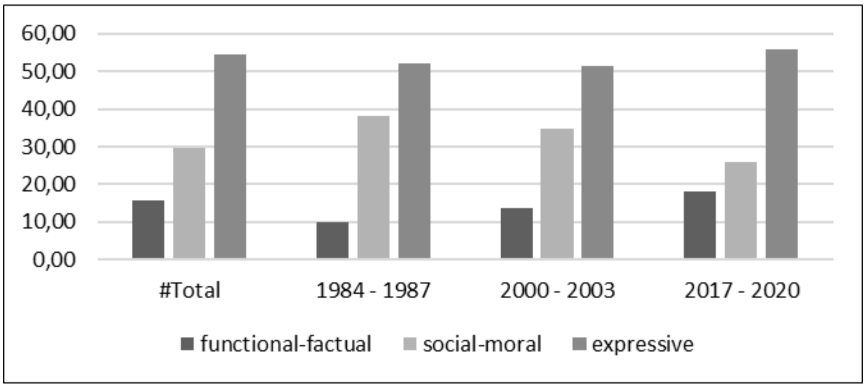

Figure 3. Problems & objectives of the organization (Cluster 1: 1984-2020)

The evaluation of Cluster 2 (see Figure 4) over the last 20 years shows a similar picture: Overall, 46.64% of the projects were expressive in nature, and the other dimensions, functional-factual (23.91%) and social-moral (29.46%) are significantly underrepresented. It is striking that the expressive orientation – after a downturn between 2006 to 2015 – has once again clearly (and significantly) gained importance in the last five years.

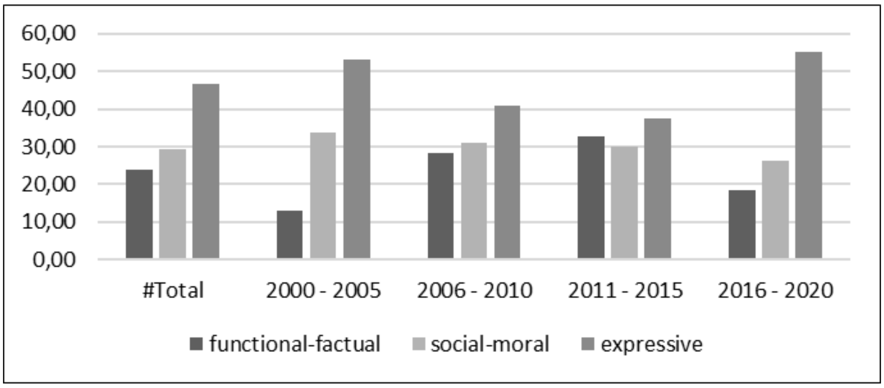

Figure 4. Problems & objectives of the organization (Cluster 2: 2000-2020)

This can mean that PR acts with a massive orientation to expressive problems via reference variables, such as increasing awareness, sympathy, trust, and image, and strives for potentials concerning central positioning characteristics. Functional and factual problems (e.g., quality, innovation, business processes, etc.) and social and moral problems (e.g., assumption of responsibility, social orientation, etc.) remain underrepresented, even over time.

Considering, together with the results, that the dominant organizational policy usually does not generate any news value whatsoever, the staging and expressive presentation of the organization's positions and qualities can be better understood as the decisive goal of PR activities. In 82.03% of the projects, the organization or the organization's products remain unchanged, and in just roundabout 10% each, the PR project serves to communicate a new or changed company or product. These characteristics are unchanged in magnitude and distribution over time in Cluster 1 and Cluster 2. The results are, therefore, only shown with a graph from Cluster 1 (see Figure 5).

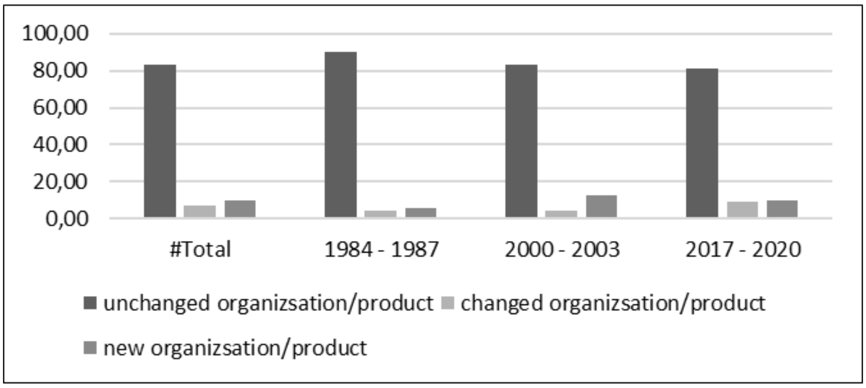

Figure 5. Organizational policy (Cluster 1: 1984-2020)

Over the entire analysis period, 58.94% of the PR initiatives start within the organization itself, i.e., internally. In other words, in almost two-thirds of all cases, the PR project is launched without any explicit reference to external developments or any discernible direct pressure from environmental developments. Conversely, 41.06% of PR projects can be classified as reactions to the environment (externally). Here, companies react to external expectations that were either directly addressed to them (e.g., crisis, registering claims of specific stakeholders) or to general expectations, trends, and problems of the environment (e.g., general sustainability trend, gender gap ...). Again, the same results emerge when looking at the period in Cluster 2. The slight fluctuations in the results are in a non-significant range in each case (see Figure 6).

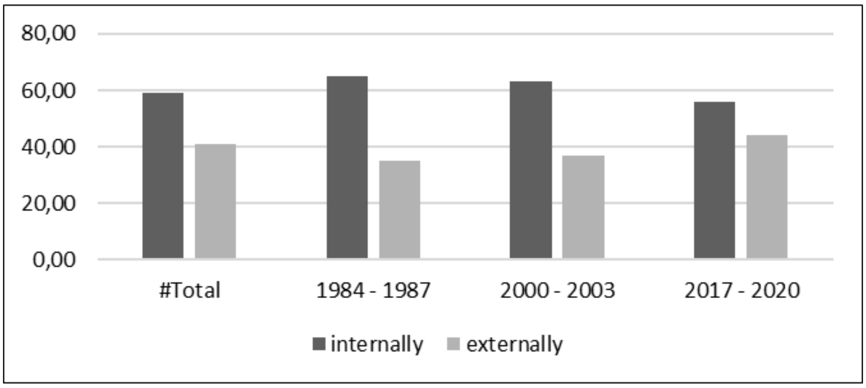

Figure 6. Main trigger of problems (Cluster 1: 1984-2020)

This finding, in combination with the results of the organizational policy PR projects are based on, presented above, can be seen as a strong indicator that PR is more internally focused and less externally oriented - an approach that suggests an understanding of PR as a buffering function rather than as a bridging function.

This impression strengthens when looking at the dominant direction of action. As an outcome of our frequency analysis, we identified the direction of impact, which PR professionals mainly rely on. Management is effective in two directions: On the one hand, organizations try to exert an intentional influence on the environment (outbound); on the other hand, organizations carry out adaptive activities to adjust to changing requirements of the environment (inbound). Our results show that in both Clusters, exemplified between 2000 to 2020 (Cluster 2), inbound-orientated activities only come into play to the extent of 6.6%. Outbound orientation is the dominant mode of PR, as 62.3% of all activities focus on this approach exclusively, and the rest 31.1% cover both directions (inbound and outbound). The development over the years shows that outbound is decreasing slightly but still is the first choice by far (see Figure 7).

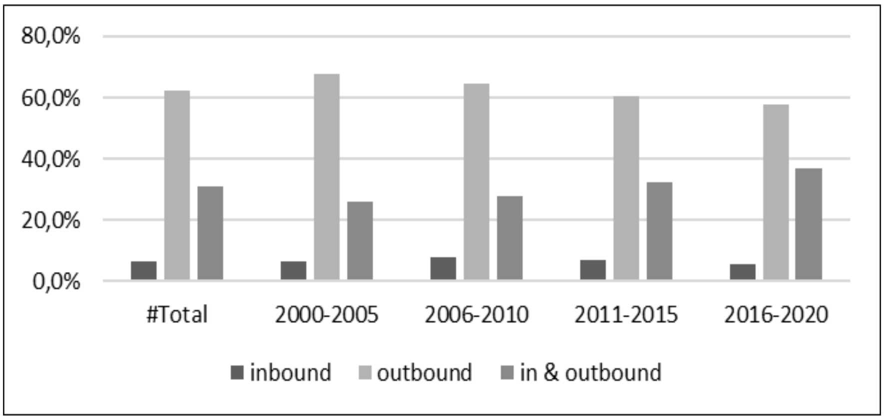

Figure 7. Direction of impact (Cluster 2: 2000-2020)

The following variable shows the actual mode of the communication instruments used. A distinction is made between one-way and two-way, i.e., instruments that are purely transmission-oriented and those that are capable of dialog. On the other hand, events were also selected as opportunities for direct interaction and social media, which can be used as a pure sending and an exchange instrument.

In the evaluation, we focus on Cluster 2 (see Figure 8), as social media has only become important in the last 15 years. Despite the hype of social media, however, it is surprising that the one-way orientation has only fallen by 9% and still dominates by far with 49.50%. Interestingly, the rise of social media has been more to the detriment of one-way than two-way instruments, which have only fallen by 2.9% over the same period. This can be interpreted either as PR professionals using social media predominantly as one-way instruments or as the hope for a development towards more exchange and dialogue being placed in social media.

However, this seems a fallacy because most users are still passive. Jakob Nielsen´s 90-9-1 rule describes this (2006), according to which 90% of Internet users are lurkers, i.e., pure observers who do not actively exchange information, 9% are intermittent contributors, which primarily refers to those who react to contributions from others, and only the remaining 1% are referred to as heavy contributors, who proactively create and share contributions.

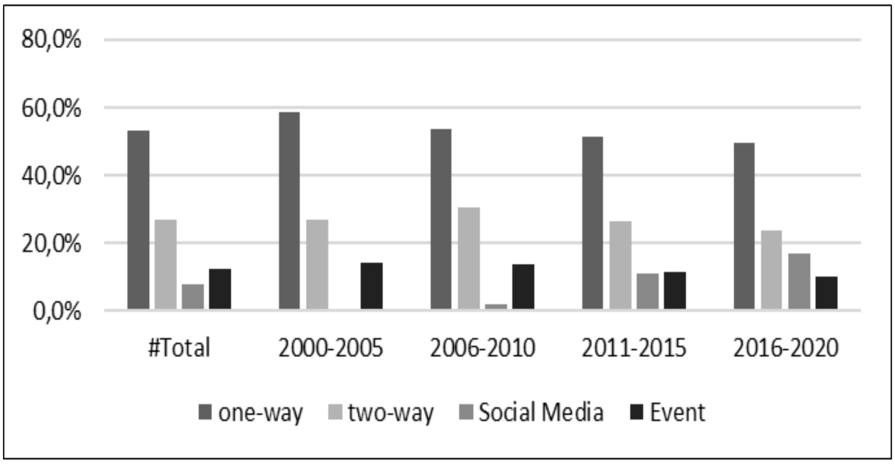

Figure 8. Communication mode (Cluster 2: 2000-2020)

Finally, the distribution of activities between the different media types should be explained. Shown here using the example of Cluster 1, which provides a better overview of the long-term development (see Figure 9). There are more or less substantial shifts in all three categories: Earned media - i.e., all activities aimed at generating editorial reporting - is still clearly dominant at 57.4%, but more than three decades ago, the proportion was even more pronounced (64.3%). Owned media has become much more important, with an increase from 12.6% at the beginning to 32.7% most recently. In addition to earned media activities, this trend was primarily at the expense of paid media, which fell from 23.0% to 10.0%. One explanation could be that thanks to the internet and social media, more channels and instruments are within organizations' own sphere of influence. This is linked to the hope of playing out content there more cheaply, directly, and unfiltered to their own communities.

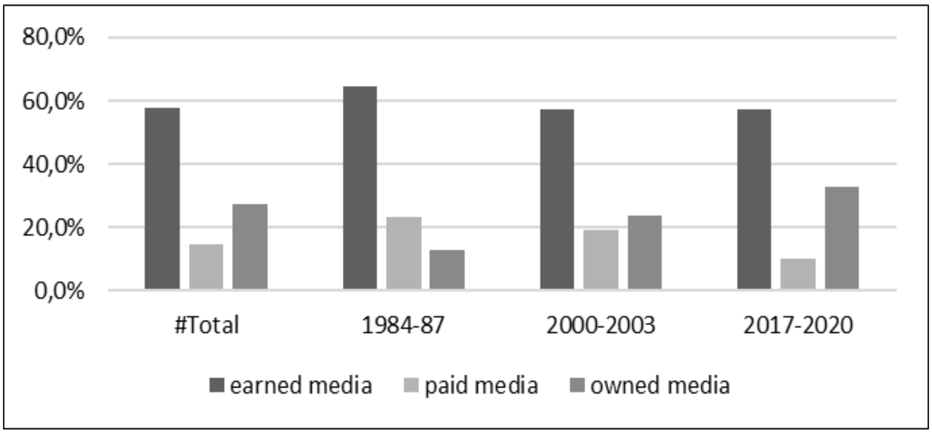

Figure 9. Types of media (Cluster 1: 1984-2020)

Conclusion

The central result of the empirical determination of the status quo is that PR is practiced as an organizational communication function for the implementation or achievement of particular interests, whereby the understanding of communication throughout the 37-year timeframe of the study continues to be unaltered instrumentally shaped.

PR, according to Grunig, serves less of a management function but acts predominantly in a symbolically interpretative mode as an announcer by exclusively propagating corporate policy decisions in an outbound and one-way communication mode and promoting their acceptance among the relevant stakeholders and publics. Thus, most problems are purely expressive, and their triggering moment is primarily identified in the organization itself - with minor environmental sensitivity. Buffering is more on the agenda than bridging.

In doing so, PR acts predominantly on a purely symbolic level and involves few substantial changes in the organization or the offer (product or service). Accordingly, PR is characterized by a solid instrumental orientation. Despite all professionalization efforts, only some significant changes in how PR is operated can be identified over the entire observation period of almost four decades (1984-2020).

Such an instrumental mode of communication does not seem suitable for supporting central goals such as legitimacy and acceptance, reputation, trust, and credibility or dialogue and understanding (see corresponding list of critical strategic issues for PR as a result of the latest European Communication Monitor: Zerfass et al., 2022), which, according to Elster (1987), are essentially by-products and therefore cannot be directly influenced (Dietrich, 2022). In self-perception, however, the situation is different. PR practitioners see a more urgent need for development in their management skills (78.1% of those surveyed see them as highly developed) than in their communication skills, which 91% of those surveyed consider to be perceived as highly developed (Zerfass et al., 2020). All in all, the actors involved seem to be aware of the PR industry's legitimacy problems but less about the underlying drivers.

This should at least partly serve as an explanation as to why still nothing ever happens, and PR professionals are wondering. But facing the challenges of an instantly faster-developing world full of disruptions, it´s high time to speed up PR professionalization and pay more attention to the performance side. It is about understanding the logic of digitally constituted environments and communities and providing ideas, strategies, and tools to deal with those opportunities and threats. Therefore, we urgently need to expand our know-how of the communicative process.

Critical Reflection and Limitations

We know this methodological approach has limitations, just like any other method. Most empirical PR science results are based on interviews and surveys. For example, the surveys carried out as part of the Communication Monitor (Zerfass, 2007), where annual or biannual data has been collected and published since 2007 (Europe), 2014 (Latin America), 2015 (Asia-Pacific), and 2018 (North America). These results are biased due to the uncontrollable composition of the sample and the possibility of multiple participation, which tends to influence the results, aside from the typical biases in reactive methods, such as socially desirable responses occurring both consciously and unconsciously. On the other hand, shadowing studies have been an excellent opportunity to look behind the scenes at what is actually happening since Mintzberg. Still, they are usually precise and highly complex to implement. The latest example is the study by Nothhaft (2011).

The charm of our non-reactive procedure, on the other hand, is that we are not subject to any distortions in the context of an interview or survey, and we can examine exactly those examples of which the PR actors themselves feel is excellent PR and thus observe the self-image of an entire industry. In addition to non-reactivity, further advantages are that the corpus is complete, multiple submissions are not possible, and a good database has been accumulated over a long period (since 1984).

The limiting factors are that the basic policy of the award and the composition of the jury could be a controlling factor and make the submission of some projects more likely than others. However, over the years, we have seen that the range of participating agencies and companies is vast (from large to small companies or agencies, high to low budgets, and participants from all sectors) and that the topics of the projects are very diverse. Furthermore, it could also be that the project description in the submission represents an alternative representation of the actual project process that the jury likes. This can undoubtedly be the case and is neither verifiable nor controllable. Still, it does not represent a severe problem for the study, as this adaptation takes place within the framework of the self-image of excellent PR and thus contributes to the research goal. Another objection to the method could be that the submission criteria favor specific projects. The categories are standardized and identical for all participants. Information on the Initial Situation, Dialogue groups, Definition of Objectives, Strategy, Implementation, and Evaluation must be provided. These are the generally accepted categories for the written representation of concepts (Baerns, 2005) and should not affect the results. It is also striking that the diversity of submissions is encouraged because some subcategories are advertised for specific subject areas, such as Corporate PR, CSR, Digital Communication, Internal PR and Employer Branding, PR for Products & services, and Special PR Projects.

In summary, we think that possible objections to the methodological approach are justified in a weakened form. However, this study should be understood as something other than an individual presentation but should be located in a larger context. Combined with the findings from other studies, which are also quoted here, we contribute to a supplemented and more differentiated presentation of the status quo of the PR industry and its development.

Scientific Ethics Declaration

The authors declare that the scientific ethical and legal responsibility of this article published in EPESS journal belongs to the authors.

Acknowledgements or Notes

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Corporate Knowledge Creation and Motivation

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Abstract: In the present era, the replication and reproduction of products have become commonplace. As a result, the competitive edge primarily hinges on the experiential insights and knowledge that companies possess. In the swiftly evolving landscape of today, continual adaptation and receptivity stand as indispensable factors for our business's triumph. Moreover, the cultivation of robust collaboration amongst employees is held in high esteem. Consequently, these factors underscore the mounting significance of efficient knowledge acquisition, sharing, and management within corporate governance. This has led to a compelling surge in the call for the application and refinement of knowledge management practices. Currently, I am engaged as a project engineer/manager within a company that specializes in the design and construction of solar power plants. This enterprise, established in 2019, is relatively nascent. Nevertheless, it has charted a steady growth trajectory, both in terms of workforce expansion and revenue augmentation. Year by year, it assumes a larger and more influential role within the market. My research will be centered within the confines of this company, leveraging interviews and surveys as my primary research tools. My aspiration is that this approach will furnish comprehensive insights into the pivotal queries at hand. The primary objective of my study will be to juxtapose the perspectives of managers and employees regarding the realm of knowledge management. I intend to delve into its significance, scrutinize the avenues for advancement, and dissect the impediments and perils that may impede its progress.

Keywords: Corporate knowledge, Knowledge flow, Competitive advantage.

Introduction

Nowadays, companies are placing increasing emphasis on mapping the internal knowledge, skills, and abilities available within their organization. After conducting this mapping, it becomes essential to ensure proper documentation to preserve the various types of knowledge. One way to achieve this is by establishing a competence center. The competence center facilitates efficient knowledge transfer, as it becomes evident which employees possess specific competencies and can be relied upon to solve particular tasks or problems (Dobos et al., 2022; Garai-Fodor et al., 2022a; 2022b; Mizser et al., 2022).

Many companies are also focusing on expanding their organizational knowledge base through knowledge creation. They do this to maintain their competitiveness and enhance organizational knowledge at individual and group levels. This approach allows companies to respond more effectively to the continuous changes in the business world, as their adaptability improves with the acquisition of diverse knowledge (Tóth – Csiszárik-Kocsir, 2022a; 2022b; 2023, Varga – Csiszárik-Kocsir, 2015). Moreover, from a cost-efficiency perspective, employee retention has gained significant importance for companies. They strive to motivate their employees through knowledge reinforcement, supporting training and development to encourage the sharing of existing knowledge and increase the company's knowledge capital. The flourishing field of knowledge management has led to positive developments, with several large companies already establishing the position of knowledge

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manager. The role of the knowledge manager includes mapping the available knowledge within the company and identifying any gaps in knowledge. They propose various solutions to address these knowledge gaps.

Knowledge-creating companies typically place a strong emphasis on innovation, generating new ideas, and responding quickly to market trends. These companies prioritize continuous development and seek to achieve a sustainable competitive advantage through innovation. They pay significant attention to creativity, idea generation, innovative thinking, and effective communication to ensure optimal functioning of the knowledge creation processes. The paper will briefly introduce various forms of knowledge creation, primarily focusing on organizational knowledge creation and employee motivation.

Literature Review

Knowledge creation is a fundamental process that plays a pivotal role in the success and competitiveness of modern organizations. It encompasses the generation, acquisition, sharing, and utilization of knowledge to enhance overall organizational capabilities and achieve strategic goals. (Gergely Róbert,2021) In today's rapidly changing business landscape, companies must continuously adapt to new challenges, technologies, and market demands. Emphasizing knowledge creation allows organizations to stay ahead of the curve and maintain a sustainable advantage in the industry.(Löblin et al., 2017) .(Baranyai et al., 2022) (Pervez et al., 2022).

One of the primary avenues for knowledge creation is through the acquisition of external knowledge, which involves obtaining valuable insights, best practices, and expertise from other companies or industry partners. While acquisitions can offer substantial benefits, such as immediate access to specialized knowledge, they also present challenges like high costs and potential integration difficulties. (Fodor, 2022) (Göböly & Földi, 2022) Ensuring that the acquired knowledge aligns with the company's strategic objectives and effectively merging it with existing internal knowledge are essential considerations for successful integration. (Csapó et al., 2018) (Garai-Fodor, 2023).

Another way companies pursue knowledge creation is by cultivating internal knowledge development. Establishing goal-oriented resources, such as dedicated research and development (R&D) departments, fosters a culture of innovation within the organization. These specialized teams focus on exploring emerging trends, conducting research, and experimenting with new ideas, ultimately leading to the generation of proprietary knowledge that can propel the company forward. (Tick, 2023; Garai-Fodor et al., 2022c; Varga – Csiszárik-Kocsir, 2015).

Furthermore, companies can harness the power of external expertise by engaging in leasing arrangements. By employing external consultants or experts for specific projects or time frames, organizations can access specialized knowledge without incurring the costs associated with acquisitions. (Földi & Medveczky,2015) (Csiszárik-Kocsír & Garai-Fodor, 2018) (Garai-Fodor et al., 2023) Leasing offers flexibility and cost-effectiveness, particularly for short-term knowledge requirements or specialized tasks like process optimization. (Szemere et al., 2021).

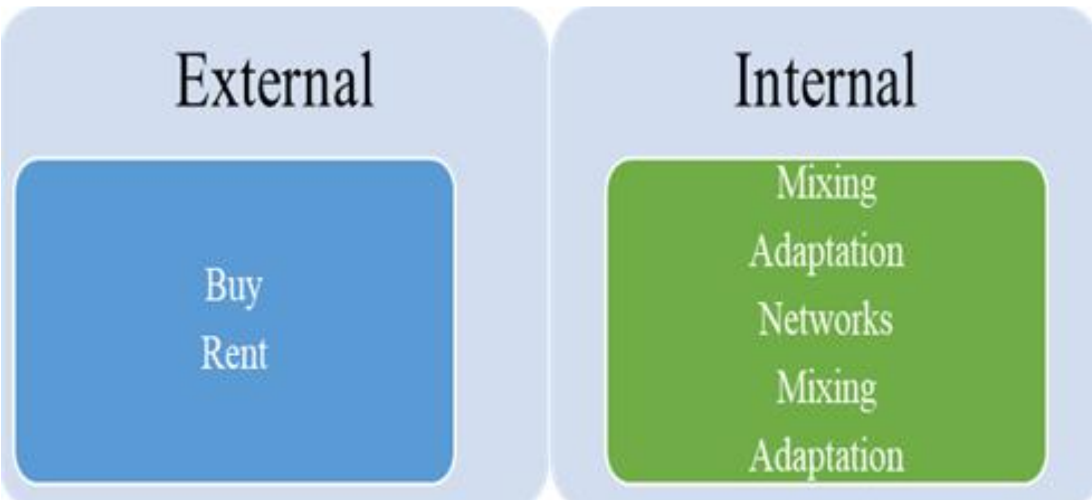

Figure 1. Opportunities for knowledge creation

Blending diverse-minded individuals through brainstorming sessions is another effective method of knowledge creation. Brainstorming allows participants to freely express their thoughts, experiences, and ideas. This collective creativity often leads to innovative solutions and the discovery of novel approaches to problem-solving. Brainstorming sessions are especially beneficial in project-based scenarios, where different perspectives can result in breakthroughs. (Csiszárik-Kocsír & Garai-Fodor, 2018; Garai-Fodor, 2022).

Adaptation is crucial for nurturing a learning-oriented workforce that is committed to the organization's growth. Encouraging employees to continuously develop their skills and competencies through training and professional development programs is essential. Individual incentives, such as performance-based rewards and career advancement opportunities, motivate employees to actively participate in knowledge creation efforts. (Fodor, 2022; Baranyai, 2022).

Additionally, networks within the organization can significantly contribute to knowledge creation. Self-organized groups, based on shared interests or expertise, facilitate meaningful discussions, knowledge sharing, and collaborative problem-solving. These networks create an environment of trust and open communication, enabling employees to tap into the collective wisdom of their peers. (Fodor et al., 2023; Foldi, 2015b).

In conclusion, knowledge creation is an ongoing process that empowers companies to stay competitive, adapt to change, and innovate. By utilizing various methods such as acquisition, leasing, internal development, blending, adaptation, and networks, organizations can build a strong knowledge base and drive growth and success in today's dynamic business environment. Embracing a culture of knowledge creation fosters continuous learning, problem-solving, and innovation, ultimately leading to long-term sustainability and prosperity. (Foldi, 2015a; Fodor, 2022; Karvalics, 2017).

Methods

During my qualitative research, we conducted thirty-six in-depth interviews with experienced leaders working in the construction industry within the private sector. Our aim was to explore the extent to which knowledge creation processes are considered in companies, whether they can identify the knowledge available within the organization, and whether they create knowledge maps. Additionally, we sought to understand why companies place importance on knowledge creation and what knowledge creation tools they employ.

The research's other essential objective was to examine the motivational systems in place at these companies and how they use motivational tools to encourage employees to pursue further education and training. Based on the interviews, it can be noted that the companies surveyed dedicate little effort to mapping the knowledge available within the organization, and they do not create knowledge maps. The most prevalent methods of knowledge creation observed were blending and adaptation. Knowledge creation and education are crucial tools that enable employees to develop their skills and expertise, making them more confident and effective in their work. This, in turn, can significantly contribute to the company's success and performance.

Results

According to the interviewed leaders, providing educational opportunities has two main benefits. Firstly, it promotes employees' professional development and enhances their job satisfaction. Secondly, it benefits the company as a whole, as it ensures a workforce with improved skills and knowledge. Various methods of knowledge creation were found within these companies, such as internal training, online educational opportunities, mentoring, and participation in professional conferences. However, the surveyed companies did not prioritize the exploration of available knowledge or identifying knowledge gaps, leading to difficulties in evaluating areas that require improvement. Addressing these knowledge gaps through educational opportunities for employees could prove beneficial.

The advantages of corporate knowledge creation, as identified by the interviewed leaders, include gaining a competitive edge, staying up-to-date with the latest technologies and procedures in the industry, improving productivity, and enhancing business processes. The relationship between employee motivation and knowledge creation was evident in the research. The surveyed companies have been using performance evaluation systems, including feedback-based evaluations and performance-based financial incentives, for several years. Motivating employees is not only crucial for their current work but also impacts their long-term career within the company.

To increase job satisfaction, companies should focus on improving the work environment, providing inflation-adjusted salaries, offering career advancement opportunities within the organization, supporting professional development, and improving work quality. Additionally, involving employees in decision-making, accepting feedback and constructive criticism, and supporting work-life balance can contribute to increased job satisfaction.

Satisfied employees can significantly contribute to the company's long-term success and competitiveness. Employee satisfaction impacts not only their relationship with the company but also business outcomes and the company's long-term profitability. The research showed that various factors can influence employee motivation, and what works as a motivational tool for one employee may not be effective for another. Some effective motivational tools observed in the surveyed companies include:

Rewards: Recognition and financial incentives have a strong motivating effect on many employees. Bonuses, premiums, rewards, gifts, and discounts are examples of such incentives.

Career development opportunities: Promotion prospects and support for training and education, along with new challenges and participation in different projects, can be motivating for employees as it allows them to develop and advance their careers.

Flexibility: Offering work conditions that allow individuals to balance their personal and professional lives. Examples include flexible working hours, remote work options, and extended periods of leave.

Positive work environment: A positive and safe work environment generally leads to happier and more motivated employees. A positive work environment allows employees to work together more effectively, support each other's work, and collaborate in solving various problems.

Goal-setting: Goals and performance indicators allow employees to improve and set specific and measurable objectives to focus on and strive for. Clearly formulated and achievable goals have a clear motivating effect on employees.

Interesting and varied job roles: Offering varied work tasks can increase the motivation of younger employees. New projects and tasks provide opportunities for individuals to face challenges and learn new things.

In conclusion, knowledge creation plays a vital role in the competitiveness and success of organizations. Companies must be attentive to mapping the knowledge available within their organization and creating knowledge maps. By employing diverse knowledge creation methods, organizations can foster a culture of innovation and learning. The research highlighted the importance of motivating employees through various tools, as satisfied and motivated employees can significantly contribute to a company's long-term success. Companies should consider implementing a mix of motivating factors tailored to the specific needs and preferences of their employees. Ultimately, by emphasizing knowledge creation and employee motivation, organizations can strengthen their position in the market and achieve sustainable growth and success.

Conclusion

To address the issue of knowledge creation processes, it is essential for companies to recognize the potential value of their internal knowledge assets and leverage them effectively. Implementing a knowledge-sharing culture and creating platforms for employees to share their expertise and experiences can significantly contribute to knowledge creation and dissemination throughout the organization. This can be achieved through regular knowledge-sharing meetings, workshops, or even online collaboration tools where employees can exchange ideas and best practices.

Additionally, establishing a formal knowledge mapping system can help companies identify and document the expertise and skills possessed by their employees. By mapping the knowledge landscape, organizations can better understand the distribution of knowledge and identify areas where skill gaps may exist. This knowledge mapping process can also aid in strategic workforce planning, talent development, and succession planning, as it allows companies to identify potential leaders and subject matter experts within their ranks.

Furthermore, embracing technological advancements and investing in e-learning platforms and digital training resources can provide employees with convenient and flexible learning opportunities. Virtual training sessions, webinars, and online courses can cater to individual learning preferences and enable employees to acquire new knowledge at their own pace.

To enhance employee motivation for further training, companies should tailor their incentives and rewards to align with individual preferences and career aspirations. While some employees may be driven by financial incentives, others may be motivated by recognition, career advancement opportunities, or the chance to work on exciting and challenging projects. Providing a diverse range of incentives that cater to different motivational factors can lead to higher engagement and participation in training programs.

Moreover, fostering a positive work environment that values continuous learning and encourages open communication can play a crucial role in motivating employees to seek further training. Recognizing and celebrating individual and team achievements, as well as promoting a supportive and collaborative culture, can create a sense of belonging and loyalty among employees, driving them to invest in their professional development.

In conclusion, knowledge creation and employee motivation for further training are critical factors that can significantly impact a company's success and competitive advantage. By prioritizing knowledge management, implementing effective knowledge creation processes, and offering tailored incentives for professional growth, companies can foster a culture of continuous learning and innovation. Empowering employees to acquire new skills and knowledge not only benefits their individual growth but also contributes to the overall success and sustainability of the organization.

Scientific Ethics Declaration

The authors declare that the scientific ethical and legal responsibility of this article published in EPESS journal belongs to the author.

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Black Market Exchange Rate and Macroeconomic Performance in Algeria: What Impact?

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Abstract: Excessive control on foreign exchange market undertaken by Algerian government for nearly four decades has led to black market for foreign currencies. As a consequence, two exchange rates (official and black) coexist and operate simultaneously. Despite its negative impact on the Algerian economy, black market exchange rate has not, so far, attracted attention of researchers. The aim of this paper is twofold. First, it attempts to highlight the determinants of the black market exchange rate premium in Algeria over the period 1980- 2016. Second, the impact of such premium on Algerian macroeconomic performance is assessed by focusing on the main macroeconomic indicators, these are namely; economic growth, inflation, foreign direct investment and balance of payment. Our empirical results point out that variables such as money supply, terms of trade, economic growth and real exchange rate affect significantly the black market exchange rate premium. Furthermore, the results reveal a harmful effect of the black market exchange rate premium on the Algerian macroeconomic performance. This effect was captured by using Impulse response functions (IRF) which show the premium's negative shock on economic growth, foreign direct investment and balance of payment. Inflation was however, positively affected. The same effect was found when a variance analysis was introduced. According to the above mentioned results, this paper contributes to the existing literature on the black market for foreign currencies. As far as policy makers are concerned, the gap between the two rates should be narrowed by means of reducing the demand for foreign currencies or unifying the two rates. Finaly, the phenomenon of black market exchange rate has to be taken into account when drawing monetary and fiscal policies in Algeria.

Keywords : Black market exchange rate premium, Macroeconomic performance, Impulse response functions.

Introduction

Black markets for foreign currencies arise in less developed countries as a direct consequence of government execessive control on foreign exchange. The general consensus in the literature on the parallel exchange rate is its negative effects on macroeconomic performance of a country. According to Kiguel and O'Connel (1995), a black market exchange rate premium (the gap between official and black rate), means a market distortion, as it feeds back into the economy through illegal trade and prices. The authors conclude that large black rate premium has harmful effects on official exports and thus on growth. Moreover, the gap between the two rates causes foreign exchange activities and illicit trade which lead to capital flight and deviation of remittance flows from its official channels (Kiguel & O'Connel, 1995; Elbadawi, 1994).

Theoritically, black market for foreign currencies can be best explained and analyzed by three approaches, these are namely; real trade models, porfolio balance models and monetary models. According to real trade models, black market exchange rate is a direct consequence of a mismatch between demand and supply of foreign currencies. such disequilibrium is due to government heavy intervention in trade by means of

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tariffs and quotas, thing that creates an excess demand for foreign currency which in turn creates an intensive for black market for foreign currencies(Nowak, 1984). Models of real trade however, were criticized on the basis of their concentration only on black market itself neglecting therefore the interaction of this latter with other macroeconomic variables (Agenor, 1992).

The second approach ; the portfolio balance, developed by De Macedo (1987) and Dornbusch et al. (1983) shifts the emphasize to the role of foreign currency as an asset in portfolio composition. Advocates of this view argue that loss of confidence in the domestic money due inflation, taxes and low real interest rate stimulate the demand for foreign currency, as a hedge and store of value. The role of portfolio as a major cause of the black market emergence was cofirmed by studies of Degefe (1994) and Aron and Elbadawi (1992).

Black markets for foreign currencies, according to the monetary approach stem from high money growth Blejer (1978). Siddiki (2000) also argued that an excess money supply leads to inflationary pressures and thus depreciates the exchange rate which affects the demand for money and causes the black market rates and high demand for foreign currency. An excess money supply may also happen following an increase in interest rate which cause black markets for foreign currencies by the same manner. Given this introduction, the rest of this paper is structured as follows. Section 2 provides a brief profile of black market for foreign currencies in Algeria, section 3 reviews the literature on black market exchange rate. Section 4 describes the data, methodology and presents the empirical results while Section 5 summarizes the main findings, provides an economic interpretation and some policy recommendations.

A Profile of Black Market for Currencies in Algeria

After it independence, Algeria opted for a planned economy system that lasted almost for three decades. National currency (Algerian dinar) was subjected to a set of policies that had reflected the prevailing economic system characterized by a strict government control on foreign exchange. This control policy is seen as the major cause for the emergence of the black market for foreign currencies in the early seventies. Exchange controls in Algeria, though substantially reduced through the adoption of the structural adjustment program (S.A.P), still have its effects. This can be seen clearly from the volume of transactions carried out through the black market.

Supply of funds in this market generally comes from emigrants in France, retirement pensions and other pensions paid in foreign currency and tourist industry while demand originates mainly from individuals wishing to open bank accounts in foreign currency for visas purposes. As a result, a large part of foreign currency liquidity flowing through the black market is regularly held with banks in foreign currency accounts form. This is a positive aspect because it gives the banking system the opportunity to channel some Algerian foreign currency resources available from emigrants, who for obvious reasons prefer the informal market channel rather than the formal sector. Another significant portion of the currency however, flows on the parallel market, and is difficult to assess, goes to the benefit of importers of goods and services. These are a fringe engaged in importing prohibited goods or counterfeit, which generally strengthens the informal sector. Finally, the last part of the foreign exchange resources available to the informal sector, takes the form of capital flight. Indeed, many Algerians invest heavily in activities such as restaurants, hotels, services, or property outright in some countries such as France, Spain and Tunisia.

Two main phases can be distinguished in the history of black market for foreign currency in Algeria. The first one dates back to the seventies and a large part of the eighties, characterized by a strict exchange controls, shortages of all kinds and a total absence of effective and efficient banking system. The second and most crucial stage began with the adoption of the structural adjustment program in Algeria in 1994. The new procedures such as the liberalization of the national economy, the significant change in the liberalization of the convertibility of the dinar that Algeria has undertaken since then were justified as essential for economic development, trade facilitation and foreign investment encouragement. Given the above realities, the black market for currencies in Algeria has taken new dimensions, and therefore deserves more attention.

The purpose of this work is twofolds. First, we attempt to identify the main causes of the black market exchange rate premium in Algeria over the period 1980- 2016. Second, the impact of such premium on Algerian macroeconomic performance is assessed by focusing on the main macroeconomic indicators, these are namely; economic growth, inflation, foreign direct investment and balance of payment. This work is a contribution to the existing literature on the impact of black market exchange rate.

The impact of the black market exchange rate on the macroeconomic performance in Algeria is worth investigating for several reasons: First, compared with other countries, literature on this issue in Algeria is rather scarce. Second, the area of the black market exchange rate in Algeria is unexplored, so, no study on the effects of the black market exchange rate on the Algerian macroeconomic performance has published yet. Finally, the Statistics about black market exchange rate in Algeria bring out an active black market for currencies. The gap between the official exchange rate of the Algerian dinar against the euro and that observed on the black market has widened. The difference amounts today to 60% or even more. The foregoing discussion reveals the importance of black market exchange rate as an important determinant of the demand for money in Algeria.

Literature Review

Considerable attention has been devoted over the last few decades to the issue of black exchange markets from both researchers and policy makers. This is due to the detrimental effect that this phenomenon can have on macroeconomic performance in terms of high inflation rate, low economic growth and low export performance. The literature review on black market exchange rate is split into two subsections as follows:

Black Market Exchange Rate Determination

There have been a vast number of empirical studies that investigated the determinants of black market exchange rate. For example, Ebaidalla Mahjoub Ebaidalla(2017) investigated the determinants of parallel foreign exchange market and its effect on macroeconomic performance in Sudan. Using data for the period 1979-2014, his results show that the parallel exchange rate premium is significantly affected by policy variables such as, real exchange rate, trade openness and money supply. He also found that GDP growth, expected rate of devaluation, and foreign aid have a significant effect on the parallel exchange premium.

Degefa (2001) investigated the determinants of parallel foreign exchange market and its effect on macroeconomic performance in Ethiopia. Using the stock-flow model of Kiguel and O’Connel (1994) and annual time series data covering 1966–1996, his results show that real money balances, real effective exchange rate and inflow of aid have positive effect on parallel market premium in the long-run. Moreover, the terms of trade negatively affects the premium only in the short run. He also found that inflation is Granger-cause the parallel exchange rate premium.

Determinants of black market exchange rate premium have been also investigated by Aron and Elbadawi (1992) for the case of Zambia. They used a portfolio model and annual data over the period 1970-1987. They found that the interest parity differential and the change in the stock of real domestic money are the most significant factors affecting positively the parallel exchange rate premium. Their results also show that the term of trade and foreign aid grants have negative and significant effect on exchange rate premium.

The study of Elbadawi (1992) for the case of Sudan attributed the emergence of black market premium to mis-invoicing and smuggling of exports and imports, and diversion of remittances of expatriates to the black market for foreign exchange. He also found that real exchange depreciation has a significant negative effect on the premium in the both short and long run. Finally, the author pointed out that trade liberalization policy exerts negative and significant impact on the parallel market premium. Nkurunziza (2002) examined the factors that affecting parallel exchange rate premium in Burundi using annual time series data for the period 1970-1988. His results show that expected rate of devaluation, economic growth and trade policy are the most significant factors influencing parallel exchange rate premium.

In the same vein, Siddiki (2000) investigated the determinants of parallel market premium in India over the period 1965-1994. His findings reveal that the black market for foreign exchange is influenced significantly by the official exchange rate, trade liberalization, foreign reserves, and by the interest rate. Moreover, his results show that real per capita income, money supply and political instability do not have any significant effect on black exchange rate premium.

The Impact of Black Market Exchange Rate on Macroeconomic Performance

Studies that have considered the effects of black market exchange rate on macroeconomic performance though are few compared to those that have investigated for the causes of black market exchange rate, agree about the black market rate premium devastating impact on macroeconomic performance. The impact of black market rate premium was investigated for the first time by Elbadawi (1994) in Sudan. He argued that an increasing in parallel premium exerts negative impact on official exports and tax revenue from foreign trade, as well as a positive effect on capital flight. According to him, a rising premium and expanding black market for foreign exchange could have serious fiscal and commercial impact by squeezing the tax base in foreign trade transactions and by expanding the opportunities for large scale rent seeking activities. He also pointed out that a high premium aggravates the debt problem and foreign exchange constraint through its effects on capital flight. Finally, he found that exchange rate premium has a negative impact on the remittances sent by expatriates Sudanese working abroad.

Kiguel and O'Connel (1995) analyzed the phenomenon of black market exchange rate in eight developing countries: Argentina, Ghana, Mexico, Sudan, Tanzania, Turkey, Venezuela and Zambia. They found evidence of the damaging effects of the black market rate premium on macroeconomic performance in these countries. The same effect was revealed by Pinto (1988) in Sub Saharan Africa, Munoz (2008) for Zimbabwe and Degefa(2001) for the case of Ethiopia.

Ebaidallah Mahjoub Ebaidallah (2017), provided another evidence from Sudan about the impact of black market exchange rate premium on macroeconomic performance. Applying the ARDL technique for a set of annual data covering the period 1979-2014, he found that the parallel exchange rate premium is significantly affected by policy variables such as, real exchange rate, trade openness and money supply. His results also reveal that GDP growth, expected rate of devaluation, and foreign aid have a significant effect on the parallel exchange premium. Moreover, the results demonstrate that parallel premium has a detrimental impact on both economic growth and export performance.

Data, Methodology and Results

In order to achieve our objectives, this section will be divided two sub-sections. The first one deals with the determinants of the black market exchange rate premium while the second one will be allocated to the impact of the black rate premium on macroeconomic performance.

Black Market Exchange Rate Determination

As discussed in the literature review, many economic variables can cause the black markets for foreign currencies. Of the various models developed to single out the determinants of the parallel market premium for foreign exchange, the stock-flow model of Kiguel and O'Connel (1994) is adapted in this study for reasons of simplicity, more appropriateness for the Algerian case and for the availability of reliable data. The estimable econometric equation of black market premium could be expressed in the following form:

Of the various models developed to single out the determinants of the parallel market premium for foreign exchange, the stock-flow model of Kiguel and O'Connel (1994) is adapted

$$\boldsymbol{Z = B_0 + B_1\,REER + B_2\frac{M2}{TCE} + B_3\,TOT + B_4\,GDP + B_5\,IR + U_t} \qquad (\mathbf{1})$$

The above formula implies that the black market premium Z is explained by real effective exchange rate (REER), real GDP, the ration money supply M2 to nominal exchange rate, terms of trade and international reserves. This study is based on annual time series data covering 1980-2016. According to theoretical and empirical evidence, the coefficient of real official exchange rate is expected to be positive. Coefficients of real GDP, ratio of M2 to nominal exchange rate (M2/TCE) and that of terms of trade are all expected to be negative.

The ARDL Estimation Technique

Equation (1) will be estimated using a cointegration ARDL bounds testing approach developed by Pesaran (1997), Pesaran and Shin (1999) and Pesaran et al. (2001). This method has many advantages over the traditional approaches of cointegration such as, Engle and Granger (1987), Johanson and Juselius (1990) and Phillips and Hansen (1990).

First, the bound testing (ARDL) technique is more appropriate for small sample studies. Second, the bound testing procedure is simple compared to other multivariate cointegration techniques such as, Johansen and Juselius; thus, it allows cointegration relationship to be estimated by OLS once the lag order of the model is identified. Third, unlike Johansen- Juselius approach, the bounds testing (ARDL) technique does not require a pre-testing of the variables used in the analysis for unit roots. Therefore, its applicable irrespective of whether the underlying regressors are purely *I(0)*, purely *I(1)*, or a mixture of both. Fourth, ARDL approach also is suitable for the data that characterized by structural breaks. Finally, the traditional cointegration technique may also suffer from the problems of endogeneity while ARDL method can distinguish dependent and explanatory variables.

ARDL method yields consistent and robust results because it allows describing the existence of an equilibrium-relationship in terms of long-run and short-run dynamics without losing long-run information (Pesaran et al., 2001). Thus, this study tests the existence of the long-run relationship (cointegration) using bound testing (ARDL) technique for cointegration. Following Pesaran and Pesaran (1997), Pesaran and Shin (1999) and Pesaran and Smith (2001), the unrestricted error-correction version of ARDL framework for equation (1) can be written as follows:

$$\Delta y_t = \alpha + \sum_{i=1}^{n} \gamma_i \, \Delta Y_{t-i} + \sum_{i=1}^{n} \beta_i \, \Delta X_{t-i} + \lambda_1 \, Y_{t-1} + \lambda_2 \, X_{t-1} + \varepsilon_t \dots \dots \dots (2)$$

The first part in equation (2) with the summation signs represents the error correction dynamics while the second part (with λs) corresponds to the long run relationship. According to Pesaran and Pesaran (1997), there are two steps for implementing the *ARDL* approach to cointegration procedure. First, we test the existence of the long run relationship between the variables in the system using bound cointegration test. Precisely, the null hypothesis of having no integration or long run relationship among variables in the system, $H_0: \delta_1 = \delta_2 = \delta_3 = \delta_4 = 0$ is tested against the alternative hypothesis $H_1: \delta_1 \neq 0, \delta_2 \neq 0, \delta_3 \neq 0, \delta_4 \neq 0$. by judging from the F-statistics.

Since the distribution of this F- statistics is non-standard regardless of whether the variables in the system are stationary or non-stationary, we use the critical values of the F-statistics provided in Pesaran et al. (2001). Pesaran et al. (2001) tabulates two sets of critical values, the first one assumes all variables are *I(1)* and the second one assumes that they are all *I(0)*. According to Pesaran and Pesaran (1997) if the calculated F-statistics is higher than the appropriate upper bound of critical value, the null hypothesis is rejected, indicating cointegration. If the value of F-statistics falls below the appropriate lower bound, the null hypothesis cannot be rejected, supporting lack of cointegration. Finally, if the computed F-statistics lies within the lower and upper bounds, the result would be inconclusive.

After the existence of the cointegration between variables is confirmed, the second step is to estimate the long run coefficients and the error correction representation through *ARDL* approach to cointegration and the use of OLS. The long run coefficients are derived from the estimation of the second part of equation (2) with the level, whereas the short-run error correction estimators are estimated using the first difference of the first part of that equation. The lag order of *ARDL* specification is chosen using Akaike Information Criteria (*AIC*).

Empirical Results and Discussion

Prior to investigate the effect of parallel market exchange rate and its impact on macroeconomic performance, the analysis proceeds via testing the properties of time series using unit root and cointegration tests. First, the order of integration of all variables will be identified, using Augmented Dickey-Fuller (ADF) and Philips- Perron (PP) tests. Even though, ARDL approach does not necessitate a unit root test, but in the case of variables that integrated of order two (i.e, I(2)) the computed F- statistics provided by Pesaran et al. (2001) will be not valid, because the bounds test is designed on the assumption that the variables are I(0) or I(1). Therefore, we implemented the unit root test in the ARDL context to ensure that none of the variables are integrated of order more than I(1). The order of integration for each variable is tested using the Augmented Dickey-Fuller (ADF) and Phillips Perron (PP) tests. The results of the unit root test for each variable are reported in Table 1.

Table1. Unit root test results for all variables

Variables		Test PP	Test ADF	
	1st Diff	Level	1st Diff	Level
Z	10.35***	1.78	7.23***	0.91
REER	3.28***	1.60	5.23***	1.70
M2/TCE	-	2.70***	-	2.70***
TOT	7.50***	2.17	7.50***	2.52
GDP	8.58***	2.35	7.19***	1.71
IR		4.41***		4.41***
CB	6.14	1.69	5.32	1.61
INF	5.40	2.19	5.38	2.07
FDI	7.76	2.08	4.35	1.61
M2	4.43	1.26	4.47	1.60

Table 2. Statistical indicators for estimating Ardl model

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
Z(-1)	-0.567092	0.298195	-1.901749	0.1534
Z(-2)	-0.181595	0.337812	-0.537564	0.6282
Z(-3)	-2.079147	0.581671	-3.574436	0.0374
Z(-4)	-2.573535	0.718883	-3.579909	0.0373
TOT	-1.869015	0.328189	-5.694927	0.0107
TOT(-1)	0.464461	0.603333	0.769824	0.4975
TOT(-2)	0.876977	0.866400	1.012208	0.3860
TOT(-3)	-2.509796	0.874003	-2.871609	0.0640
TOT(-4)	-0.852169	0.342220	-2.490123	0.0885
IR	3.68^{E}-09	1.48^{E}-09	2.486749	0.0887
IR(-1)	-5.14^{E}-09	2.89^{E}-09	-1.778777	0.1733
IR(-2)	4.36^{E}-09	2.78^{E}-09	1.569051	0.2146
IR(-3)	3.27^{E}-09	2.50^{E}-09	1.311983	0.2809
IR(-4)	-3.98^{E}-09	1.66^{E}-09	-2.398962	0.0960
IRERE	4.575472	0.821498	5.569666	0.0114
IRERE(-1)	1.640416	1.640818	0.999755	0.3911
IRERE(-2)	-0.101185	1.154901	-0.087614	0.9357
IRERE(-3)	7.146520	2.797717	2.554411	0.0836
IRERE(-4)	-4.287018	1.303595	-3.288613	0.0461
M	-146.1462	40.32976	-3.623780	0.0362
M(-1)	-14.58577	19.49794	-0.748067	0.5087
M(-2)	60.87676	31.04872	1.960685	0.1448
M(-3)	-94.41208	40.07581	-2.355837	0.0998
M(-4)	22.56037	12.68287	1.778806	0.1733
GDP	-30.35133	8.132166	-3.732256	0.0335
GDP(-1)	-7.429622	3.129831	-2.373809	0.0982
GDP(-2)	4.214529	2.646514	1.592483	0.2095
GDP(-3)	-7.459823	2.369178	-3.148697	0.0513
GDP(-4)	-3.881435	2.022893	-1.918754	0.1508
C	-311.4041	232.2945	-1.340557	0.2725
R-squared	0.978423	Mean dependent var		37.54232
Adjusted R-squared	0.769850	S.D. dependent var		27.40944
S.E. of regression	13.14939	Akaike info criterion		7.410915
Sum squared resid	518.7197	Schwarz criterion		8.771376
Log likelihood	-92.28010			
F-statistic	4.691022	Durbin-Watson stat		2.971093
Prob(F-statistic)	0.113548			

According to the results in Table 1, most of the variables are non-stationary at level, except the ratio of M2/TCE and international reserves (IR) which are integrated of order I(0). When taking the variables in the first difference, the results show that all variables are I(1), by both Augmented Dickey-Fuller and Philips-Perron test. Therefore, we can conclude that the series are mixture of I(1) and I(0). This result represents a suitable rationale for using ARDL approach; since the conventional test of Johanson and Juselius (1990) requires that all variables must have the same order of integration.

After implementing the stationarity tests to ensure the order of integration of the variables, the next step in ARDL approach is to test for the existence of a long-run casual relationship between the variables using the bounds test approach developed by Peasran et al. (2001). Since the test is sensitive to the lag length, this latter is determined according to Akaike Information Criterion (AIC) and presented in Table 2 above.

According to table 2, the ideal number of lags is 4, thus Z can be written in the following form :

$$\boldsymbol{Z = f(REER_{t-j}\,, GDP_{t-j}\,, \left(M2/TCE\right)_{t-j}\,, TOT_{t-j}, IR_{t-j}). \quad j = 1, 2, 3, 4}$$

The next step within the ARDL approach is is to test for the existence of a long-run casual relationship between the variables using the bounds test approach developed by Peasran et al. (2001). The results of cointegration test are reported in Table 3.

Table 3. Cointegration test_ F bounds test

Test Statistic	Value	k
F-statistic	5.204794	5
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	2.26	3.35
5%	2.62	3.79
2.5%	2.96	4.18
1%	3.41	4.68

The result of bound tests in table 3 shows that the calculated F-statistics is statistically significant (i.e. higher than the upper bound) at 1% level of significance. This indicates that the null hypothesis of no cointegration between the variables is rejected. In other words, there is a long relationship between the black exchange rate, real effective exchange rate, economic growth, terms of trade and international reserves. Having the existence of a cointegration relationship between the variables in our model, the next step is to examine the determinants of parallel exchange rate in Algeria using ARDL approach for cointegration. To identify the factors that affecting parallel market for exchange rate we estimate equation (1) using ARDL method. First, the results of long-run ARDL model using the specification of (4, 4, 4, 4, 4), selected based on AIC, are reportedin Table 4 below:

Table 4. Results of estimated long run coefficients: black exchange rate premium

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TOT	-0.607611	0.183263	-3.315512	0.0452
IR	0.000000	0.000000	6.587101	0.0071
REER	1.401919	0.211402	6.631537	0.0070
M2/TCE	-26.823463	4.726987	-5.674537	0.0108
GDP	-7.015324	1.054797	-6.650875	0.0069
C	-48.646484	30.544548	-1.592640	0.2095

From long run coefficients reported in table 4, we can see clearly that all the mentioned variables have a significant impact on the black exchange premium in the long run.Therefore, the long run equation for black market determination in Algeria takes the form:

$$\boldsymbol{\begin{aligned} Z = & -48.6465 + 1.4019REER - 7.0153GDP \\ & - 26.8235M2/TCE - 0.6076TOT + 0.0000IR \end{aligned}}$$

As far as short-run dynamics are concerned, short-term elasticities (coefficients) are obtained based on the estimation of the ECM model under the ARDL methodology (4, 4, 4, 4, 4) and the Akaike Information Criteria as shown by table 5 below . The ECM results indicate that the coefficient of slowing down the error correction term shows the returnof the parallel exchange rate premium to its long-term equilibrium value with a 6.40% imbalance, ie, the delay in the return of the parallel exchange rate premium to its long-term equilibrium value, which reflects the exchange rate fluctuations in the market. Furtheremore, the determinants have significant effects on the black exchange rate premium, which varies in response (positive and negative) with different lag times.

Table **5**. Results of error correction representation of ARDL

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(Z(-1))	4.834277	1.206791	4.005894	0.0279
D(Z(-2))	4.652682	1.280117	3.634575	0.0359
D(Z(-3))	2.573535	0.718883	3.579909	0.0373
D(TOT)	-1.869015	0.328189	-5.694927	0.0107
D(TOT(-1))	-0.876977	0.866400	-1.012208	0.3860
D(TOT(-2))	2.509796	0.874003	2.871609	0.0640
D(TOT(-3))	0.852169	0.342220	2.490123	0.0885
D(IR)	0.000000	0.000000	2.486749	0.0887
D(IR(-1))	-0.000000	0.000000	-1.569051	0.2146
D(IR(-2))	-0.000000	0.000000	-1.311983	0.2809
D(IR(-3))	0.000000	0.000000	2.398962	0.0960
D(IRERE)	4.575472	0.821498	5.569666	0.0114
D(REER(-1))	0.101185	1.154901	0.087614	0.9357
D(REER (-2))	-7.146520	2.797717	-2.554411	0.0836
D(REER (-3))	4.287018	1.303595	3.288613	0.0461
D(M)	-146.146176	40.329763	-3.623780	0.0362
D(M(-1))	-60.876757	31.048717	-1.960685	0.1448
D(M(-2))	94.412080	40.075811	2.355837	0.0998
D(M(-3))	-22.560373	12.682874	-1.778806	0.1733
D(GDP)	-30.351330	8.132166	-3.732256	0.0335
D(GDP(-1))	-4.214529	2.646514	-1.592483	0.2095
D(GDP(-2))	7.459823	2.369178	3.148697	0.0513
D(GDP(-3))	3.881435	2.022893	1.918754	0.1508
CointEq(-1)	-6.401369	1.358787	-4.711091	0.0181

* ARDL(4,4,4,4,4) selected based on (AIC) : Dependent variable is black exchange rate premium

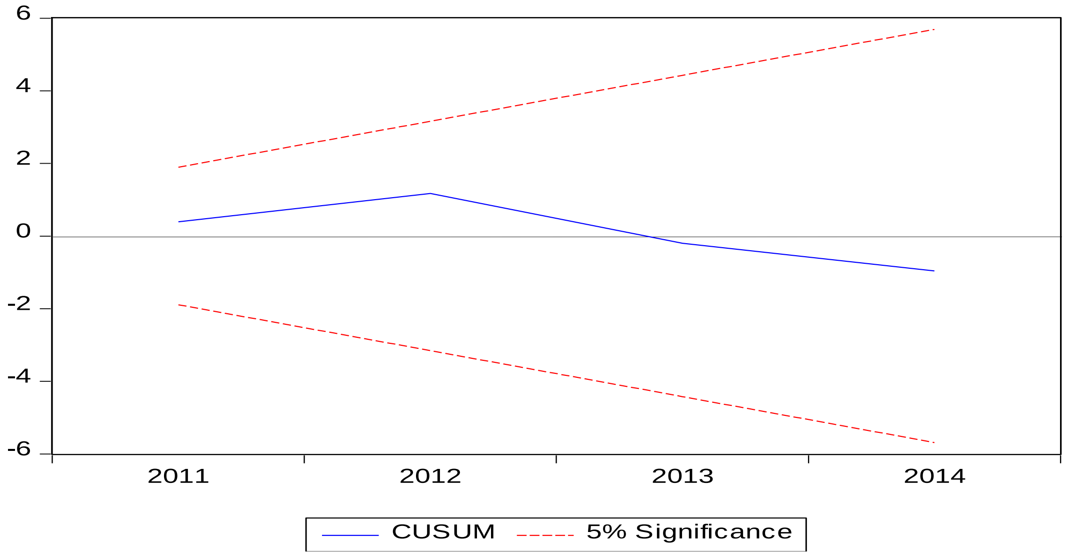
In order to make sure that the data used in this study are free of any structural changes, we perform the cumulative total of the CUSUM and the cumulative total of the CUSUM of Squares. These two tests are the most important tests in this field because it shows two important things: the existence of no structural change in the data and the long-term stability and consistency of parameters with short-term parameters. Many studies have shown that such tests are always associated with the ARDL methodology. The structural stability of the estimated coefficients of the error correction formula for the self-regression model of the distributed time lags is achieved if the CUSUM and CUSUM of Squares test patterns are within critical limits at 5%. In light of most of these studies, we applied the CUSUM and CUSUM of Squares tests proposed by Dublin Brown and Evans, (1975).

The Impact of Black Market Exchange Rate on Algerian Macroeconomic Performance

Over the past few decades, the issue of black exchange markets has gained considerable interest form researchers and politicians. This is because the huge gap between the black and official exchange rates has a negative impact on macroeconomic performance in terms of high inflation, low economic growth, Exports. After identifying the determinants of the black rate premium the next step is to assess the impact of this premium on some Algerian macroeconomic indicators, these are namely; real GDP, Inflation,FDI and commercial balance(CB). So, the the general equation that will be subject to the study is as follows:

$$GDP = C_1 + C_2 Z + C_3 INF + C_4 FDI + C_5 CB + \varepsilon_t$$

As for any econometric study, a stationarity test has to be done to see if the series can have a long- run relationship. This has already been done in table 1. Series in the equation above are not integrated of the same order which leads us to accept the null hypothesis; ie the existence of the unit roots and therefore, they are not stationary. Table 6 provides the results of the Johansen test for cointegration.



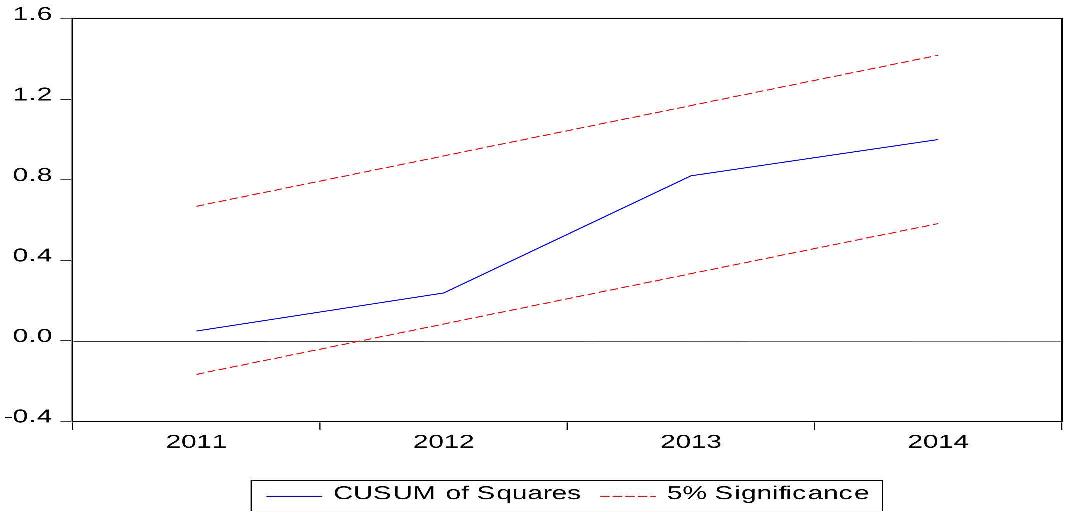


Figure1. Structural stability test for estimated Ardl model

Table 6. Johansen test for cointegration

Unrestricted cointegration rank test (Trace)				
Hypothesized		Trace	0.05	
No. Of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None	0.553995	50.76277	69.81889	0.6043
At most 1	0.334292	26.54004	47.85613	0.8711
At most 2	0.278784	14.33292	29.79707	0.8214
At most 3	0.136619	4.528414	15.49471	0.8567
At most 4	0.004039	0.121422	3.841466	0.7275

According to the results in table 6, the series in question can not have a long- run relationship, thus we will proceed to vector autoregression technique(VAR). Table 7 shows the estimate of the autorregressive model based on (LR. FPE. AIC. SC.HQ) criteria.

Table 7. Lag order in the model

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-433.8270	NA	3491605.	29.25513	29.48867	29.32984
1	-385.5211	77.28943*	758689.4*	27.70141*	29.10260*	28.14966*
2	-365.1663	25.78281	1203444.	28.01108	30.57995	28.83289

***** Indicates ideal lag order selected by the criterion

The results obtained in table 8 indicate that the value R-squared or the explanatory capacity of the model is equal to **0.47**. This indicates that there is a general and average linear trend of the series in question. The value of Durban Watson is equal to 1.90 thus, there is no error autocorrelation which means that the series are stationary at level.

Table 8. Results of estimated VAR short run relationship (OLS)

	GDP	Z	BP	INF	INVES
GDP(-1)	0.438281	-3.000164	0.186610	-0.125905	-0.071582
	(0.21093)	(3.01915)	(1.04492)	(0.47021)	(0.06523)
	[2.07786]	[-0.99371]	[0.17859]	[-0.26777]	[-1.09737]
GDP(-2)	-0.101976	2.098925	0.684300	-0.078619	0.050744
	(0.19958)	(2.85674)	(0.98872)	(0.44491)	(0.06172)
	[-0.51094]	[0.73473]	[0.69211]	[-0.17671]	[0.82215]
Z(-1)	-0.006595	0.006183	0.190340	0.026725	0.000547
	(0.01775)	(0.25409)	(0.08794)	(0.03957)	(0.00549)
	[-0.37150]	[0.02433]	[2.16446]	[0.67536]	[0.09960]
Z(-2)	-0.024335	0.099620	-0.108693	-0.006583	0.003135
	(0.01458)	(0.20868)	(0.07222)	(0.03250)	(0.00451)
	[-1.66916]	[0.47738]	[-1.50496]	[-0.20257]	[0.69540]
BP(-1)	-0.036782	0.636694	1.013779	0.138284	0.002696
	(0.04352)	(0.62299)	(0.21562)	(0.09703)	(0.01346)
	[-0.84507]	[1.02199]	[4.70175]	[1.42523]	[0.20030]
BP(-2)	0.027087	0.249379	-0.649655	-0.192104	0.003572
	(0.06765)	(0.96824)	(0.33511)	(0.15080)	(0.02092)
	[0.40043]	[0.25756]	[-1.93865]	[-1.27394]	[0.17074]
INF(-1)	-0.101096	0.122280	0.215757	1.113810	-0.035652
	(0.09392)	(1.34438)	(0.46529)	(0.20938)	(0.02905)
	[-1.07636]	[0.09096]	[0.46371]	[5.31968]	[-1.22744]
INF(-2)	0.212083	0.943508	-0.033579	-0.221546	-0.022830
	(0.11281)	(1.61468)	(0.55884)	(0.25147)	(0.03489)
	[1.88003]	[0.58433]	[-0.06009]	[-0.88099]	[-0.65442]
INVES(-1)	0.694600	-3.246679	2.652224	0.423289	0.325895
	(0.96099)	(13.7552)	(4.76066)	(2.14225)	(0.29719)
	[0.72280]	[-0.23603]	[0.55711]	[0.19759]	[1.09659]
INVES(-2)	0.943016	9.605197	3.696377	-1.475443	0.095908
	(0.83991)	(12.0221)	(4.16082)	(1.87233)	(0.25974)
	[1.12276]	[0.79896]	[0.88838]	[-0.78803]	[0.36924]
C	1.192681	14.82769	-7.755427	2.497652	0.718162
	(1.59293)	(22.8005)	(7.89123)	(3.55097)	(0.49262)
	[0.74873]	[0.65032]	[-0.98279]	[0.70337]	[1.45784]
R-squared	0.470544	0.321598	0.699372	0.761766	0.584992
Adj. R-squared	0.191882	-0.035455	0.541146	0.636379	0.366567
Sum sq. resids	65.46495	13412.28	1606.585	325.3188	6.260912
S.E. equation	1.856212	26.56896	9.195494	4.137879	0.574040
F-statistic	1.688587	0.900700	4.420096	6.075347	2.678226
Log likelihood	-54.27292	-134.1091	-102.2782	-78.32228	-19.06508
Akaike AIC	4.351528	9.673939	7.551879	5.954818	2.004339
Schwarz SC	4.865300	10.18771	8.065651	6.468591	2.518111
Mean dependent	3.098667	32.58235	4.627667	7.083606	0.732193
S.D. dependent	2.064859	26.11012	13.57494	6.862045	0.721260

Table 9 below presents the estimating equations. According to these equations, the regression coefficient of the black exchange rate is not significant for macroeconomic variables with a value of **(-0.024)** which indicates the negative impact of the parallel exchange rate variable on Algeria's economic growth in the short term. This reflects the reality of the Algerian dinar purchasing power .In addition transactions in the black market are not t subjected to tax and depriving thus, the public treasury of a significant source of support for the state budget.

This means that the loss is double for the banking system and for the state treasury. Thing that contributes to a slowdown in economic growth rates, which leads to imbalance in financial stability and negative effects on the main activities of the economy, which is consistent with the low GDP growth rate which reached the average of (-0.5%) in the eight-year period (1986-1993). The Algerian dinar also experienced a rise in the black market in the millennium years, where the black exchange rate reached 107.40 dinar per dollars in 2016 with the emergence of a growing difference between the value of official and informal exchange which has widened especially with the repercussions of the financial and economic crisis and scarcity of resources. All this coincided with the decline in economic growth rates in Algeria, which amounted to 3.7% in the same year.

Table 9. Estimating equations

Estimated equeations
GDP = 0.438281486034*GDP(-1) – 0.101975888533*GDP(-2) – 0.00659459887489*Z(-1) – 0.0243348853969*Z(-2) – 0.0367815706287*BP(-1) + 0.0270870517745*BP(-2) – 0.101095593109*INF(-1) + 0.2120826654*INF(-2) + 0.694599875759*INVES(-1) + 0.943015961839*INVES(-2) + 1.19268147283
INVES = - 0.0715824630775*GDP(-1) + 0.050744400596*GDP(-2) + 0.000546753693757*Z(-1) + 0.00313531578953*Z(-2) + 0.00269613063539*BP(-1) + 0.00357179796435*BP(-2) – 0.0356524610197*INF(-1) – 0.0228302600046*INF(-2) + 0.325894507746*INVES(-1) + 0.0959084186366*INVES(-2) + 0.71816206906
INF = - 0.125905431331*GDP(-1) – 0.0786188881259*GDP(-2) + 0.0267251519078*Z(-1) – 0.00658344447208*Z(-2) + 0.138283951105*BP(-1) – 0.192103736734*BP(-2) + 1.11380972371*INF(-1) – 0.221545912725*INF(-2) + 0.423288815387*INVES(-1) – 1.47544333726*INVES(-2) + 2.49765188649
BP = 0.186609686186*GDP(-1) + 0.68429981603*GDP(-2) + 0.190340354844*Z(-1) – 0.108693361691*Z(-2) + 1.01377910099*BP(-1) – 0.649655236738*BP(-2) + 0.215757460222*INF(-1) – 0.0335792062097*INF(-2) + 2.65222427165*INVES(-1) + 3.69637742466*INVES(-2) – 7.75542682148

Table 10 below summarizes the follwing points of causality :

- The parallel exchange rate premium affects the gross domestic product at a significant level of **5** percent by **0.02**. The existence of a parallel exchange rate leads to an imbalance in economic growth rates, which results in distortion of economic indicators in the form of lower estimates from reality or exaggerated estimates of economic growth leading to the failure of economic stability policies.
- We note that the ratio of the causal link from inflation to economic growth reached 0.08. This results is logical according to economic theory. The rise in prices will lead directly to the low level of economic growth. This can be due to the negative effects of inflation on the efficiency of the performance of macroeconomic mechanisms. Failure to achieve monetary stability results in an increase in inflation rates which negatively affect the performance of all economic activities. This reduces the economic growth rates due to the low efficiency of the distribution of resources through changes in the relative prices of these resources. In addition, inflation in the society raises the uncertainty of economic conditions in the future. This affects the investment decisions. Therefore, the volume of investment is reduced and the decisions of the savers are also affected when the price increase is expected due to the decrease in the real value of the savers. The low purchasing power of local currencies and erosion of the real value of the entry of individuals, which prompts them to demand better wages and raise salaries, which negatively affects economic growth.
- The ratio of the causal relationship of the balance of payments to the economic growth was **0.04**, as Algeria's exports are characterized by total control of hydrocarbons, which represent the main factor that controls the major balances. All the development strategies adopted were based on their financial structure on the resources derived from the export of hydrocarbons and the resulting fluctuations in the petroleum market In addition, fuel sales are priced in US dollars, reflecting the degree to which the Algerian economy is linked to this currency and its volatility.

Table 10. Causality test

Explained Variables / Explanatory Variables	GDP	INF	INVES	Z	BP
GDP		*0.53*	*0.77*	*0.50*	*0.20*
INF	*0 .08*		*0.26*	*0.77*	*0.82*
INVES	*0.24*	*0.26*		*0.65*	*0.56*
Z	*0.02*	*0.43*	*0.58*		*0.53*
BP	*0.04*	*0.03*	*0.07*	*0.36*	

The estimated model achieves conditions of stability as shown by figure 2 .All coefficients are smaller than one (all roots fall within the unit circle) which means that the model does not have the problem of errors autocorrelation or variance instability.

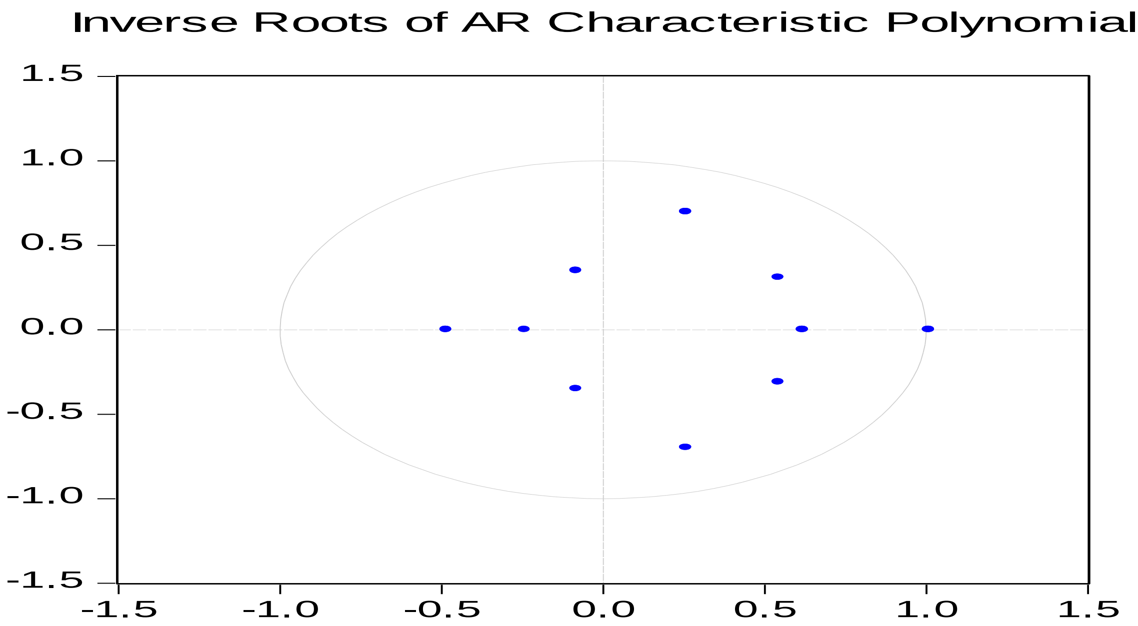


Figure 2. Model stability

The above empirical analysis has investigated the impact of parallel exchange rate premium on macroeconomic indicators. for the purpose of further inference and robustness check for our above results; alternatively, we investigate the impact of exchange rate premium using multivariate analysis by implementing the variance decompositions and impulse response function based on unrestricted Vector Autoregression (VAR) model.

First,t the results of variance decomposition analysis are presented in Table 11. We note that :

- The parallel exchange rate premium is considered as the most important internal variable in the interpretation of the variation of the gross domestic product in the short term, it was estimated at 8.26 percent after the foreign direct investment. The rise in the money supply in the parallel market led the government to seek through its programs to find all the means to attract these funds and return them to the banking sector and thus exploit them in financing the economy, especially after the collapse of oil prices and the low income of the Algerian state and the search for financing alternatives for their development programs.
- The parallel exchange rate premium ranked first in the interpretation of inflation variance and the third in the interpretation of both FDI and balance of payments. It rose gradually and reached a maximum of 7.69% and 9.51%.

Table 11. Variance analysis

Variance Decomposition of GDP :						
Period	S.E.	GDP	Z	BP	INF	INVES
1	1.856212	100.0000	0.000000	0.000000	0.000000	0.000000
2	2.185764	92.32360	0.307079	0.859561	3.526225	2.983535
3	2.418271	75.92575	8.268776	1.178105	2.916151	11.71122
4	2.482330	72.06004	8.224889	1.215142	3.219692	15.28023
5	2.494741	71.72129	8.145130	1.536530	3.468133	15.12891
6	2.512384	70.72158	8.031870	1.637483	4.543222	15.06584
7	2.531221	69.85796	7.960741	1.616316	5.720356	14.84463
8	2.550970	69.03904	8.039387	1.592037	6.628991	14.70055
9	2.568800	68.24208	8.179893	1.579514	7.335633	14.66288
10	2.585063	67.46546	8.278714	1.630760	8.013620	14.61145
Variance Decomposition of Z :						

Period	S.E.	GDP	Z	BP	INF	INVES
1	26.56896	1.028371	98.97163	0.000000	0.000000	0.000000
2	28.01716	6.966108	89.53211	3.064462	0.040585	0.396733
3	31.13235	5.657857	76.02708	12.08412	3.868237	2.362709
4	32.92926	5.325796	70.28243	16.65215	4.911085	2.828533
5	33.98983	4.998974	67.17332	17.05594	6.054600	4.717165
6	34.55177	4.913717	65.85774	16.50654	6.490454	6.231551
7	34.76196	4.920540	65.23827	16.76263	6.442062	6.636500
8	34.90388	4.924929	64.70895	17.28728	6.485752	6.593086
9	35.04267	4.901291	64.25874	17.45691	6.756371	6.626690
10	35.14878	4.874662	63.98584	17.37270	7.037638	6.729159
Variance Decomposition of BP :						
Period	S.E.	GDP	Z	BP	INF	INVES
1	9.195494	2.955974	12.52654	84.51748	0.000000	0.000000
2	13.13542	1.751172	9.019507	87.69078	0.334059	1.204484
3	14.83505	1.374147	8.387692	82.17585	0.814475	7.247833
4	15.93532	2.067503	8.513086	72.04154	1.063797	16.31407
5	16.51261	2.857065	8.130460	67.78258	1.224026	20.00587
6	17.01241	3.361352	7.782560	65.66672	3.480726	19.70865
7	17.60872	3.563327	8.015012	62.19067	7.834576	18.39641
8	18.21895	3.592482	8.666714	58.12404	12.34176	17.27500
9	18.73961	3.593124	9.253624	55.22508	15.59208	16.33609
10	19.17534	3.616021	9.518665	53.62167	17.53007	15.71357
Variance Decomposition of INF :						
Period	S.E.	GDP	Z	BP	INF	INVES
1	4.137879	3.560540	9.112960	0.038175	87.28832	0.000000
2	6.421567	5.086226	10.66135	3.167311	80.95674	0.128369
3	8.129433	7.020162	13.89495	3.131843	75.67017	0.282874
4	9.362060	7.122506	15.76236	2.365412	74.31452	0.435208
5	10.34406	6.669066	16.54329	2.942731	73.14469	0.700223
6	11.18592	6.369225	16.17790	4.611386	71.47496	1.366527
7	11.95628	6.313378	15.37086	6.075596	69.66145	2.578721
8	12.69695	6.480829	14.52916	6.737267	68.09683	4.155915
9	13.44234	6.752619	13.81549	6.757420	67.05803	5.616448
10	14.21874	7.010188	13.28858	6.480284	66.59599	6.624954
Variance Decomposition of INVES :						
Period	S.E.	GDP	Z	BP	INF	INVES
1	0.574040	1.549566	2.246229	6.305096	0.242079	89.65703
2	0.628538	3.101461	1.903222	6.595101	5.674320	82.72590
3	0.691026	3.359677	1.574782	6.487586	18.87740	69.70055
4	0.789219	4.523403	1.884207	5.250657	34.77496	53.56677
5	0.892212	5.898950	3.924627	4.378037	42.99170	42.80669
6	0.985412	6.641292	5.644848	4.242686	46.71397	36.75721
7	1.070755	6.749821	6.736325	4.737593	48.93641	32.83985
8	1.152254	6.742179	7.264924	5.415939	50.58673	29.99023
9	1.233111	6.815704	7.512584	5.862026	52.02852	27.78116
10	1.315465	6.982821	7.697516	5.984395	53.34737	25.98790
Cholesky Ordering : GDP Z BP INF INVES						

Second, the results of impulse response functions of each macroeconomic variable to one standard deviation in parallel exchange rate premium are presented in Figure 3 : the following points are worth to be noted :

- The response of the gross domestic product to the shocks of the black exchange rate differential is almost negative throughout the study period and at close rates. The presence of two exchange rates, has negative repercussions on the national economy. The existence of a huge monetary mass outside the official channels and the widening phenomenon of currency exchange (dollarization) and widening gap between the black exchange rate and the official price increases the likelihood of a devaluation of the national currency and the negative effects such as inflation and affects Algeria's budgets during the study periods.

- The FDI response to shocks of the parallel exchange rate premium was negative throughout the study period. The black exchange rate in the economy leads to the creation of a negative financial and economic environment that weakens the climate of foreign investment and encourages the phenomenon of capital flight abroad through informal and non-banking channels and thus the phenomenon of parallel economy and exacerbate the dilemma of tax evasion because traders dealing in these markets do not have records Trade and are not subject to the tax system and therefore do not pay taxes on their profits, causing the state to lose
- access to additional public revenues. Foreign direct investment flows have been declining since 2012, which coincided with the rise in the black exchange rate, which jumped to 77.53 dinars per dollar for the year 2011, where it was 72.93 dinars per dollar. In 2008, there was a significant increase in the percentage of foreign direct investments compared to 2007, which increased by 56.07%. This is in direct proportion to the decrease in the black exchange rate which reached 64.58 dinars per dollar compared to 2007. The pace of global investments was also reduced due to the financial crisis. The total inflow of imports reached 18% in 2010, reflecting the delayed impact of international investment flows towards Algeria, which coincided with the parallel exchange rate of 74.83 dinars per dollar in 2010.
- The black market for foreign currencies is popular because of smuggling in currencies, which are sold in the parallel market at a price much higher than the official price, which decreases the value of the Algerian dinar. The Algerian dinar is and marginalize against foreign currencies in economic transactions as reflected in the high cost of importing goods on suppliers who buy foreign currency from the black market and bear the degree of risk and all reflected on the high level of general prices of goods received by the consumer.

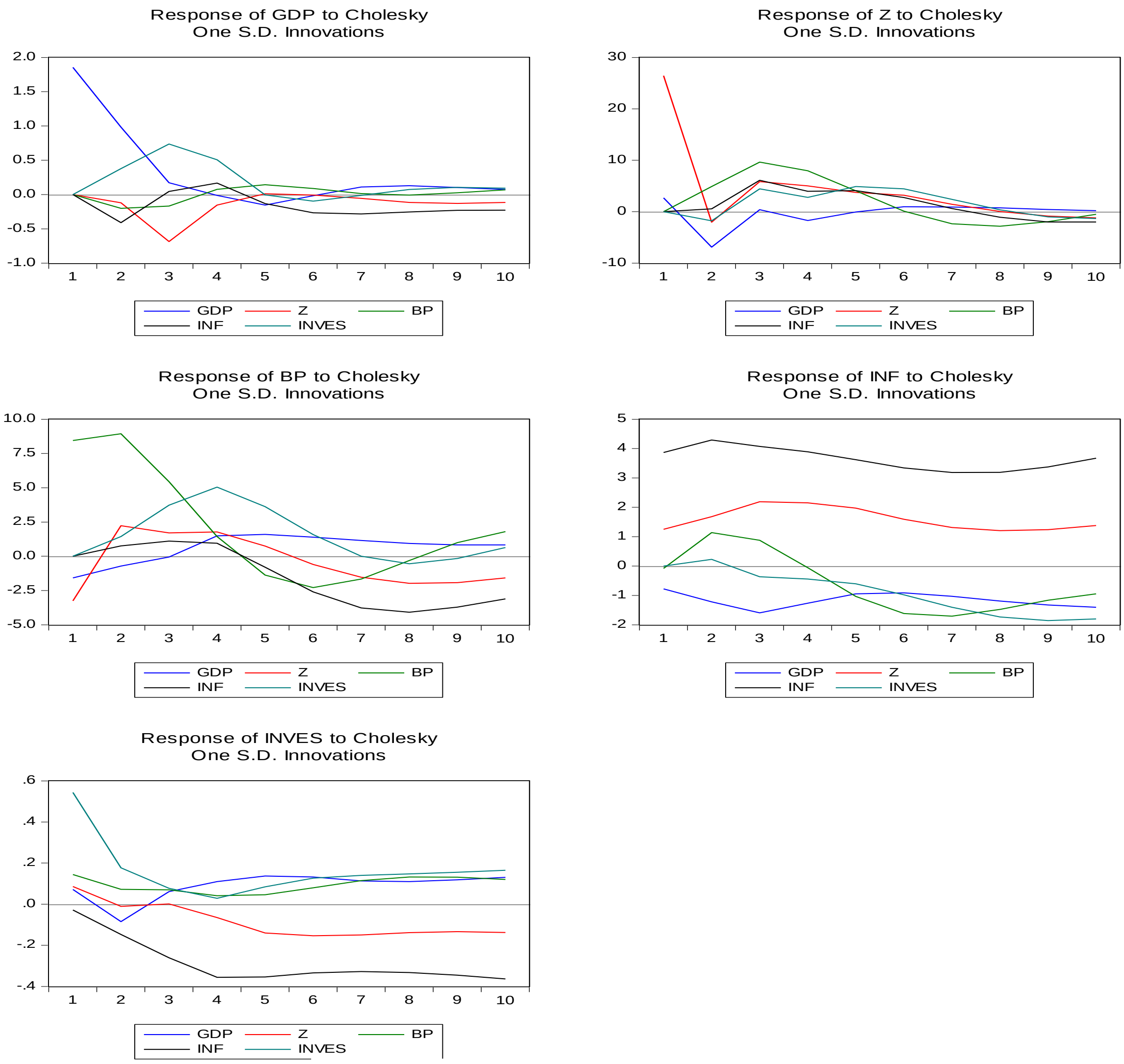


Figure 3. Results of impulse response functions

The parallel exchange rate shocks negatively affect the trade balance as the Algerian economy witnessed a fluctuation in oil prices which negatively impacted the balance of trade balance. The Algerian economy is distinguished by the low diversification of exports of non-hydrocarbon goods and the increasing pace of imports. The collapse of oil prices, the shortage of hard currency in banks and the tightening of the process of settling foreign operations at the level of commercial banks made the parallel market the only destination not to cover some ordinary needs but to smuggle the currency abroad as a result of the decline in confidence in the national currency. The sharp fall in oil prices in 1986 showed total economic imbalances, the vulnerability of the national economy and the decline in the value of oil exports by half between 1985 and 1986. The Authority resorted import restrictions, thus reducing imports by 43% in 1985-1987, The biggest deficit in 1995 was estimated at $ 6.3 billion. The main reason for the deficit in the balance of payments is the decrease in oil prices and consequently the decrease in the value of oil exports, which causes a deficit in the trade balance and thus the current balance and then the balance of payments.

Concluding Remarks

For more than three decades, the Algerian economy has undergone the black market phenomenon. Accordingly, two exchange rates (official and black) coexist and operate simultaneously. The gap between the two rates has widened since the adoption of the structural adjustment program imposed by the international monetary fund in 1994.This spread is accompanied by extremely disappointing economic performance. The aim of this study was to investigate the determinants of black market exchange rate premium and its impact on macroeconomic performance during the period 1980–2016. The analysis has focused on four key macroeconomic variables namely, economic growth, inflation and foreign direct investment and trade balance. Our econometric findings indicate that variables such as money supply, terms of trade, economic growth and real exchange rate affect significantly the black market exchange rate premium. Furthermore, the results reveal a detrimental effect of the black market exchange rate premium on the Algerian macroeconomic performance. This effect was captured by using Impulse response functions (IRF) which show the premium’s negative shock on economic growth, foreign directinvestment and balance of payment. Inflation was however, positively affected. The same effect was found when a variance analysis was introduced.

Based on the above findings, effective policies need to be adopted in order to narrow the gap between parallel and official exchange rate. Mostly, gradual unification of the parallel and the official exchange markets should be adopted. This also needs to be accompanied by appropriate trade liberalization policies that enhance exports performance. In the context of the significant role of macroeconomic policy variables in reducing premium, policy makers need to pay a considerable attention to macroeconomic policies, such as money supply and real exchange rate. Thus, tightened fiscal and monetary policies, and adequate tariff policy should be followed to maintain the exchange rate at a sustainable stable level. In addition, expansionary policy that finances the budget deficits by money creation should be avoided in the short-run.

Scientific Ethics Declaration

The authors declare that the scientific ethical and legal responsibility of this article published in EPESS journal belongs to the authors.

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The Analysis and Countermeasures of US Dollar Exchange Rate on China\'s Import and Export Trade

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Abstract: This paper investigates the intricate relationship between the Chinese exchange rate and the US dollar, particularly amidst a low-growth economic environment and the potential impact on trade dynamics. Set against the backdrop of the 2008 financial crisis, concerns have arisen over China's substantial dollar-denominated debt stock and the possibility of a sell-off that could devalue the US dollar and impact the global economy. As the post-Covid recession is expected to weaken the US dollar, this study aims to explore potential US countermeasures to maintain the currency's strength. The analysis suggests that China should transition from an export-led development strategy to a more domestically focused approach, promoting industrial modernization, implementing strategic economic adjustments, and enhancing the management and regulation of foreign exchange reserves. Active participation in East Asian monetary cooperation and the establishment of a regional monetary system in East Asia are also recommended. The paper highlights the influence of the US dollar exchange rate on China's import and export trade, illustrating how fluctuations in the exchange rate impact trade volumes and different sectors. To mitigate these effects, China should concentrate on developing advanced industries, modernizing traditional sectors, accelerating new urbanization, and stimulating domestic consumption. Additionally, the government should optimize the external trade services system by reducing burdens on enterprises, deepening tariff facilitation reforms, and supporting small and medium-sized enterprises. In conclusion, comprehending the complex relationship between the Chinese exchange rate and the US dollar is crucial for maintaining global trade stability. Implementing the recommended countermeasures can assist both countries in overcoming economic challenges and fostering mutually beneficial trade relations. By carefully navigating the dynamics between these two currencies, governments can strengthen their economies and contribute to a more stable and prosperous global trade environment.

Keywords: Us-China relations, Exchange rate policy, Pegged exchange rate, Chinese Yuan, Exports.

Introduction

China has long been one of the key holders of US dollar denominated debt. During a 2008 visit to Beijing, Hank Paulson, the Fed chair had been confronted by the Chinese minister of finance, with a warning that was the Freddie Mac and Fannie Mae problem not solved by the end of the year, Beijing would be forced to sell most of the US treasury bonds, flooding the market making them worthless. Such an event would have undoubtedly sent the US dollar into a freefall and with it the whole global economy, what had an impact for all over the world (Csiszárik-Kocsir et al., 2013, 2016a, 2016b; 2021; Csiszárik-Kocsir & Varga, 2017; Garai-Fodor et al., 2016, Garai-Fodor & Csiszárik-Kocsir, 2018a, 2018b).

These events can be triggered if a delicate economic balance is offset by an endogenous or an exogenous factor. Since the Chinese Yuan became pegged to a basket of currencies that includes the US dollar, it appreciated in value 5 times between 2005 and 2013. (Congressional, 2008; Fodor, 2022) At the current exchange rate peg,

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there has been an excess demand for yuan. For a long time, the Chinese central bank kept the peg in place by building up foreign reserves by purchasing US dollars in return for new Yuan. The Chinese central bank holds US securities, specifically treasury bonds and commercial mortgage rate securities (MBSs) (Garai-Fodor et al., 2022) It is within the interest of other developed nations for the pegged Yuan to stary weak, as it ensures a steady flow of exports and cheap imports. The current US trade deficit with China is 380 billion USD according to the census website (Bureau, 2019). Since China is a net exporter of goods it can therefore maintain a trade surplus, which would make the Yuan stronger (Fodor, 2022). However, to avoid it losing a competitive advantage, it must be kept within a struct corridor. The Chinese government then either inflates or deflates the Yuan through currency and asset purchases.

In this paper we assess how China influences the US dollar exchange rate in a low growth economic environment.(Garai-Fodor & Csiszárik-Kocsir, 2018) The post-Covid recession that is about to set in Europe and in the US will likely weaken the US dollar. The aim of the paper is to determine a set of countermeasures how the US can maintain its strength.(Pervez et al., 2022). Based on the study we find that that China needs to modify its development strategy from an export-oriented to a to domestic market; promote industrial upgrading; implement more economic strategic adjustments to reduce the impact of these negative effects on the civil economy, including to keep the foreign exchange reserves within an favorable size and improve the administration and regulation of foreign exchange reserves. In addition, China should more and more actively participate in east Asian monetary cooperation and construct a regional monetary system in east Asia. (Fodor, 2023; Foldi, 2015).

Method

The Analysis of US Dollar Exchange Rate on China's Import and Export Trade

On the whole, the total amount of silk goods and clothes imported by the us from China in 2005 increased by 50.4% compared with that in 2004, exceeding us $20 billion. This may have something to do with the improvement of domestic economic conditions in the United States, such as the increase of employment rate and the increase of per capital hourly salary. It might also be affected through the rise of domestic prices and the reduction of the average import and export prices. According to Kato, (2015) because China trades with many countries in US dollars, the exchange rate of the US dollar affects China's trade. (Kato, 2015) Since reform of China's exchange, China's monthly trade volume increased by 23.35% on average until the end of 2005, but the growth rate showed signs of slowing down (Hilland & Devadoss 2013). For example, the monthly trade volume decreased by 2% on average in August, September and October of 2005. (Csiszárik-Kocsír & Garai-Fodor, 2018) (Garai-Fodor et al., 2023) (Garai-Fodor, 2022).

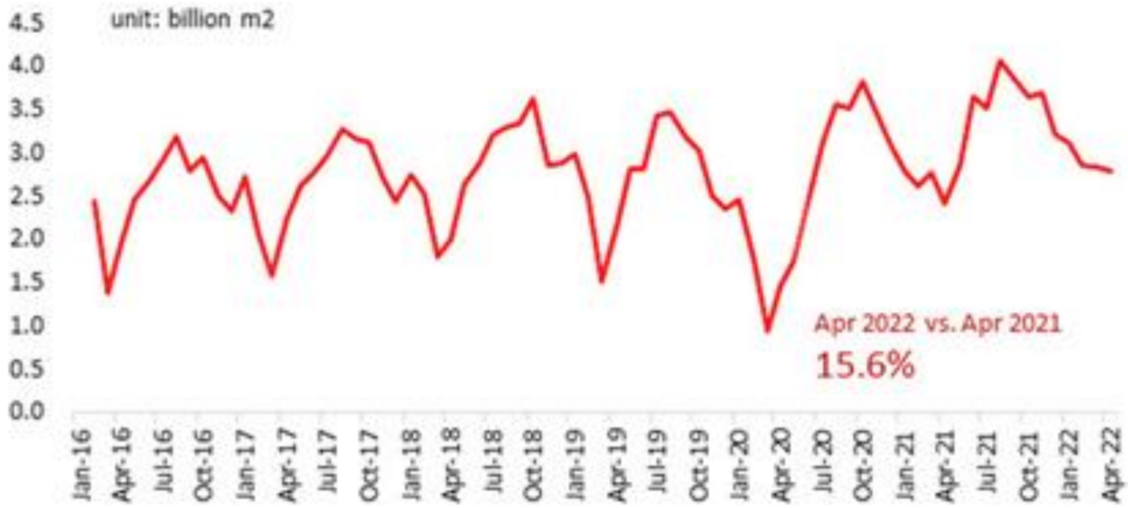

Figure 1. US textile and apparel imports from china by volume. Source: new clothing marketonline.com

It is a challenged issue for Chinese companies that are heavily related to the stable fluctuation of exchange rate between US dollar. Chinese corporations and enterprises are about to face long-last, unpredictable exchange rate fluctuations, which will bring a certain degree of difficulty to corporate decisions (Zhang et al., 2008). China's experience on the path of floating exchange rates is still shallow, and there are still many places to learn and learn from.(Szemere et al., 2021).

Figure 2. Foreign direct investment in China. Source: Chinese ministry of commerce

The fluctuation of exchange rate affects FDI through the channels of relative production cost and wealth effect, while the change of FDI will affect the macro-economy of the investor and the host country through the industrial structure, trade and employment (Molnár & Csiszárik-Kocsir, 2022, 2023; Molnár et al., 2023; Fan et al., 2009). The currency appreciation of the foreign direct investment countries makes the cost of the export-oriented enterprises higher than that of the export counterpart countries, while the cost of production in the export counterpart countries expressed in the domestic currency decreases. When the difference between the domestic production cost induced by the exchange rate appreciation and the local production cost in the export counterpart countries is greater than the precipitation cost of the direct investment in the export counterpart countries, the foreign direct investment may occur. In this way, the profits of export-oriented enterprises in FDI countries can be increased. Under the expectation of continuous appreciation of exchange rate, the outflow of foreign direct investment will be further increased to avoid the comparative cost disadvantage brought by exchange rate appreciation and obtain the necessary market share and profit (Buckley, 2009; Loblin et al.,2017)
China is increasingly dependent on international trade for labor employment, imports and exports, and the transfer of excess capacity. The dependence on foreign trade increased from 44% in 2001 to 60% in 2003 and over 70% in 2004. In the 9.5% GDP growth in 2005, the contribution rate of net export reached 3.6%. Exports directly created more than 100 million jobs. The textile trade directly employed about 20 million people and indirectly employed about 100 million people. 90% of domestic DVD production and 60% of mobile phone production are exported. In 2004, China produced 5.9 billion pairs of shoes and 130 million DVDS, it is accounting for more than 60 percent and 50 percent of world sales respectively. China has become heavily dependent on international sales. (Sun & Heshmati, 2010; Csapó et al.,2018). China is a country that has great demand for raw materials imports as the world factory. The change of its exchange rate in local currency will immediately influence the domestic price level. The heavier the dependence on import, the greater the impact. (Baranyai et al., 2022).

The Countermeasures of US Dollar Exchange Rate on China's Import and Export Trade

According to incomplete statistics, 110 million households, including more than 34.7 million enterprises, indicate that China has the largest consumer market for various production and a huge consumer market for means of living (Zipser et al., 2021).

First, the development of advanced industries, innovative formats and optimized business models is a very fast-growing market. The statistical data from 2015 to 2017 show that the average annual growth rate of the new kinetic energy index for economic development has reached 28%, and the added value of the new industries, new formats, and new business models has reached 15.7% of GDP.

Second, the transformation and upgrading of traditional industries, especially traditional manufacturing, is a market with huge potential. At present, the total assets of industrial enterprises above designated size exceed 110 trillion yuan. According to normal equipment upgrades and upgrades, it is a very large market in itself.

Information technology, as the driving force of modern economic and social development, has profoundly affected China's economic and social development. At present, whether we can seize the historic opportunities brought by the development of informatization and take advantage of the situation to accelerate the transformation and upgrading of China's industrial structure is a key issue related to China's move towards a world economic power. (Földi & Medveczky, 2015).

Third, China's new urbanization is accelerating. There are now more than 600 cities nationwide, more than 100 are cities with more than 1 million population. Last year, the urbanization rate of the resident population reached 59.58%. For one percentage point increase in the urbanization rate, nearly 14 million people have transferred from rural to urban areas. This not only increases the investment in urban public service facilities, but also releases huge consumer demand for clothing, food, shelter, and transportation. Complementing the shortcomings of development, speeding up the transformation of shantytowns, speeding up the transformation of old urban areas, etc., will further unlock huge potential markets. (Goboly & Foldi, 2022).

Fourth, the consumption level, consumption capacity, and consumption awareness of urban and rural residents are constantly increasing. For example, old-age care is a service industry to be vigorously promoted in the next step, and child care is also a very large industry with a very large demand. Currently, there are more than 200 million private cars, and hundreds of millions of refrigerators, TVs, washing machines, etc., and there is a huge market for updating and popularizing them every year. New technologies such as household appliances and automobiles are now developing rapidly, new products are being continuously launched, and the rate of updates will accelerate. (Földi, 2015).

Industrial Upgrading

At present, the US's trade sanctions against China are gradually shifting from anti-dumping and countervailing measures to low-end products, to investigating the use of intellectual property protection policies on high-end technology products. In 2017, 78% of the intellectual property investigations initiated by the United States were directed at China, and China has now become the number one target of intellectual property investigations in the United States. The background of this round of trade war is Trump's political war in order to obtain the midterm elections, and to cater to the trade war launched by voters. It is also Trump's order to gain more benefits in China (requires the opening of China's financial, automotive, and Internet fields) Bargaining chips.

Figure 3. Source: OECD calculations based on the world bank global economic monitor database

In the face of aggressive US sanctions, China needs to work hard to improve the international competitiveness of Chinese companies. Speeding up industrial upgrading and improving the competitiveness of domestic industries are the best counterattacks to trade conflicts. And China should take the initiative to choose a specific open market at the right time, which can give China more initiative instead of passively opening the market without preparation. Market opening is an inevitable choice in history, and it is also the only way for China to develop into a strong country.

In the face of the strategic direction of industrial structure transformation and upgrading, the adjustment of the industrial structure at this stage cannot follow the traditional planned economic method of adjusting the investment structure, but we must grasp the two levers of innovation and market. Among them, there are two main market mechanisms: one is market selection, and the other is survival of the fittest. Structural adjustment is what the market has to do. The market can do as much as possible to the market, the government does not contract, the role of the market is the survival of the fittest. Especially rely on the market to eliminate backward production capacity, rely on the market to create pressure for innovation. Of course, the adjustment of the industrial structure cannot be left to the market alone. The government still has a role to play. What is the role of the government? It is to support innovation, especially to support industrial innovation, and support the development of strategic emerging industries.

Foreign Trade Service System

The government should use various economic levers such as tax, finance, credit and interest rate to optimize the framework of foreign trade. Relevant reforms and regulations should try to sortedly reduce the burden on foreign trade enterprises and import and export charges; continuously deepen customs facilitation reforms; accelerate the improvement of fiscal and taxation financial policies to support foreign trade development. Especially, the establishment and improvement of the service system for small and medium enterprises should be led by the government or the competent government department, and the optimal allocation of resources to maximize the benefits of foreign trade services for small and medium enterprises. Mobilize all sectors of the society to actively participate in the supply of SMEs' foreign trade services to achieve diversification of supply.
The realization of supply diversification should also depend on social intermediary organizations, industry associations and other social groups. Government alone will inevitably cause waste of resources and inefficiency. Industry associations and organizations have strong professionalism and have unparalleled advantages in collecting information, analyzing, and integrating information.

Conclusion

The second biggest economy sees a 7% year over year contraction of exports. China's exports fall, this causes ripple effects. The China exports data shows weak numbers. If it wasn't for exports to Russia, the numbers would have been lower. China's exprts to US are down 18%, 25% down in the EU (citation here). China was expected to carry the world economy forward particularly coming out of COVID-19. The PBOC has a 5% GDP growth target. This is lower than the double-digit growth in the past decade. State owned banks are cutting interest rates to save the economy. The PBOC doesn't want to overstimulate, but the US and Europe are slowing down. Heading into 2023 Europe and Non-Us exposures became attractive from a valuation standpoint. China has a catalyst to start double-digit growth again like the corporate reforms. There is a structural underway for non-us securities. China maintains a trade imbalance by artificially keeping the currency weak. Chinese manufacturers sell 50 million dollars’ worth of Microwaves into the US. A US software producer sells a 20million dollars’ worth of software in China. If there would be a floating exchange rate, the supply of USD would be much greater than the demand for dollars, so the dollar would be weaker, and Yuan would be stronger. The PBOC doesn't want this to happen, they artificially create demand for dollars to keep it strong. They print Yuan and convert it into dollars. This weakens the Yuan and strengthens the dollar. The dollars are lent out, thereby it increases supply of loans. The increase in the supply of dollars that can be lent - it lowers the cost of borrowing dollars. This lower borrowing costs - this means that the interest is less. As debt becomes cheaper (interest rates are lower) this pushes aggregate demand. To keep the trade imbalance and the currency pegged, the PBOC prints money, converts it to US dollars, lends it to the US government and consumers and this buys more Chinese good. The Chinese Yuan is one of the most traded currencies on foreign exchanges. As Russia has been hit by financial sanctions and its banks have been cut off from the international SWIFT systems, its access and indeed, the need to trade is US dollars and US dollar denominated assets diminished. Russia now does more business with China. Moscow became the third largest offshore market for offshore Yuan transactions. When it comes to global payments, the Yuan is still behind the USD and the EUR.

Scientific Ethics Declaration

The authors declare that the scientific ethical and legal responsibility of this article published in EPESS journal belongs to the authors.

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Renewable Energies, Transition and Prospects: The Case of Algeria

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Abstract: The primary objective of this paper is to study and shed light on how the transition to renewable energy is taking place in the world and to highlight the link between this transition and the sustainable development of countries. The guidelines are to increase the use of renewable energy in order to detect its effects on economic growth. The inclusion of environmental variables is a de facto part of this study in order to know its impact on the potential of these energies. Thus, we will detect the achievements in this field and know the different techniques used to overcome the gaps related to technology and financing. Technological developments, cost reduction of renewable energies, innovations and digitalization offer opportunities for the benefit of these energies. Finally, we will take Algeria as a case study in this paper.

Key Words: Renewable energy, Transition, Economic growth, Sustainable, Development, Climate change.

Introduction

Access to energy services is more than necessary to achieve economic and social development. The energy policy to be pursued requires a great deal of rigor and determination to follow a responsible approach leading to sustainable growth. All beneficiaries opt for an inexhaustible and free source of energy offered by nature, such as the sun, the moon, the earth, and the wind.

The goal of energy transition targets the preparation for a post-oil era and the establishment of a new sustainable energy model to address energy supply challenges, rising prices, and resource depletion (Bernard, 2015). Despite this, global energy usage remains heavily dependent on fossil fuels (approximately 78.3% in 2013) (Omrı, 2016). Global energy consumption continues to grow at a steady pace, especially with climate change driven by industrialized nations. Several revelations were made at the recent global climate conference (COP26), where accusations were leveled against the world's major powers. Consequently, there was a significant demand for fossil energy in 2021, leading to a rise in global prices, particularly for oil and gas. A substantial demand for these energies is expected from OECD member countries. Meeting this demand must take into account environmental considerations in accordance with the recommendations of the climate conference.

Throughout the world, particular attention has been given to renewable energies in recent years. The growth of renewable energies goes hand in hand with the economic growth of countries. Investment in this direction allows for cost optimization and environmental protection, which is currently under threat. Enormous sums of money have been allocated in this field to establish a new structure for renewable energy consumption. According to Taladidia (2004), the development of a natural resource accounting system becomes a necessity, especially in developed countries, to consider natural resources and the state of the environment in economic policies. This heritage is offered to us by nature, we have inherited it, and we must pass it on to future generations. The inventory of the heritage takes into account economic, ecological, and sociocultural aspects. These elements must go hand in hand and cannot be separated. From the above, we pose the following issue: What is the impact of renewable energies on socio-economic development? From our central question, the following questions arise:

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How can the transition to renewable energies be successfully achieved?
Is socio-economic development dependent on renewable energies?
What are the factors that encourage the transition to renewable energies?
What is the situation of Algeria in the field of renewable energies?

To address our issue, we propose the following hypotheses:

H1 - Socio-economic development is dependent on renewable energies.
H2 - An appropriate business climate encourages investment in the field of renewable energies.

Research Methodology: For the smooth completion of our work, we initially relied on a descriptive methodology while referring to a review of literature from various articles and books by leading experts in the fields of energy, economics, and the environment. In the second phase, we employed an analytical methodology to thoroughly structure our theme, and we chose Algeria as an empirical case study to understand how the transition to renewable energy is taking place and to identify the factors hindering this transition.

Significance of the Topic: This subject holds particular importance across various sectors. It stands out for its originality and relevance, especially in terms of its limited treatment by economists, despite its impact on the economic and social development of countries embracing this technology. The world continues to advance in renewable energy technologies. However, most developing countries heavily depend on fossil fuels, primarily oil and gas. These countries have not fully grasped the importance of renewable energies, even though they have the necessary financial means for investment in this sector. The topic has become increasingly important as the transition to renewable energies has become a necessity, even for countries rich in fossil fuels like gas and oil. Through this study, we aim to shed light on the role of energy in the economy, taking into account the historical evolution of energy balances.

Theoretical Aspects of the Transition to Renewable Energy

According to the definition by Larousse (n.d.), renewable energies encompass various forms of energy derived from inexhaustible resources such as the sun, wind, water movement, terrestrial heat, or those that can be regenerated on a human timescale, such as forests and crops. In contrast, fossil fuels are non-renewable (e.g., oil, gas).

The subject of renewable energy gained prominence starting from the 1970s, particularly during the oil crisis (oil shock of 1973), with the aim of achieving energy independence. The development of renewable energy sources has become a significant issue, driven by the awareness that petroleum reserves are limited and finite, and the need to combat CO2 emissions. The primary goal is to reduce waste and promote transport and storage technologies, aligning with the principles of sustainable development. Renewable energies now contribute a substantial share of global energy consumption.

The world is in constant development, and energy is a fundamental component of this evolution. As natural energy sources seemed abundant and relatively inexpensive, people often took energy for granted and were not fully aware of its importance. Between 1920 and 2000, oil consumption increased fortyfold. In three centuries, humans will have consumed all the hydrocarbons that nature took 300 million years to create (Bernard, 2015).

The increase in energy consumption is closely linked to economic growth and demographics. In the 20th century, energy consumption increased twentyfold. It was temporarily halted by the 2008 economic crisis, but the International Energy Agency (IEA) predicts a 45% growth between 2009 and 2030, with China accounting for 50% of the demand increase (Bernard, 2015).

Energy can be both a consumer good and an intermediate consumption. The relationship between a country's total energy consumption in a year and its Gross Domestic Product (GDP) provides insight into the role of energy in the economy. The same applies when considering the per capita annual energy consumption. Various factors explain spatial and temporal differences, including geographical factors (availability of national energy resources), structural factors related to the type of energy used, and technological factors.

Consequently, we can categorize energy into three types: primary energy (unprocessed energy available in its raw state, produced locally or imported), final energy (energy used to meet various needs such as heating, transportation, industrial processes), and useful energy (energy that is actually available), as described by Hasen Jean-Pierre (2015).

Factors Promoting the Transition to Renewable Energy

There are several reasons to discuss energy-related issues. According to J.C. (2012), there are three main reasons:

First, fossil fuels, such as oil and gas, are limited resources. Therefore, alternative energy sources must be found, and since these fuels have valuable applications, they should be used for other purposes (better utilization instead of burning them, for example, in the petrochemical industry). Second, energy supply security is a concern for everyone. Even in countries with fossil fuel availability, dependence on these resources can pose a problem. Third, the use of fossil fuels contributes to climate change. This change is attributed to various human activities, with the major contributor being the increase in the greenhouse effect caused by CO_2. Emissions of this gas result from the combustion of fossil fuels. To address the issue of climate change, an alternative energy source must be found. Therefore, significant capital is allocated to developing the production capacities of producing countries, in addition to the risk associated with hydrocarbon exploration and the need to develop markets for final energy consumption (Pierre, 2013).

From this, we can conclude that two essential factors in this equation can determine the direction of countries toward alternative energy sources (renewable energies): limited natural resources and unlimited human needs.
In addition to the reasons mentioned above that drive countries toward renewable energies, there are other elements related to socio-economic development and economic growth. The energy policies of countries that are aware of environmental issues lean toward green economy, recognizing that greening the economy leads to sustainable development.

The green economy enhances human well-being, social justice, reduces environmental risks, and mitigates ecological scarcities. Green economy activities encompass environmental protection and the management of natural resources, such as water resources and renewable energies. In this context, investors promote revenue development and job creation while rationalizing resource use, reducing carbon emissions, and combatting climate change (Oliver, 2015).

Energy Transition and Economic Growth

The transition to renewable energies has a significant impact on economic growth. To understand the relationship between these two aspects, let's explore them further. Energy Transition: The fight against climate change has the potential to generate $26 trillion by 2030, according to reports by international experts. This leads to wealth creation and encourages states and businesses to engage effectively.

In the transition from fossil fuels to new renewable energies, Franco (2007) emphasizes the crucial role of energy in technological development and economic growth. It is noted that electricity and gas have become indispensable tools for technological innovation. Currently, it is renewable energies and low CO_2-emission technologies that hold promise for driving economic growth.

According to the International Renewable Energy Agency (IRENA) report titled "Renewable Energy Capacity Statistics 2021," renewable energy technologies have consistently decreased in cost. Notable cost reductions were observed in areas such as concentrated solar power, onshore wind, offshore wind, and photovoltaic solar, with respective reductions of 16%, 13%, 9%, and 7%. This makes renewable energy costs increasingly competitive compared to existing coal-fired power plants. Renewable energies, due to their lower production costs, provide an opportunity for both developed and developing countries to move away from coal in line with net-zero emission goals. In addition, renewable energy projects offer significant savings for emerging economies, with potential savings of around $156 billion over their lifetimes, according to IRENA. According to international experts, the fight against climate change leads to growth and wealth creation. This commitment is a driving force for governments and private companies to engage effectively. Private enterprises are required to adopt climate-related strategies and are encouraged to innovate in favor of the climate, promoting the progress of renewable energies.

In a publication titled "Global Renewables Outlook: Energy Transformation 2050," IRENA describes how the decarbonization of the global energy sector will replace fossil fuels and create a significant number of jobs. This transition will boost the global GDP by 2.4% through industrial development. Developing countries, especially African nations, can move towards a sustainable future that preserves their vital resources and the environment (Renewable Energy Transition Africa, 2021).

The conditions are favorable for all countries to benefit from renewable energies, especially with technological advancement, falling technology costs, and digitization. Success in these projects requires political will and an attractive investment framework. The transition to renewable energies not only addresses environmental concerns but also provides economic opportunities and contributes to sustainable development. It is a win-win scenario for both the environment and the economy.

Economic Growth

According to Larousse (n.d.), economic growth can be defined as an increase in production over an extended period, which is characterized by an expansion of distributable income. Gross Domestic Product (GDP) and Gross National Product (GNP) are the most commonly used indicators to measure economic growth. LeCaillon (1972, pp. 10-11) describes economic growth as the long-term increase in production or national output. He emphasizes that production capacity grows, provided that it is effectively utilized. The most commonly used instruments for measuring overall production include GNP, national income, or gross domestic product, expressed in volume (at constant prices to avoid the effects of inflation).

The goal of our intervention is to understand the impact of embracing renewable energies on economic growth. According to a study by Gharnit Saïd (2021), the interdependence between renewable energy consumption and economic growth indicates that renewable energies are not only crucial for the environment but also for economic growth. Omri (2016) suggests that the expansion of a network's size increases its importance to users, resulting in positive feedback effects and significant technological interdependencies. Drawing from the experiences of developed countries, the transition to renewable energies has a substantial impact on economic growth, particularly on the GDP. Several factors come into play, including technology, cost of utilization, and performance.

In the case of Algeria, incentive measures have been introduced to encourage investment in this promising and future-oriented sector, which leads to socio-economic development. In our view, this is a necessary step for the country's emergence. Economic growth in a country is measured by variations in the GDP and represents the increase in wealth over a specified period. The increase in wealth and prices leads to improved growth.

Determinants of Economic Growth

Ababou (2020) describes in his thesis that GDP is used as a criterion to measure economic growth and varies from one country to another due to variations in the levels and methods of using the elements that determine it. These elements mainly include labor, capital, and technology, along with their components and participation rates at different levels of production. These factors are part of the overall production function, which is represented as follows:

$$Y(t) = F(K(t), A(t), L(t))$$

Where:

Y: Quantity of real output.
L: Labor volume.
K: Capital.
A: Level of technology.
t: Time.

The key determinants of economic growth are the quantity of real output, labor volume, capital, and the level of technology. In this function, what matters most to us is technology, which is a crucial determinant of economic growth. The adoption of new technologies increases the level of production, labor volume (through the growth of the workforce and demographic expansion), and capital (capital accumulation).

In our study, we have identified and confirmed that the adoption of renewable energies leads to sustainable and responsible socio-economic development that benefits all segments of society. While these technologies require significant investments, the returns are substantial in the medium and long term, positively influencing economic growth. We can see this in the example of the G20 countries, many of which are poor in fossil fuels and have adopted new alternative technologies (clean and cost-effective renewable energies). In the case of Algeria, despite the efforts made, much remains to be done to develop this sector, which requires political-economic will and consistency in achieving the objectives (projects) set by the government.

Obstacles to the Transition to Renewable Energy

The transition to renewable energies is not easy, yet it is essential for any country seeking to achieve socio-economic, technological, and environmental development. Sometimes, the shift to renewable energies encounters problems related to slowness, uncertainty, and technological lock-in caused by dominant technologies, particularly fossil fuel technologies.

The issue of technological lock-in has been extensively discussed. Landel (2015) tried to define this phenomenon based on the studies of Arthur (1989). Arthur sees technological lock-in as a situation in which one technology may be adopted at the expense of another, even if the latter subsequently appears to be more efficient (involving multiple competing technologies and the choice of solutions not necessarily the most performant for specific objectives).

Investment risks in the field of renewable energies pose a significant barrier to transitioning to this technology. These risks encompass both financial and non-financial aspects in the broad sense. The lack of willingness to take and manage these risks deprives a country and its people of various benefits (socio-economic, technological, and environmental development).

In our review of the literature, we noted that several countries advocate for a lock-in favoring fossil fuels (market dominance despite being polluting compared to their competitors), which hinders the transition to renewable energies. In this context, we can raise the issue of the resource curse, as the abundance of fossil fuels prevents the transition to new energy technologies. This policy cannot positively address the major concerns of economic agents, not to mention the negative impacts of fossil fuel consumption.

The exorbitant costs of replacing investments in the technological system hinder the shift even toward better technologies. Therefore, the issue of conflicts of interest is a significant challenge for various stakeholders (government, companies, and other actors) opposing the introduction of renewable energies, often accepting inferior and outdated technologies.

Renewable Energy in Algeria: Context and Challenges

The Algerian economy relies in part on energy. According to the Bank of Algeria (2015), hydrocarbons account for 60% of budget revenues and over 95% of export revenues. Currently, Algeria ranks 16th in oil production, 10th in natural gas production, and 7th in natural gas exports worldwide. Production and consumption depend almost 100% on hydrocarbons, which has prompted Algeria to invest in renewable energies. To this end, a renewable energy development program was established in 2012, but it did not achieve the goals set by the authorities (very modest achievements in solar, electricity, and wind).

Another program (Sonelgaz program, 2021) was developed in 2021 with the aim of increasing electricity production in Algeria from renewable energies by 2030 to conserve gas reserves. The program invites public, private national, and foreign investors to participate in its realization. Thus, the company SONELGAZ has launched a program for the development of renewable energies, with plans to implement several solar power plant projects in the Adrar, El-Oued, and Béchar provinces. Fifteen solar power plants will be installed in 11 provinces, ranging from 80 MW to 200 MW, as per the bidding documents published by Algerie Eco. Bids must be submitted no later than Monday, May 29, 2023, at 10 AM. On January 30, the Chief Advisor to the CEO of Sonelgaz officially revealed that the government had tasked the project with generating 1,500 MW from renewable energy and that a national and international tender would be launched by the end of the first quarter of 2023 to produce 2,000 MW of renewable energy as the first phase.

To replace oil and gas, Algeria must diversify its energy sources and invest even more in the field of nuclear energy (Algeria already has two nuclear reactors, one in Ain Oussara and another in Draria, inspected by the International Atomic Energy Agency). Diversifying the national economy has been a priority for Algeria since the 1980s. Despite efforts made in this regard, the expected results have not been achieved, as non-hydrocarbon exports remain at a single-digit percentage (about 5%). Due to the mismatch between political and economic cycles, Algeria is left with non-renewable resources that have become decisive for its development (Boukrami, 2013).

The economic and social development of Algeria is closely linked to the hydrocarbon sector and energy issues. According to the REN21 Renewables Global Status Report, Algeria ranked third in Africa in terms of renewable energy capacities. Compared to OPEC countries, Algeria has a negligible rate of production and reserves, especially as domestic energy consumption will not allow it to export significant quantities of oil in the future. The crude oil reserve-to-production ratio is estimated at 18 years, and the gas ratio is at 55 years, at the current production rate (Eddrief-Cherif, 2012).

Algeria is among the countries concerned about a reduction in revenue due to the gradual abandonment of oil as a primary source of energy, especially in the context of an agreement with carbon emission obligations. In summary, in the National Energy Transition Program 2020 (Energétique, 2020), Algeria targets the diversification of energy sources through the development of renewable energies to reduce dependence on conventional resources. This policy takes into account the following considerations:

The valorization and preservation of fossil resources.
The transformation of the energy production and consumption model.
Sustainable development and environmental protection.
Cost control in this sector.
Strengthening the regulatory framework.

Gross Domestic Consumption of Primary Energy in Algeria

The following table sheds light on the gross domestic consumption of primary energy in Algeria while distinguishing the trending priorities (tendency towards one type of energy or another).

Table 1. Gross domestic consumption of primary energy in Algeria by source (million tons of oil equivalent - mtep)

Source	1990	%	2000	%	2010	%	2016	2017	%2017	Var 1990 /2017
Carbon	9.69	3.1	0.52	1.9	0.34	0.9	-	0.22	0.3%	-68%
Oils	9.32	42.0	9.59	35.5	16.39	40.9	19.07	19.36	34.9%	+108%
Natural gas	12.17	54.9	16.84	62.4	23.32	58.1	34.66	35.90	64.7%	+195%
Total fossil	12.17	99.9	26.95	99.8	40.05	99.8	53.73	55.48	99.94%	+150%
Hydraulic	0.012	0.05	0.005	0.02	0.015	0.04	0.019	0.005	0.01%	-58%
Biomass-waste	0.011	0.05	0.054	0.20	0.052	0.13	0.006	0.010	0.02%	-9%
Solar, wind							0.01	0.05	0.09%	NS
Total EnR	0.023	0.10	0.059	0.22	0.67	0.17	0.035	0.065	0.12%	+183%
Pay exp.electric	-0.008	-0.04	-0.008	-0.03	-0.006	0.01	-0.02	-0.03	-0.05%	+260%
Total	22.19	100	27.00	100	40.11	100	53.75	55.52	100%	+150%

Source of data: International energy agency. Mtep: Million tons of oil equivalent. Total RE: Renewable energy

In 2017, the total primary energy consumption in Algeria was estimated at 55.48 Mtep, which equates to 1.34 tep per capita, 28% below the global average of 1.86 tep. However, it is twice as high as the African average (Algeria, n.d.). Through this table, we observe a significant inclination towards fossil fuels. Thus, a substantial evolution was felt during the period under study (see the various rates of change). As for renewable energies, consumption remains low compared to fossil fuels, despite the significant rate of change (see the table).

Primary Energy Production in Algeria

Using this table, we will discern the trend in Algeria's economic policy in the energy sector. Table #2 illustrates this trend from 1990 to 2017 (by decade).

Table 2. Primary energy production in algeria by source (million tons of oil equivalent - mtep)

Source	1990	%	2000	%	2010	%	2016	2017	%2017	Var.1990 /2017
Oil	61.24	61.2	72.32	50.8	78.50	52.1	72.68	70.95	46.4%	+16%
Natural gas	18.94	38.8	69.85	49.1	71.96	47.8	80.56	81.83	53.5%	+111%
Total fossil	100.08	99.98	142.16	99.96	150.46	99.96	153.24	152.79	99.96%	+53%
Hydraulic	0.012	0.01	0.005	0.004	0.015	0.01	0.019	0.005	0.003%	-58%
Solar, wind							0.01	0.05	0.03%	Ns
Biomass-waste	0.011	0.01	0.054	0.04	0.052	0.03	0.006	0.010	0.007%	-9%
Total EnR	0.023	0.02	0.059	0.04	0.067	0.04	0.035	0.065	0.04%	+183%
Total	100.11	100	142.22	100	150.52	100	153.28	152.85	100%	+53%

Data Source: International Energy Agency. Mtep: Million Tons of Oil Equivalent. Total RE: Renewable Energy.

From these data, we observe an evolution from decade to decade in the production of fossil fuels during the period from 1990 to 2017. In this regard, the government has favored the exploitation of such energies at the expense of renewable energies, as evident in the present table. Therefore, public authorities should give more importance to alternative energies through partnerships aimed at exploiting this sector.

Conclusion

Through this study, we have observed that developed countries stand out by adopting policies involving fossil-nuclear-hydraulic, as seen in the cases of the USA, China, Russia, Canada, and Germany. Other countries have chosen nuclear energy. Some have adopted diversified energy policies, including fossil, nuclear, wind, hydropower, and solar. Developing countries remain dependent on fossil energy sources. Algeria, on the other hand, must diversify its energy products by developing renewable energies. Various economic sectors cannot meet their energy needs and export in large quantities without resorting to renewable and clean energies.

Finally, countries aware of the importance of renewable energies spare no effort in investing in this field to achieve significant economic growth and adequate socio-economic development. The cost of new technologies is significant, but the return on investment is immeasurable as it affects various aspects: economic growth, GDP, the environment, and the social aspect. Throughout the world, fierce competition is felt daily in the energy sector, especially among major economic powers, as evident.

Recommendations

The transition to renewable energies is an obligation even for countries rich in fossil fuels to meet the needs of the country's economy. Embracing new technologies and investing in renewable energies promotes development in all sectors, which inevitably leads to economic growth. The business climate, particularly in the energy sector, needs improvement through facilitation for foreign investors and private Algerian investors (assistance in terms of advice and financing, as well as the implementation of appropriate regulatory measures). Algeria's dependence on fossil energies hinders its economic development, and it is time to move towards alternative energies whose technological progress remains essential. The experiences of other countries and various studies have shown that energy shortages reduce the growth rate.

Furthermore, the results obtained allowed us to verify our hypotheses. For the first hypothesis, "Socio-economic development depends on renewable energies," socio-economic development still relies on renewable energies, and as we have demonstrated, the dynamics of the economy depend on energy, and the lack of energy can negatively affect economic growth, confirming this hypothesis. For the second hypothesis, "An adequate business climate encourages investment in the field of renewable energies," stimulating investment in renewable energies commonly relies on a favorable business climate and political commitment to continuing the development of infrastructure in the field of energy technologies, which confirms our hypothesis. Thus, through theoretical and empirical aspects, we have arrived at recommendations and perspectives summarized as follows:

Programming investments in renewable energy production means while monitoring the average growth of each product over several periods. Strengthen the development of energy from renewable sources to increase a country's capacity in wind power for industrial development. Give importance to renewable energies because adopting this system benefits countries in terms of energy rationalization and reducing the energy bill.

Transforming the economic model toward a low carbon economy provides several opportunities, including the emergence of cleaner cities, clean energy, and environmentally friendly agriculture. The expected goal is to achieve significant efficiency, energy savings, and significant social inclusion.

Nuclear power can allow Algeria to initiate a new energy policy. However, Algeria's energy future must be considered within an energy policy/strategy framework. The use of clean and renewable energies such as nuclear and solar energy is a serious alternative to the use of fossil fuels. Anticipate energy demand based on economic growth prospects.

Scientific Ethics Declaration

The author declares that the scientific ethical and legal responsibility of this article published in EPESS journal belongs to the authors.

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China's Impact on the US Dollar Exchange Rate

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Abstract: This paper explores the ever-changing relationship between China and the United States, the world's two largest economies, with a particular focus on trade imbalances and their far-reaching implications. Providing a comprehensive historical context, the study sheds light on the significance of the CN-US economic relationship and its profound influence on the global economy. Tracing the trajectory of CN-US trade from its early beginnings of direct exchange to recent trade frictions and tariff disputes, the analysis examines the role of statistical errors in reported trade imbalances and dissects the intricate factors contributing to the trade deficit. Emphasizing the urgency of a balanced CN-US relationship, the study advocates for a harmonious blend of cooperation and confrontation, ensuring equality, mutual benefit, and peaceful coexistence. Furthermore, the paper delves into China's impressive economic growth, its potential to surpass the US economy, and the possibility of the Chinese yuan replacing the US dollar as the global reserve currency. The paper concludes by underlining the critical importance of maintaining a stable and cooperative relationship between the two nations to steer global development in a positive direction. By addressing trade imbalances and fostering a collaborative approach, China and the United States can pave the way for a more equitable and prosperous global economic landscape. As the world watches the unfolding of this pivotal economic relationship, understanding its complexities is essential for policymakers and stakeholders alike.

Keywords: China, US-China economic policy, Economic growth, US dollar, Globalization

Introduction

China's remarkable economic landscape is characterized by its abundant labor resources and immense growth potential. In contrast, the United States stands as the most influential capitalist developed nation, boasting unparalleled strength in various domains such as the economy, politics, innovation, science and technology, and culture. As the world's two largest economies, any shift in the relationship between China and the United States carries significant implications for the global economy. The interdependence between these nations underscores the notion that both China and the United States cannot develop in isolation; their fates are intricately tied to the dynamics of CN-US relations. With this backdrop, it becomes imperative for China to adopt a historical perspective and carefully analyze the current international situation. By doing so, China can proactively build a new CN-US relationship that embraces a long-term vision for the future. Such a strategic approach aims to foster cooperation and mutual understanding, ultimately striving to achieve a "harmonious world" in China's diplomacy.

In this paper, we embark on a comprehensive exploration of the Chinese economy, tracing its evolution over time. We examine the multifaceted relationship between the United States and China, unearthing the string of events that have propelled China to its current position of power. The study delves into the potential inflection point in the future, where China may surpass the United States in terms of economic strength and potentially

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challenge the dominance of the US dollar as the global reserve currency and the widely accepted means of payment and trade settlement.

By analyzing this critical juncture in the CN-US relationship, our study aims to shed light on the implications of such a transformation for the global economic landscape. We envision a future where China's rise impacts the balance of power in the world economy, necessitating thoughtful responses from policymakers and stakeholders alike. As we unravel the complexities of this evolving relationship, our exploration aims to inform discussions and decisions that contribute to a more balanced and prosperous global economic order. (Molnár et al., 2023; Molnár & Csiszárik-Kocsir, 2022, 2023; Foldi, 2015)

Literature Review

As early as in the colonial era of the thirteen states of North America, Chinese tea, raw silk, etc. were exported to Boston, New York and other ports of North America through the British East India Company (Arkin, 1981). In order to get through the channels of direct trade with China, American businessmen drove the "Empress of China" merchant ship, carrying American ginseng, fur, cotton and pepper, arrived Guangdong Province in August 1784, and purchased from China the next year. After tea, silk, porcelain, lacquer ware and so on returned to the treaty, the direct trade between the United States (US) and China (CN) began. The volume of trade reached 6.7 million US dollars in 1816 and increased to 19 million US dollars in 1819 between the two countries. (Fodor et al., 2023).

In the early stage of CN-US trade, usually the United States exported cotton to China and imported textiles from China. In the 1850s, China got to be one of the important markets for American textile export. In 1866, the proportion of the United States could share about 5% of China's trade volume. From late 19th century to the 1920s, the United States was often in a deficit in CN-US trade. From 1919 to 1929, the annual bilateral trade volume reached 200-300 million US dollars. (Pervez et al., 2022) After the 1930s, Japan attempted to monopolize the Chinese market, and the total amount of trade volume between the United States and China fell rapidly. In 1932, the total trade volume reached 82 million US dollars, which has been at a very low level since then (Mitchener & Yan, 2014; Fodor, 2023).

In 1945, when Japan surrendered, CN US trade began to grow again. In 1946, the Kuomintang government signed the Treaty on friendly trade and navigation between the United States and China, which provided convenient conditions for American goods to enter the Chinese market. In 1950, the Korean War broke out, and the US Department of Commerce banned all exports to China. In 1951, the United States manipulated the United Nations to pass the resolution of "embargo" on China. (Fodor et al., 2022) In September 1952, the United States manipulated the establishment of the "China Committee" within the Paris Coordinating Committee, in an attempt to block the economic development of new China by blocking the embargo. Under such circumstances, CN US trade has basically ceased (Wang, 2013) (Fodor, 2022).

In 1949, the "White Paper on CN-US Relations" written by Dean Acheson (1949) who serving as Secretary of State, indicated a shift in US attitudes toward China. However, as one of the most important designers of the Cold War, the Marshall Plan and NATO, he still hoped that Japan would continue to maintain normal trade with China's new regime before leaving office in 1953, thereby preventing China from accelerating closer to the Soviet Union due to trade issues and strengthening its strength. This idea also reflects the Cold War originator George Kenan's consideration. However, after the Korean War, the new US government changed its attitude on this issue, preventing China from becoming mainstream from the perspective of economy and trade. Meanwhile, the United States' attitude towards Japan has also changed, and the United States regarded Japan as bridgehead in Asia. The former, the controlling shareholder who has absolute right to speak in many international organizations, despite the opposition of allies such as the United Kingdom, pushed hard for Japan to join the International Monetary Fund, leading it into the General Agreement on Tariffs and Trade (GATT), although Japan does not meet the entry requirements for these organizations (Clarke, 1993). One requirement for the United States to bring Japan is to end its trade with China. History has begun a new process. (Földi,2015) In March 1979, Blumenthal, the US Secretary of the Treasury, represented President Carter came to China to participate in the opening ceremony of the US Embassy. Deng Xiaoping met him directly. During the meeting, Blumenthal raised the issue of compensation for losses caused by the disposal of US assets by the Chinese mainland after 1949, and Deng Xiaoping promised to solve them very quickly. Two days later, the problem, which had been delayed for months, was resolved. Deng Xiaoping told Blumenthal that China must integrate into the world economy if it wants to develop, and the normalization of economic and trade relations with the United States is one of the steps. History has a new chapter. (Csiszárik-Kocsír & Garai-Fodor, 2018).

Although there were discussions on quotas and most-favored nations between the United States and China in the 1980s, the latter issue was clearly more noticeable in the 1990s. In addition to international political factors, the most important thing was that after China established a market economy system, the economy shifted from shortage to surplus and faced many problems such as markets, technology, and capital. The township and village enterprises and processing industries that flourished in the 1980s encountered adjustments in capacity reduction policies such as "limited production and ingot production" in the 1990s (Dumbaugh, 1998). This was also the first "supply-side" reform after China's reform and opening. (Garai-Fodor, 2022) In 1994, the RMB exchange rate was merged, and a floating exchange rate mechanism was implemented. This aspect was the "one price" attitude of the currency's external value, and it was also an effort to develop the international market. Of course, it also laid a foreshadowing for the subsequent market-oriented currency transmission mechanism. In this context, the "resumption" and subsequent "accession to WTO" negotiations have become a hot topic in policy and business circles. The main object of the negotiations is the United States. In 1996, the soft landing of China's economy coincided with the subsequent Asian financial crisis and natural disasters that had not been encountered for many years. Before that, policy makers who had to deal with inflation encountered the problem of deflation, and the development and utilization of international markets was imminent. Under the pressure, then Prime Minister Zhu Rongji pushed China to become a member of the WTO. When he visited Washington before joining the WTO, he said: "China must conform to its rules of the game if it wants to join the WTO and be able to integrate into the international community. Therefore, we will not make concessions." At the time, US President Clinton tried to persuade its members agreeing to China's accession to the WTO also gives his reasons: China will reduce tariffs, open markets, import more American goods, solve more American jobs, attract more American investment, and other benefits valued by American politics and business (Hopewell, 2015).

In December 2002, then Deputy Secretary of the Ministry of Finance of Japan, Mr. Toshihiko Kuroda, wrote in the Financial Times that "China exports deflation to the world by promoting exports, pegging the yuan to the dollar, and domestic deflation." He therefore suggested that the yuan should appreciate. This was the first time Western officials have publicly expressed their opinions on the RMB exchange rate and China's export policy after China's accession to the WTO (Alvstam, et al., 2009). Later US officials and research institutions also questioned the exchange rate of RMB. China regarded these voices as a conspiracy similar to the Square Agreement. From 2004 to 2005, US President Bush and Treasury Secretary Snow promptly suggested that the exchange rate of RMB should appreciate.

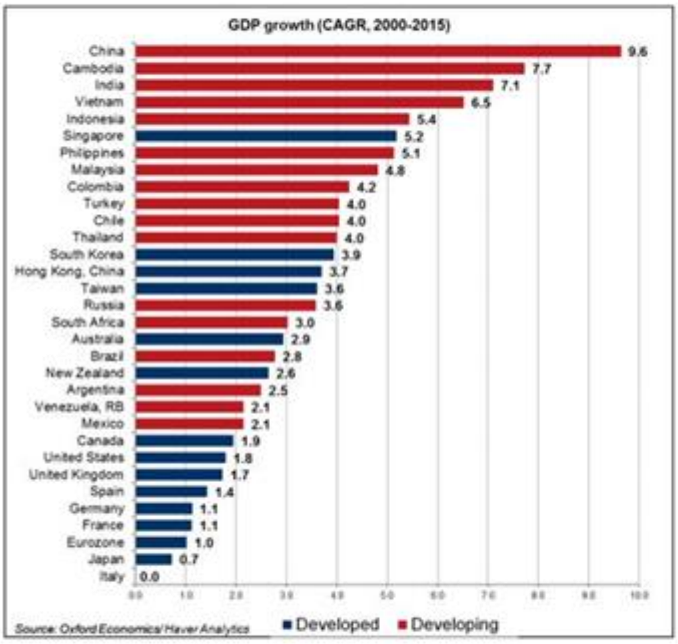

Figure 1. GDP growth from 2000-2015. Source: Oxford economic, haver analytics

Hereafter, the People's Bank of China announced: Since July 21, 2005, China has implemented a controllable floating exchange rate mechanism according to the market supply and demand and adjusted with reference to a basket of currencies. Since then, the exchange rate between the RMB and the US dollar has steadily and orderly appreciated. Except for a limited number of years changed by the global financial crisis, China's external exports and surplus, especially exports to the United States, have steadily increased, and foreign exchange reserves have enhanced annually until 2014. (Baranyai et al.,2022; Csiszárik-Kocsir et al., 2013, 2016a, 2016b, 2021; Csiszárik-Kocsir & Varga, 2017; Garai-Fodor et al., 2016; Garai-Fodor – Csiszárik-Kocsir, 2018a, 2018b).

After Obama's election and re-election, he has repeatedly stated publicly that the the exchange rate between the RMB and the US dollar should appreciate and has repeatedly urged China to open its domestic market. When Trump was running for president, he clearly stated that he would increase taxes on Chinese exports to the United States and ask the yuan to appreciate. In last year, the trade war broke out between the United States and China, and the two countries imposed mutual tariffs on some commodities.(Csapó et al., 2018). Looking at the evolution path of CN-US trade in the past decades, like other important trade relations, CN-US trade relations are not smooth sailing, they sometimes encounter twists and turns. A new round of trade frictions began when the United States imposed import restrictions on some Chinese textiles

Figure 2 shows that China has been the fastest growing developing economy in the world. Nowadays, with China's growing strength, the distinctions and problems between the United States and China on trade issues, the exchange rate of RMB to US dollar and other fields are widening. The future relationship between the United States and China will affect the direction of world development. We hope that the two pivotal countries can become positive and lasting strategic partners and maintain at least a stable cooperative relationship. Because the CN-US relationship is complex, it is difficult to define what kind of relationship it is. The coexistence of confrontation and cooperation is full of contradictions. In the future, CN-US relations should find a balance between the two trends of confrontation and cooperation, so that the two countries can enjoy equality, mutual benefit, peaceful coexistence and common development, deepen and strengthen cooperation between the two countries in all fields.

Analysis of the US-China Trade Imbalances

The United States and China are the two countries with the largest economies in the world. The economic aggregate of the two countries accounts for about 40% of the world's total, and exports of goods account for nearly a quarter of the world's total. Both foreign investment and foreign investment account for nearly 30% of the world's total. If the trade friction between the United States and China rises to a trade war, the situation will be a disaster for the world economy. Figure 2 shows the bilateral deficit in goods and services has grown from $81 billion in 2001 to $336 billion in 2017, increasing from just over 20 percent of the US trade deficit in 2011 to over 60 percent today.

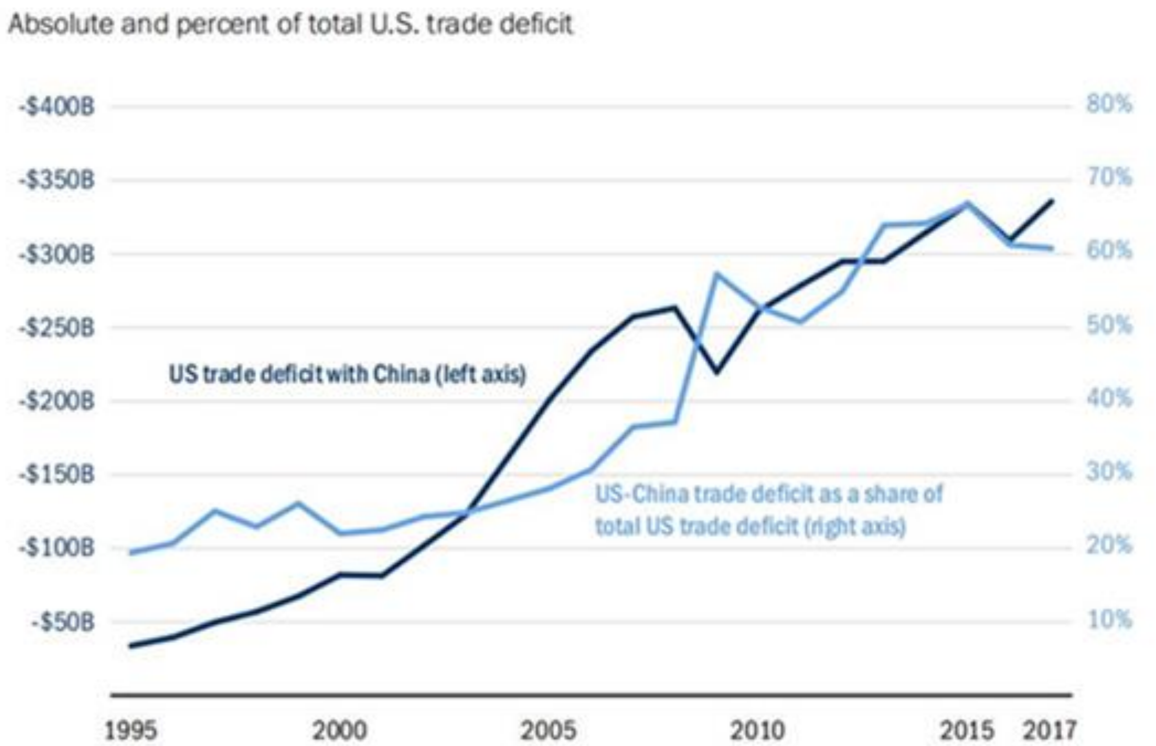

Figure 2. Absolute percent of total us trade deficit from 1995-2017

Although the huge trade deficit has provided strong capital support for China to participate into operation of economic globalization, with the enhancement of comprehensive national strength, the problem of trade imbalance has a huge and far-reaching negative influence on China's economy. Enormous amount of foreign exchange accounts for elevated inflation and escalated the trade friction related issues between the two countries. For the United States, apparently, the huge trade deficit with China is not conducive to the extensive enlargement of American manufacturing industry. The flying growth of China's export trade and then the rapid economic development may also enforce the position of the world hegemony of the United States. In fact, the United States has obtained huge profits from the trade between the United States and China.

The Role of Statistical Errors

The United States has always had trade imbalances. The CN-US trade deficit increased from 103 billion US dollars in 2002 to 377.5 billion US dollars in 2017. The US trade deficit in China also rose to 47% in 2017. In 2016, the US deficit was US \$ 3.47 trillion, and China's figure was US \$ 2.507 trillion, with the difference increasing to US \$ 9.63 billion. In 2017, the United States released a figure of \$ 376 billion, but China's figure was \$ 279 billion, a difference of \$ 9.7 billion (Scott, 2018).

Why is there such a significant difference in the trade data between The United States and China? We think there are two reasons, both of which are related to Hong Kong. First, the two countries have different statistical methods for re-exports via Hong Kong. A major part of China's exports to the United States and imports from the United States pass through Hong Kong, and the peak ratio is closer to half. The US Department of Commerce counts China 's re-exports of goods to the United States via Hong Kong as US imports from China, but counts US re-exports of goods to China via Hong Kong as US-to-Hong Kong Exit. This calculation overestimates the US trade deficit.

The Chinese Customs has always counted US goods re-exported to China through Hong Kong as US exports to China, but before 1993, China's re-exports of Hong Kong to China through Hong Kong were counted as Chinese to Hong Kong Exit. This calculation method undoubtedly underestimates the US trade deficit. Since 1993, Chinese customs have required export companies to report the final destination of exported products, so as far as possible to re-export Chinese goods to the United States via Hong Kong as Chinese exports to the United States; however, exporters are not likely to All products re-exported through Hong Kong are accurately reported, so China's statistics will still underestimate the US trade deficit but will be closer to reality than the US figures.

Secondly, Hong Kong's re-exports generate a lot of added value in Hong Kong, according to some estimates as much as 20%. These added values should reasonably be deducted from the above calculations because they belong to Hong Kong's export of services. However, these added-value data are difficult to obtain, so they are usually not included, and the statistics of the two countries will always have great errors.

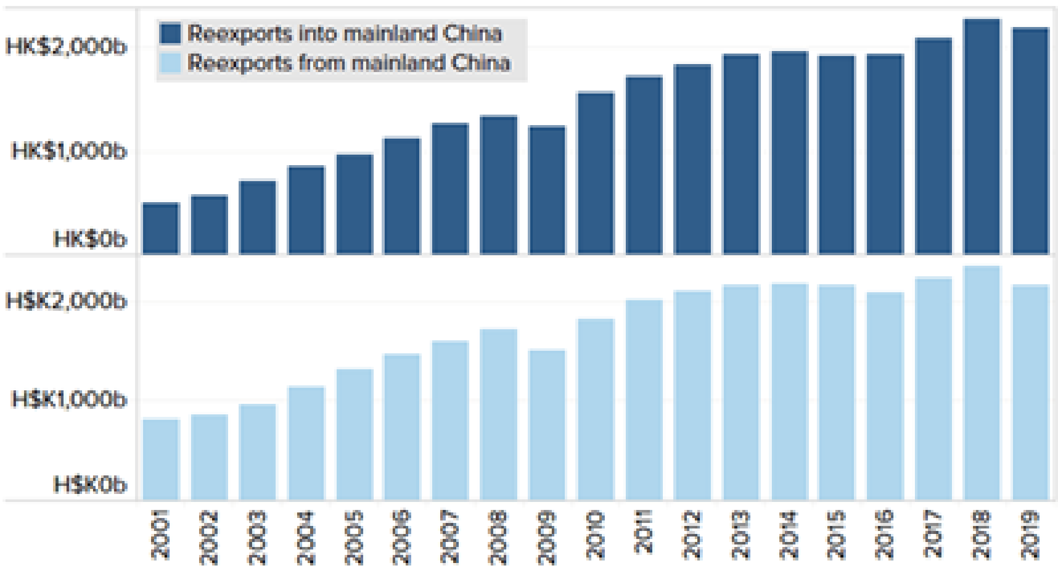

Figure 3. Mainland China's trade through Hong-Kong. Source (Yen, 2020)

The real income elasticity of US is about 1.55 in CN-US trade imbalance, indicating that even with the sustained increase of US GDP, the trade deficit is also further expanding. In addition, with the continuously remarkable attributes of virtualization and deindustrialization of the economic structure of US economy, the States undoubtedly depend on the profitability of the tertiary sector to gain obvious enhancement of the national economy, so the necessities of production and life of Americans are generally imported from developing countries such as China. Meanwhile, the US government implemented the long-term low interest rate monetary policy has stimulated domestic consumption in some measure, however it is hard to meet the diverse consumer demand of the people in the United States, so it directly promotes the growth of imports. In addition, the Discrimination and International Trade Policy to China has further increased the imbalance situation.

US Industrial Transfer to China

The background of international industrial transfer is economic globalization, and the leading force is multinational companies. Economic globalization has led to large-scale adjustments and reorganizations of production factors such as capital, technology, and personnel worldwide. The process of economic globalization shows that the current stage is not only reflected in production, investment and trade, but also presents a new trend of comprehensive globalization of R & D, marketing, services, occupation, and consumption. Globalization has led to the rapid growth of international investment. The proportion of global foreign direct investment (FDI) inflows to GDP has increased from 9.3% in 1990 to 22.3% in 2002.

The global strategic layout of multinational companies is the main driving force for international industrial transfer. Before the 1990s, most multinational companies carried out their own main business, but only transferred some labor-intensive processing and assembly links. Since the late 1990s, they have not only shifted production and manufacturing links on a large scale, but also extended the transfer to research and development, design, procurement, sales, and after-sales services to enhance core competitiveness. To this end, they are constantly adjusting their strategies and tactics, such as expanding strategic alliances, and 90% of the world ’s 150 largest multinational companies have participated in alliances; accelerating localization strategies and winning the recognition and support of the host government and the public; and strengthening organizational concentration The role of headquarters is further prominent; the degree of internationalization has continued to increase. The transnational index of the world ’s 100 largest multinational companies has increased from 51% in 1991 to 56% in 2000 according to Kwan (2020).

China is one of the developing countries that has absorbed the most international industrial transfers. According to UNCTAD statistics, China's use of foreign investment has ranked first among developing countries for more than 10 consecutive years. China mainly absorbs greenfield investment that directly invests in plant construction, accounting for one quarter of the world's greenfield investment, and more than one third of the greenfield investment in developing countries. Undertaking large-scale international industrial transfers has promoted the development of related industries. For example, the electronic information industry has achieved leapfrog development by foreign investment. Foreign-invested enterprises accounted for more than 2/3 and 4/5 of the value-added and export of the information industry.

The main advantages of China's absorption of international industrial transfer are markets and costs. Multinational companies value China's huge and growing market, a large number of skilled labor and scientific and technological personnel, and broad economic growth prospects. Therefore, Kearney Corporation of the United States has named China as the preferred place for multinational investment for two consecutive years. The same is true of the year's evaluation. In particular, China's high-growth large market has unprecedentedly increased its attractiveness to multinational companies. The investment objectives of many companies are shifting from processing, assembly and export-oriented in the past to sales in China. (Szemere et al., 2022).

At the same time, many multinational companies believe that China's disadvantage lies mainly in the soft environment. First, the weak protection of intellectual property rights has prevented the real transfer of high-tech R & D links to China. Second, low system efficiency, low administrative transparency, frequent policy changes, and imperfect innovation and entrepreneurship mechanisms have led to higher transaction costs. Third, the domestic market is not uniform. Some foreign government departments and business circles have reported that some parts of China are competing to compare preferential policies, and they have publicized their own preferential policies to the outside world, making foreign investors feel that China's policies are not unified and opaque, leaving them confused. China's market segmentation is severe, which is not conducive to taking advantage of the huge market size. Difficulties in capital flow between provinces and markets have brought great inconvenience to investment and production and operation.

Countermeasures and Suggestions on US-China Trade Imbalance

We can see that the trade statistical errors due to the discrimination between different statistical methodologies could generate great differences. Many countries prefer using their own statistical mechanism to figure out the root causes of domestic problems. Therefore a consensus solution should be put forward. Since the reform and openin, China's statistical management system cannot meet the requirements of the development of the market economy. The basic statistical work is weak and the statistical data are linked to complicated interests, which has weakened the government's external anti-interference ability in statistics. The false reporting and concealment of statistical data have seriously affected the credibility of government statistical data. Macroeconomic statistics are the quantitative measurement results of the operation of the national economy and social development. In recent years, due to a few regional governments pursuing political achievements and meeting the needs of various interests, there have been repeated contradictions between macroeconomic statistical indicators and data, which have negatively affected the formulation of national macroeconomic policies. The quality of macroeconomic statistical index data has attracted attention from all walks of life. On the one hand, local governments take special treatment of regional macroeconomic statistics for their own interests, so the published statistics often appear exaggerated. As a result, there is a serious quality problem in the data reported to the National Bureau of Statistics, causing people to have a crisis of confidence in the statistical data; on the other hand, there is also a large deviation in the logical relationship between statistical index data. Domestic and foreign experts have doubts about the quality of statistical data, and the credibility of government statistics has declined. From the long-term perspective of CN-US trade development, the United States and China should have and share a mutual beneficial statistical coordination mechanism, use real and reliable data in statistics, and on this basis, conduct scientific and detailed analysis, so as to coordinate the trade statistics between the two countries.

The US has export restrictions on China's high-tech export. Therefore, it is difficult for foreign capital to export the high-tech and excellent management and operation modes of other countries to China, and it is even more difficult for Chinese enterprises to purchase the high-tech of the US at a reasonable price. Therefore, only by establishing a perfect market mechanism, cultivating small and medium-sized enterprises with innovative spirit and cultivating a young generation with modern entrepreneurship can China gradually reduce its dependence on foreign investment and form its own core competitiveness and technological innovation. From the perspective of the government, firstly, the government should drive its attention to build and enhance the domestic market, stimulate the domestic industry and consumption potential. Secondly, we should stabilize prices, take restrictive measures in real estate investment, and enhance the public's desire for ordinary consumer goods. Thirdly, the government should deepen the reform of the income distribution system, vigorously improve the residents' income, and speed up the construction of social security systems such as pension and education.

Conclusion

Xi Jinping's ambition to position China as the global superpower and his focus on dedollarization are driving significant shifts in the global economic landscape. Traditionally, the US dollar has dominated international trade and served as the primary reserve asset in central banks worldwide. However, China's strategic initiatives are challenging the dollarization trends.

China's efforts to conduct trade in its national currency, the Yuan, are gaining momentum. Agreements with countries like France and Saudi Arabia to pay for oil in Yuan rather than dollars, along with pressuring other parties to accept the Yuan, showcase China's determination to reduce dependence on the US dollar. Furthermore, China's extensive investments in Africa and other parts of the world, including loans for developing countries, are positioning it as a formidable rival to traditional global financial institutions like the IMF and World Bank.

In contrast, some US politicians remain confident in the strength of the US dollar, citing sophisticated and liquid financial markets. However, concerns have been raised about the sustainability of the dollar's reserve currency status, especially as the US grapples with below-average growth rates and mounting public sector debt. Criticism has been directed towards the Federal Reserve for its handling of crises and perceived inflation underestimation in 2020.

As of now, the US dollar retains its dominance in global central bank reserves, with only a small percentage allocated to the Yuan. The Euro remains more convertible than the Yuan, which impacts the broader international adoption of the Chinese currency.

In conclusion, the ongoing dynamics of dedollarization and China's assertive efforts to promote the Yuan's international role are challenging the long-standing status of the US dollar as the global reserve currency. As the global economic landscape continues to evolve, the outcome of these developments will shape the future of the international monetary system and the distribution of global economic power.

Scientific Ethics Declaration

The authors declare that the scientific ethical and legal responsibility of this article published in EPESS journal belongs to the authors.

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Territorial Management: A Tool for Local Development

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Abstract: Territorial management involves reinventing the territory in terms of projects and promoting its development. It entails guiding transformation processes and altering the territory while considering its specificities and resources, in order to create a development process that engages all local stakeholders. The objective of territorial management is to encourage the development of the territory with the participation of the entire population. It involves building a system of alliances where the population is seen as a stakeholder. This fosters improved institutional cooperation among local authorities, aiming to meet current needs without compromising resources for future generations.Maintaining a fundamental balance between territorial development, social cohesion, and environmental conservation generally requires territorial strategies that involve collective action based on a comprehensive organization, encompassing both economic and social dynamics. The demand for territorial development is increasing, making it essential for Algeria to transform its approaches to territorial action. A developing territory results from collective interaction that anticipates threats and opportunities, devising corresponding territorial strategies.

Keywords: Territorial management, Territorial development, Tourism, Sustainable development.

Introduction

The emergence of a development model plays a significant role in promoting the valorization of territorial resources. Tourism has remained a favored focus of public authorities. Development is primarily viewed from the perspective of change and renewal of territories, contributing to creating an image that is attractive to tourists. Conceptually, the idea of territorial development has established itself as a new facet of local economic development and planning. In the context of tourism valorization, the strategies of local politicians contribute to the construction of the territory. However, the process of territorialization cannot be exclusively reduced to political strategies. In fact, elected officials, in their actions, inevitably manipulate the concept of "territorial resource." As a characteristic and constructed element of a specific territory with a developmental perspective, the territorial resource is linked to political intent as well as the ideological foundation of the territory. It is defined based on material components such as heritage, landscape, etc., and/or based on ideational components like authenticity, historical depth, etc. "Producing territory" thus entails creating projects that, in the eyes of local officials, are suitable for local realities. The specific dynamics of these resources and the methods of their renewal, embedded in the continuity of sustainable development trajectories, will be the subject of our research. We will explore the impact of territorial management on the development of local authorities.

Definition of Territorial Management

Territorial management implies a dynamic shift as "The day-to-day management fades in favor of the construction of a project adapted to the territory. It is undeniable to assert that the conditions and standards for the ability or inability to implement territorial management are adaptability, animation, the connection of individuals, and the collective dimension. Territorial management is about reshaping the territory in terms of a common project.

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Territorial management is a mode of governance that takes into account the impact of various actions and structures implemented on social cohesion, economic diversification strategies, environmental protection and conservation, as well as the ability to clearly define its actions. Territorial management ensures the coherence of these actions, their feasibility, and their effects on the development of a community or region.

Territorial management also involves anticipating and making judicious choices in terms of land use, development, risk management, and environmental changes to enhance the resilience of territories and societies. Territorial management is not akin to corporate management. Its scope is indeed much broader than that of corporate management; it includes civil society, the population at large, not just individuals constituting a solvable demand in the market.

Territorial management can be defined as "a mode of public management that encourages taking into account the impact of various actions and structures developed by governments at local, regional, national, or even transnational levels on the social cohesion of society and its ability to influence the definition of public actions, on the coherence, feasibility, and effects of public action, on the intensification of competition between cities or regions..." (Duez, 2009).

Principles of Territorial Management

If the State and local authorities wish to conduct policies within the framework of territorial management, they must adhere to four major principles, which serve as guidelines. The first principle is to seek territorial effectiveness (creation of wealth, jobs, and well-being), territorial equity (social cohesion), territorial sustainability (intergenerational solidarity, environmental, cultural, and social aspects), and territorial creativity (consistency among different policies in particular).

The second major principle corresponds to the idea of partnership and involvement by taking into account all the actors who can influence the policy's results. Public authorities must also ensure the coordination of their policies across various spatial scales (new types of project or network-based organizational structures). Finally, they must strive to continuously monitor the evolution of the territorial context and the effects of public policies (learning capacity, anticipation, or foresight) (Hanae, 2016).

Objectives of Territorial Management

Two main objectives are distinguished in territorial management:

1. The first is strategic, as it falls under public authority, directing to the maximum the production of the territory, policies, or initiatives for which it is responsible. The goal is to ensure its multidimensional development while making it sustainable.
2. The second objective is operational. Territorial management aims to strengthen the capacity of public authorities and their stakeholders to consider territorial developments, threats, and opportunities, and to adapt through management, cooperation, consultation, and information.

The Nature of Territorial Resources

Defining Territorial Resources

When we add the adjective "territorial" to the concept of resources, we touch upon the first characteristic, which is specificity. This means that the geographical environment, in the strong sense of a place with a history and culture, will influence the value of what is produced. The second characteristic of Territorial Resources (RT) is its potential nature. RT exists in the form of a deposit (e.g., a coal deposit), but it must undergo a "metamorphosis" to become a valuable asset (e.g., a coal mine). This implies that before creating the conditions for the valorization of a resource through metamorphosis, it must be named and, in doing so, revealed. The third characteristic of territorial resources is their renewability. Territorial resources are a combination of will, creative imagination, and innovation processes. Thus, territorial resources do not exist prior to the territory but are constructed with and within the territory (Colletis, 2018). Territory is a dynamic, evolving, and complex space that requires sound management. On one hand, it is necessary to seize opportunities and promote its development, and on the other hand, to reduce (or counter) risks while implementing mitigating measures. Today, territories generated by public authorities, entrepreneurs, financiers, citizens, residents, or users seem extremely diverse. Two types of territories seem to emerge (Ruegg, 1997). Sure, here's the translation of the provided text from French to English:

- An institutional territory, which is that of the state, land ownership, and citizens.
- A relational territory corresponding to businesses, users, and residents.

The Nature of Territorial Heritage

Territorial heritage is a "set, attached to a holder (individual or group) expressing its specificity, a historically established set of assets transmitted in the past, assets that are tangible assets, intangible assets, and institutions." Territorial heritage, therefore, consists of tangible and intangible elements. The concept of intangible heritage can be defined differently depending on whether one refers to the microeconomic scale of a company or the macroeconomic scale of a state or the meso-economic scale of a smaller territory.

Tangible heritage is primarily natural. According to the interministerial commission on natural heritage accounts, it refers to "all natural elements and the systems they form that are capable of being transmitted to future generations or of transforming themselves. This natural heritage consists of a set of tangible elements (ecological, faunistic, mineralogical, and paleontological riches according to the National Museum of Natural History). It is also strongly associated with intangible elements.

In addition to these elements, we need to add an element that plays an important role in spatial economics: the image of the territory. The image of a territory can be defined as an identity and symbolic relationship that links the tangible and intangible elements of a territory to resident or non-resident actors. This image constitutes a mental distance that conditions access to places and functions.

Territorial Sustainability

"Territorial sustainability" refers to the essence of the sustainability concept, the capacity of a system to conduct the process of reterritorialization according to the rules of its production and reproduction. In terms of processes, "territorial sustainability" can be considered synonymous with "environmental sustainability." The environmental aspect considers the concept of resilience as the maintenance of the ecosystem's balance. In addition, in the territorial dimension, territoriality is considered, or the social process of giving territorial identity, always in harmony with the local environment.

These perspectives would encompass general conceptions in the territorial approach, as well as specific subjects, offering a rationalization for the approach to sustainable development. Thus, regarding the assimilation of theoretical and conceptual frameworks of territory and sustainable development, two main ideas can be addressed. From a territorial perspective, the conditions for sustainable development result from territoriality, i.e., the relationship between humans, society, and nature. In turn, sustainable development can be analyzed from five interdependent and interconnected perspectives, helping to address issues within a broader analytical framework, integrating environmental issues into stakeholder engagement processes, and strengthening the organized local arena for decision-making and civil society action.

To achieve sustainable development, territorial development revolves around three dimensions:

1. We also seek equitable distribution through the valorization of the territory's unique assets and the economic dimension of wealth creation.
2. By developing what is considered an environmental dimension of a given environment while ensuring the protection and renewal of natural and heritage resources.
3. By better responding to the basic needs of the population (housing, health, services, etc.) and developing the social dimension of social cohesion.

Dimensions of Territorial Development

Territorial development revolves around three dimensions:

1. An economic dimension through the valorization of the territory's specific assets and the creation of wealth for which equitable distribution is also sought.
2. An environmental dimension through the valorization of an environment considered specific while ensuring the preservation and renewal of natural and heritage resources.
3. A social dimension through better response to the basic needs of the population (housing, health, services, etc.) and the development of social cohesion.

Territorial Governance

Territorial governance carries democratic innovation: it questions the vertical structure of government, reconsiders the roles of different levels of territorial units, collaboration between these levels, and their relationships with actors outside the public sphere. Consultation, coordination, decentralized management, contracts, mediation, information, training, participation, etc., are the key elements. In response to regional governance emerging in new development spaces, it is built by and for local actors, ensuring the necessary representativeness for democracy. It involves adopting new approaches to consultation, participation, and legitimacy to enlighten not only opinions but also processes and decisions.

Territorial governance cannot be reduced to a simple level of spatial administration but, on the contrary, stands as a permanent social construct, a process of distinguishing and structuring the "inside" from the "outside." This particular form of coordination created by groups is established not only by identifying a common problem but also by the transformation and appropriation of resources without value on the territory by local actors.

Coordination and negotiation, necessary to advance the territory toward desired goals, lead to the creation of new places for consultation, new action and decision-making techniques, and new processes. The resulting territorial governance is based on multiple actors, the definition of an identity space, and the development of common actions and productions. This particular form of governance is the foundation of multiple proximity, as it combines the geographical proximity of actors with organizational and institutional proximity.

Factors of Success or Failure in Territorial Governance

Success Factors: What are the reasons for the success of territorial governance?
- Decision-making (understanding, analysis, collective choice): The concept of decision-making is a "process of contextual change."
- Actor rationality, thus, the rational process is the progressive integration of acquired information into the decision-making process, allowing for the best solution.
- Collaboration, coordination, and broad-scale participation

Failure Factors: What has caused the failure of territorial governance?
Factors that hinder the achievement of territorial governance.
- Conflict of appropriation
- Conflict of power and authority
- Financial constraints

Conclusion

Territorial development is a project aimed at overcoming the need for economic growth and correcting its adverse effects. Territorial development approaches are based on the collective control of social, economic, environmental, and technological choices to find long-term solutions to communities' problems and imbalances. This collective control is based on three fundamental democratic values: participation, transparency, and accountability. Territorial management emerges from the daily practices of groups within the territory. It is guided by ethical, political, and existential paradigms through the lens of sustainable development. Many issues can be resolved by stimulating social awareness, new forms of mobilization, and processes of collective organization.

It is a choice based on an ethics of freedom centered on territorial resources of autonomy and dignity, as creative paths and processes to develop new subjectivities and strengthen diversity. Territorial management involves innovation in the ways things are done, in how they are present, and in how local initiatives that emerge and manifest in individuals' and groups' daily practice promote development. Resisting, reversing, and changing their own realities and protecting their resources for present and future generations.

Recommendation

It is undeniable to assert that the conditions and standards for the capacity or incapacity to concretize territorial management are adaptability, animation, the connection of individuals, and the collective dimension, through the following points: Territorial management is about reshaping the territory in terms of a common project. Territorial management is a mode of governance that takes into account the impact of various actions and structures implemented on social cohesion, strategies for economic diversification, environmental protection and conservation, as well as the ability to clearly define its actions.

Territorial management ensures the coherence of these actions, their feasibility, and their effects on the development of a community or region. Territorial management also involves anticipating and making judicious choices in terms of land use, development, risk management, and environmental changes to enhance the resilience of territories and societies. A territory is a dynamic, evolving, and complex space that requires sound management. On one hand, to seize the opportunities that arise and promote its growth, and on the other hand, to reduce (or counter) risks while implementing mitigating measures. Territorial management includes civil society, the population at large, and not just individuals with purchasing power in the market. Therefore, public goods fall within the scope of territorial management. Territorial management must continue to focus on economic strategies to develop the territory, emphasizing its specific characteristics and resources in order to initiate a development process involving local stakeholders, all while not neglecting external engagement.

Scientific Ethics Declaration

The author declares that the scientific ethical and legal responsibility of this article published in EPESS journal belongs to the author.

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Social and Educational Innovations in Accounting and Finance in the Context of Digitization

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Abstract: Digitization refers to the process of converting analog signals into digital signals, and its impact extends far beyond mere technological transformation. This phenomenon brings about substantial changes in various sectors, particularly in the realm of economics, where its influence becomes indispensable within a remarkably short span of time. Consequently, accounting departments have swiftly recognized the importance of embracing information technologies to improve their work processes and outcomes. As a result, they have been quick to implement these technologies, leveraging their potential to enhance efficiency and accuracy. In-depth research on this subject employs several methods to gain comprehensive insights. The first method is a literature review, which examines existing knowledge and scholarly works in the field. The historical method enables researchers to trace the evolution of digitization, providing valuable context for current developments. The comparison method evaluates the national and international impact of digitization, facilitating a broader understanding of its implications. Such knowledge not only contributes to academic advancement but also informs practical decision-making processes for organizations embracing the digital revolution.

Keywords: Digitalization, Accounting, Finance, Computer technology

Introduction

With the accelerated development of technology, the digital enterprise and economy have become tangible realities, making as a result digital competences indispensable for the career success and personal development of every individual. Much of the digital evolution is driven by the global digital industry. Google, Facebook, Microsoft have contributed enormously to the digitisation of society. And things are constantly on the move: Uber, WhatsApp, Skype, Netflix - all these products are making our lives easier and changing the society we live in, because so much of our working environment and way of life is based on technology in its various forms. Digital technology has enormous untapped potential to improve education (Loft & Parsons, 2018; Berényi – Csiszárik-Kocsir, 2023a; 2023b; Csiszárik-Kocsir – Berényi, 2023). Thus, one of the objectives of this study is to analyze the phenomenon of digitization in accounting and finance (Cacik, 2018), its benefits and risks, the ways in which it can improve and develop the digital skills of accounting and reporting, affirming or refuting the hypothesis that digitization is a means to accounting education and not an end in itself.

The economy of the future, in turn, is based on the transition of economic activities to a digital economy, where digital technologies underpin activities. In many developed countries, the term 'digital economy' encompasses the duality of economy and society as a whole, where digitisation as a transformative process has changed business models, increased the pace of life and activity of the population, and transformed government policies and practices through online platforms.

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In this context, a digital transformation of businesses and the adoption of Industry 4.0 technologies represent a new perspective on the business landscape. This paradigm shift emphasises the sharing, ownership, use and organisation of demand, resources and customer data to improve the accessibility, efficiency and sustainability of products and services. Business digitisation is closely linked to key innovative technologies including artificial intelligence, software, robotics, blockchain, smart data analytics and cyber security. These technologies are significantly reshaping businesses' internal and external operations. The incorporation of advanced digital technologies, such as cloud computing, artificial intelligence, big data, IoT, IoE, and augmented reality, is significantly improving employee communication processes (Sharma et al, 2019). This is leading to more efficient and seamless workflows, which is crucial for the success of any organization.

Digital technologies, including big data, artificial intelligence, robotics and blockchain, are profoundly reshaping today's workplace and revolutionizing the way organizations conduct their operations (Nascimento et al., 2019). As we move further into the digital age, having a strong competency in digital skills is becoming increasingly crucial for professionals. This is especially true for those involved in the development and implementation of emerging technologies within organizations, as they must be equipped to generate value through the use of advanced digital solutions (Ferreira et al., 2021). Accounting firms, for example, can gain a competitive advantage (Varga, 2021; 2023) in the market by adopting digital technology-related solutions and creating innovative services (Petani et al., 2021, Csiszárik-Kocsir – Varga, 2023; Varga – Csiszárik-Kocsir, 2023). And with the Covid-19 pandemic underscoring the importance and benefits of digital skills, they have become a top priority for professionals across industries (Tandon, 2020).

Social and Educational Innovations

The process of innovation has always required a significant public effort, now at the global level, and a concentration of resources (Subnani, 2021). This is certainly true for the 20th century, especially for the second half of the 20th century, which is an important context, because in this era, regional units, the nation-state or smaller territorial units were already implemented in a subordinate and appropriate manner. The idea, which has sometimes appeared in the literature (Fettry, 2019), that innovation was influenced by corporate development or narrowly defined demand factors is wrong. This view is certainly not justified by economic history or economic policy. Major, era-defining innovation has always been the result of high-level economic policy decisions.

We will also look at the key role that education and lifelong learning play in ensuring a skilled workforce ready to face the challenges and opportunities offered by digitisation. Traditional learning approaches need to adapt quickly to the pace of new technologies and business paradigms to provide accounting and finance professionals with the knowledge and skills to be competitive and relevant (Mian et al., 2020). Social and educational innovations play a crucial role in adapting and harnessing this digital potential for the benefit of professionals and organisations in the sector (Mizser et al., 2022). In a world of exponential change, the need to keep up with new technologies and ways of working is imperative.

This paper examines how social and educational innovations have redefined how accounting and finance are understood and applied in the age of digitisation. We explore how cutting-edge technological solutions such as artificial intelligence, process automation, blockchain and big data analytics have revolutionised traditional approaches and opened up new opportunities for efficiency, transparency and informed decision-making.

Digitalisation in Accounting and Finance

The accounting field has undergone significant changes in recent years, driven by technological advances, globalisation and greater social awareness. As a result, there is a growing recognition of the need for social and educational innovation in accounting. In accounting, there are a number of digital skills that accountants need to possess. To excel in the accounting and finance industry in the age of digitisation, professionals must possess skills in data analytics, innovation, accounting automation, and digital communication. These skills will enable them to stay competitive and relevant in the rapidly evolving workplace. It's important for traditional learning approaches to adapt to the pace of new technologies and business paradigms to provide professionals with the knowledge and skills they need to succeed (Lestari, 2019). These skills enable accountants to effectively navigate the digital landscape, allowing them to provide valuable insights and strategic contributions to the success of their organizations.

The field of accounting, which has established rules and guidelines, is now embracing digitization. This development requires accountants to actively participate in system development projects. Their responsibility is to ensure that the system developer meets their requirements. They must also be responsible for the conceptual specifications of the system, including the type of information, sources, destinations, and applicable accounting rules. Furthermore, they need to conduct thorough analyses of IT investments and associated benefits (Dias-Sardinha, 2019). Due to the complexity of IT requirements in accounting, there is a pressing need for a team of knowledgeable accounting information systems (AIS) professionals to manage accounting studies and practices (Damayanti, 2019).

In the accounting industry (Dillard, 2016), terms such as artificial intelligence, big data, blockchain technology, cloud solutions, software bots, and embedded systems have become commonplace. The implementation of smart technologies and big data brings changes that force accountants to take on new responsibilities, update their skills and adopt novel approaches to collaboration, particularly focusing on interactions between humans and machines. (Gulin et al., 2019). These emerging technologies create complexity and scale, positioning those responsible for their development in a new position within the professional ecosystem. They become part of a network of relationships involving customers, service providers, professionals from various fields, regulatory bodies, and the general public (Petani et al., 2021).

In the future, notarial and creative accountants could replace currently employed accountants as technology continues to transform the profession (Fettry, 2019). This transition necessitates accountants to acquire a diverse set of skills and competencies relevant to their profession as they navigate through this evolving landscape. Although the fundamental roles and responsibilities of professional accountants will remain, certain tasks might be undertaken by AI-powered technology, resulting in substantial alterations in the tasks and skills demanded within the accounting domain over the next decade (Leitner-Hanetseder et al., 2021). This implies that individuals must adeptly utilize digital technology and collaborate effectively with AI-based tools to assume various new responsibilities.

It is truly captivating to witness the diverse range of methods through which financial services are being provided in today's world. The advent of electronic banking options, such as internet banking, mobile banking, and Automated Teller Machines (ATMs) of various kinds, is paving the way for new and thrilling technologies, paving the way for traditional delivery methods to be replaced. These cutting-edge innovations are providing financial firms with that competitive advantage that is vital for their very survival. In fact, studies have indicated that companies that adopt innovation as a core value tend to perform better overall.

Digitalization has had a notable impact on how accountants approach their profession, with many recognizing its and the accounting profession faces both advantages and obstacles while adapting to the technological revolution (Fettry et al., 2019). As the global economy continues to transform at a swift pace, it becomes crucial for the accounting field to equip its professionals with the necessary information, skills, and competencies to support businesses in sustaining economic growth and competitiveness accounting professionals (ACCA, 2016). Automation of financial processes is increasingly focused on streamlining end-to-end processes across various business areas. The financial industry has been slow to adopt blockchain technology due to its cost and lack of proven applications. However, financial leaders are still attracted to the benefits of blockchain, such as increased cybersecurity and automation.

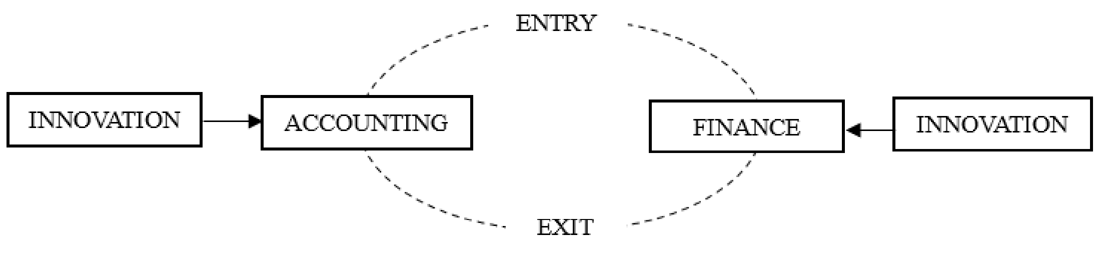

Figure 1. Conceptual model – innovation, accounting and finance

The preceding discussions have revealed that past research has employed diverse approaches and theories to investigate the factors leading to and the consequences of technology adoption. These antecedents of influence can generally be categorized into four distinct groups. Finally, we explore some case studies and concrete examples of how social and educational innovations have positively impacted organizational performance, operational efficiency, and the quality of financial information. By analysing these issues, we will highlight how social and educational innovations (Müller, 2020) continue to shape the future of accounting and finance in the digital age, offering new insights and challenges for both professionals and organisations.

Method

The scientific research in question revolves around the rapid acceleration of digitisation in accounting. This phenomenon is influenced by two primary factors: firstly, the limitations on communication between economic and social stakeholders in the traditional face-to-face setting and secondly, the increasing inclination towards virtual activities which significantly influences the decision to adopt digitisation.

Following the methodology proposed by Xiao and Watson, the present systematic literature review (SLR) comprised four stages: (1) the planning stage, which involved establishing the purpose and relevance of the SLR and defining the research strategy; (2) the selection stage, in which the scope of the topic was clearly defined; (3) extracting and processing information related to the defined scope from our selected sources; and (4) analyzing the collected information, which aimed to identify key ideas within each selected article and examine the different perspectives presented. In addition, the analysis aimed to identify any gaps or unexplored areas within existing studies; our goal was to ensure the replicability of the study. This scholarly study addresses the challenge posed by the rapid digitization of accounting in the current landscape, where face-to-face communication between economic and social stakeholders faces constraints, while virtual activities gain significant momentum in shaping decisions to adopt digitization. To explore this phenomenon, the research focuses on a crucial question: is the transition of accounting into the digital domain, encompassing both technological and human resource aspects, driving a paradigm shift in the mission and role of accounting professionals?

Results and Discussion

In this study, we provided a systematic review of 48 WoS and Scopus papers (See Figure 2), which allowed us to identify the social and educational elements embedded in the recent accounting and finance innovation model. In general, the papers analysed present successful cases in terms of developing digital skills among professionals. The research papers use various application methods and teaching strategies, leveraging both synchronous and asynchronous tools and ICT platforms in the innovation process.

Our team extensively researched various resources to gather information on social innovation and its impact on developing countries. We looked into research papers and reports from renowned institutions and universities to ensure the reliability of our findings. Our inclusion criteria encompassed all developing countries around the world to ensure a comprehensive analysis. Our efforts paid off, as we were able to identify articles that effectively discuss the importance of social innovation and the obstacles that social enterprises encounter.

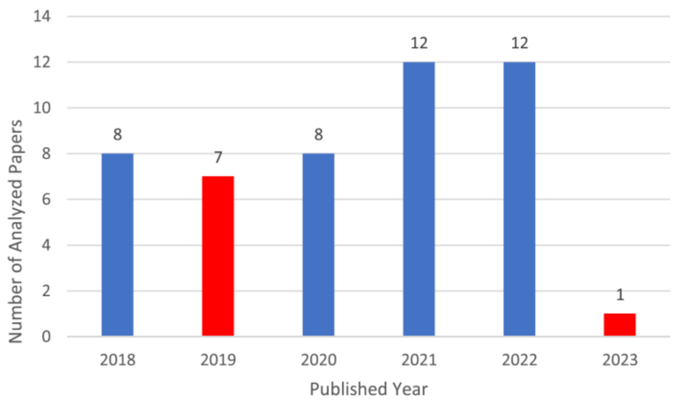

Figure 2. Papers examined by the years in which they were published

Our literature review highlights on innovation in accounting and finance studies gathered from an extensive search of several reputable scholarly sources, including but not limited to the majority of articles related to our research topic were published in the following journals: Journal of Business & Social Science; Journal of Economic Literature; International Journal of Economics; Economic Journal; Innovation and Development; Journal of Financial and Quantitative Analysis.The papers under analysis span the years 2018 to 2023, with a significant number published in 2021 and 2022, each comprising 12 publications. Additionally, eight papers were published in both 2018 and 2020. Furthermore, seven articles were released in 2019, and one article in 2023 focused on the same topic as ours.

In today's fast-paced digital age, it's crucial for professionals to stay up-to-date with technological advancements in their respective industries. The financial sector has been slow to adopt blockchain technology (Cooper, 2019) due to cost and lack of proven applications, but its benefits in increased cybersecurity and automation make it an attractive option for financial leaders. As the business environment continues to be reshaped by digitisation, it's important for higher education institutions to equip students with the skills necessary to adapt to the changes brought about by rapid technological development. Automation of financial processes is also becoming increasingly important in streamlining end-to-end processes in various business areas.

Big data, analytics and predictive modelling are becoming increasingly important for informing business strategies and decisions within financial processes. Leveraging this data, ERP systems are now automating a substantial portion of financial processes, with their impact on company operations set to grow significantly by 2025.

ERP vendors are improving their systems with AI (Bui, 2019), machine learning, robotics, and blockchain. This boosts efficiency and reduces cyber attack risks. It's exciting to see the industry progress. This continued integration of next-generation technologies will shape the financial automation landscape and improve overall business operations for forward-thinking companies

Figure 3 presents a comprehensive examination focused on artificial intelligence, finance, accounting, competences, big data, intelligent systems and blockchain, and their interconnections with the accounting and finance sector. This analysis delves deeper into how these information technologies are influencing and shaping the accounting sector.

Figure 3. The analyzed literature presents an overview of key terms related to the subject matter (adapted from Coman, D.M. at all, 2022)

We have successfully identified key competences for innovation, which include digital skills, cooperation, innovative behaviour, accounting and financial literacy, knowledge creation and transfer, communication, creativity, entrepreneurial expertise and technological competence. The accounting reviews highlight major changes not only in accounting science, but especially in accounting that universities need to take into account. The ERP industry is rapidly evolving with the integration of AI, machine learning, robotics, and blockchain. It is imperative for universities to stay ahead of the curve by offering courses in digital technology, globalisation, and regulation. Collaborating with industry partners can aid in preparing students for the future. Scientific research must focus on professional digitisation, technological change, fraud prevention, corporate sustainability, and other emerging areas to identify challenges and opportunities facing the profession. Failure to adapt to these advancements could result in falling behind the competition.

As stated in a recent study, the integration of AI, machine learning, robotics, and blockchain is causing significant changes in the structure and operational processes of organisations. This transformation also affects the overall culture of these organisations. A change in mindset and business practices is expected, especially among the younger generation of entrepreneurs who are eager to integrate IT technologies from their personal lives into their business activities. In order to keep up with these changes, it is important for universities to offer courses in digital technology, globalisation, and regulation. Additionally, industry partners should collaborate with universities to prepare students for the future. Scientific research should also focus on professional digitisation, technological change, fraud prevention, corporate sustainability, and other emerging areas to identify challenges and opportunities facing the profession. Failing to adapt to these advancements could result in falling behind the competition.

This change is driven by the dynamic nature of today's business environment, which is subject to various constraints, including those arising from the current economic crisis. In this context, business entities recognise the growing importance of information accessibility, rapid information dissemination, agile decision-making, mobility and flexibility.

It is expected that by 2025, most competitive companies will have achieved full automation of repetitive financial processes, with the exception of strategic tasks. This automation will be driven by the implementation of advanced technologies such as ERP systems (Trunina, 2018), big data and blockchain. Although the pandemic initially slowed automation due to lack of investment in standardised processes and data architecture, progress has picked up quickly.

Fintech refers to the application of technology-driven innovation in financial services. This revolutionary technological change is profoundly transforming the financial sector and the wider economy, impacting on different aspects of our daily business, from payment systems to monetary policy and financial regulation. As we move forward in this rapidly changing landscape, it is crucial for central banks to participate in ongoing discussions surrounding the nature of money in a digital world and how emerging players will reshape the financial services industry. It is important for all parties to work together to ensure the stability and sustainability of the financial system as a whole.

Digitisation is a transformation that goes beyond simply digitising existing processes or services. It encompasses the various ways in which companies are affected by the use of digital technologies in their workplace and operational environments (Al-Htaybat, 2017). In a broader context, digitisation involves the conversion of interactions, innovation, communications, acoounting, business functions and business models into digital formats (Belfo et al., 2015). As one of the most significant and long-lasting transformations in contemporary society, digitisation has already affected many aspects of our lives (Leitner-Hanetseder et al., 2021).

These include general organisational competences such as social, educational, economic and monitoring elements. From a technology management perspective, Abdulmuhsin and Tarhini (2022) take an interesting approach and conclude that in order to successfully implement the innovation model, managers need to foster wise, intelligent and knowledgeable leadership and promote change through strong leaders.

Conclusion

In conclusion, while there are challenges, technology integration and digitisation present significant opportunities for accounting and finance professionals. By embracing technology, accountants can elevate their role as strategic advisors, leverage data-driven insights and improve collaboration with stakeholders. The world is in a perpetual state of change and technological advances are continually permeating various aspects of life, production, industries and professions. The implementation of 'smart' technologies in today's world is directly impacting the field of accounting. As we continue to move forward in this rapidly changing landscape, it is crucial for all parties to participate in ongoing discussions surrounding the nature of money in a digital world and how emerging players will reshape the financial services industry. Working together to ensure the stability and sustainability of the financial system as a whole is of utmost importance.

The evolution of the accounting profession has undergone a significant transformation from the use of stand-alone software and physical documents in the traditional accounting era to the digital era, where accounting processes are moving to cloud-based platforms. This shift has led to a paradigm shift in the role of accounting professionals for business owners, encompassing both business management and communication with government institutions. It's interesting to see how the accounting profession is adapting to the digital economy and embracing new technologies like artificial intelligence, blockchain, and robotic process automation. These emerging technologies have seen exponential growth in recent years thanks to favorable technical and social conditions. It's clear that the financial services industry is rapidly changing, and it's important for all of us to participate in ongoing discussions around the nature of money in a digital world and how we can work together to ensure the stability and sustainability of the financial system as a whole.

The research conducted in this study is of practical value to entrepreneurs, accounting professionals and other business stakeholders as it explores the extensive use of information technologies in their daily activities. However, it should be noted that the geographical scope of the study was limited to the south-eastern part of Romania, which may affect the generalizability of the findings. Also, the research period was influenced by the COVID-19 pandemic crisis, which accelerated the digitization process in all economic and social spheres and which might have influenced perceptions of digitization. We agree that the role of accountants is changing rapidly. In the past, accounting was simply about recording data, but now it involves a much broader set of responsibilities. In addition to having a deep understanding of business processes, accountants must also possess strong analytical skills to perform more complex tasks such as planning, forecasting, and cash flow management. With the emergence of new technologies like artificial intelligence, blockchain, and robotic process automation, it's even more important for accountants to continually develop their skills to stay ahead of the curve and provide the most value to their clients.

In today's business environment, accountants must have the ability to analyse data comprehensively, gaining insight into the factors that influence business performance. They need to be skilled in identifying and meeting customer needs and following up effectively. In addition, using new data formats is crucial to making informed business decisions. Accountants also need to interpret data effectively, providing decision makers with more meaningful and actionable information (Surianti, 2020).

As technology continues to advance, it will not replace accountants, but enhance their expertise, skills and capabilities. By automating routine tasks and operations, technology allows accountants to devote more time to analysing and managing company activities. We agree with your thoughts on how digital transformation will impact accounting information systems.

With technology advancements, accountants will be able to work more efficiently and produce more accurate and timely reports. This will be beneficial not only to the accountants but also to their clients who will have access to more current financial information. The accounting industry is going through exciting times, and I am eager to see how these changes will shape the field in the future. As a result, accountants can focus on making strategic decisions and adding value to the overall financial management of the organisation. Looking ahead, future research efforts aim to expand the study to uncover cultural differences, different behaviours, mindsets and legislative issues related to the progress of digitising accounting and improving professional accounting practices.

Recommendations

These research recommendations aim to further explore the impacts, challenges, and opportunities associated with social and educational innovation in accounting. Researchers can contribute to the ongoing development and improvement of accounting practices and education. Despite the challenges, technology and digitalization offer numerous opportunities for accounting and finance professionals. As an accountant, it is imperative to automate routine tasks to free up precious time and resources. This allows me to focus on high-value activities such as data analysis, strategic decision-making, and providing advisory services to clients. By automating tasks like data entry and report generation, I can give undivided attention to delivering value-added services to my clients and help them achieve their business objectives. This shift enhances the role of accountants as trusted advisors, capable of providing strategic insights and guidance to organizations.

Scientific Ethics Declaration

The authors declare that the scientific ethical and legal responsibility of this article published in EPESS journal belongs to the authors.

Acknowledgements or Notes

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The Significance of Corporate Governance: Insights from the Banking Industry in Kosovo

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Abstract: This research investigates the influence of corporate governance (CG) practices and specific financial indicators on the performance of Kosovo's banking sector from 2015 to 2022. The study uses secondary data from nine commercial banks and employs the Ordinary Least Squares (OLS) estimation method to assess their impact on Return on Assets (ROA), Return on Equity (ROE), and Net Interest Margin (NIM). The findings highlight the significant impact of these variables on the banking sector's performance, with varying degrees of influence depending on the performance metric. Notably, NIM emerges as the most effective metric for evaluating a bank's overall performance, emphasizing the importance of managing interest margins effectively in the Kosovo market. These results have broader implications for discussions on governance structures within financial institutions and policy formulation. In Kosovo's banking sector, corporate governance has become pivotal for operational success and sustainability. This research offers valuable insights for stakeholders and policymakers by analyzing CG practices and their effects on key financial performance metrics.The dataset spans from 2015 to 2022, ensuring a comprehensive assessment of trends and developments within the banking sector. By employing the OLS estimation method, this study sheds light on the intricate relationship between corporate governance practices, financial indicators, and the sector's overall performance.
In summary, this research comprehensively explores the interplay between corporate governance practices, financial indicators, and Kosovo's banking sector performance. The identification of NIM as a key performance metric underscores the importance of effective interest margin management. These findings have far-reaching implications, prompting critical discussions on governance structures within Kosovo's financial institutions for policymakers and industry leaders.

Keywords: Banking, Corporate governance, Banking Industry

Introduction

Corporate governance (CG) is a fundamental aspect of modern financial theory that has garnered significant attention, especially in the aftermath of the 2008-2009 global financial crisis. This crisis prompted a surge in research efforts to assess the effectiveness of CG, its components, and their impact on bank performance. Various factors have been attributed to the crisis, such as the US housing bubble and increased securitization, while others point to unethical auditing practices, nontransparent financial disclosures, and shortcomings in CG.
In light of these perspectives, it becomes evident that CG plays a critical role in the operations of banking sector organizations. In an era of globalized business, banks face challenges in serving as intermediaries for businesses. It's important to note that numerous studies have shown that a country's economic growth is closely tied to the development of its financial system, particularly the banking sector, which is seen as a key driver of economic growth. The Basel Committee on Banking Supervision (BCBS, 2006) has emphasized the importance of effective CG and its components in building public trust in banking institutions. Furthermore, experts like Caprio and Levine (2002) highlight the central role banks play in facilitating and overseeing businesses, both as

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creditors and owners. Consequently, CG mechanisms can be considered tools to enhance security for all stakeholders by promoting transparency, accountability, and efficient monitoring.

However, the banking industry's complexity is evident in the challenge of managing vast amounts of information. Fortunately, there are tools available to improve the flow of information and the quality of financial reporting. For example, BCBS has outlined the importance of the board's structure in enhancing transparency, accountability, and effective regulatory reform within banks. Based on these principles of corporate governance for banks, the Central Bank of Kosovo (CBK), as the sole regulatory authority for the financial sector, has mandated the strict application of these guidelines. In May 2012, the CBK approved regulations on the CG of banks, which were subsequently reviewed in August 2019 (CBK, 2019). These regulations aim to strengthen the regulatory framework related to good CG practices for banks operating in Kosovo, playing a crucial role in ensuring the sustainability and stability of the banking sector. Additionally, these regulations set out minimum requirements for bank shareholders, the board of directors, and CEOs in terms of their responsibilities regarding CG practices.

To conduct this research, we utilized a dataset comprising nine out of ten banks, covering the period from 2015 to 2022. Specifically, we aim to address the following research questions:

- Has the effectiveness of bank governance improved in the aftermath of the financial crisis?
- Are banks in Kosovo implementing CG mechanisms as prescribed by the regulatory authority?

This study makes a significant contribution to the literature by expanding our understanding of the relationship between CG, financial indicators, and banking performance in Kosovo, taking into account the institutional environment. The study employs quantitative panel data analysis to explore the impact of CG factors on bank performance. It also offers insights from three perspectives: theoretical, empirical, and policy. From a theoretical standpoint, the research contributes to a more evidence-based comprehension of CG. By providing quantitative empirical evidence, it helps clarify the relationship between these factors, especially given the contradictory results from previous studies.

Empirically, this paper adds original insights by utilizing data specific to Kosovo's banking sector, demonstrating how CG components and certain financial indicators influence governance improvements using Ordinary Least Squares (OLS) regression. Lastly, from a policy perspective, the study can inform financial sector policies and initiatives. Effective governance practices are critical for the establishment of robust banking systems, which are essential for building and maintaining public confidence in the banking sector (Fernández Sánchez et al., 2020).

The paper is structured into sections and subsections as follows: Section 2 provides a review of the literature and the development of hypotheses. Section 3 presents data related to Kosovo's banking sector and outlines the empirical methodology. Section 4 discusses the empirical findings, and Section 5 offers conclusions and implications.

Literature Review

The topic of bank profitability has been extensively explored by numerous researchers, who have found it to be both engaging and complex. Many empirical studies have delved into profitability, often focusing on specific countries or conducting analyses across multiple countries. Some studies have concentrated on individual nations, such as Croatia (Kundid et al., 2011), Japan (Lui & Wilson, 2010), or Turkey (Anbar & Alper, 2011). Additionally, there are substantial studies that have examined bank profitability across panels of countries, such as the research by Menicucci and Paolucci (2016) on European Union banks, or the investigations carried out by Petria, Capraru, and Ihnatov (2015) in Central and Eastern Europe, and Tmava, Berisha, and Mehmeti (2019) regarding profitability in Western Balkan countries, among others. In light of the diverse factors considered in these studies, we have formulated our hypotheses for the banking sector in Kosovo, drawing upon this body of research.

Data and Sample

The sample for this study comprises nine (9) commercial banks operating within Kosovo. Notably, among these banks, only one is entirely domestically owned, while the remaining commercial banks are foreign-owned. It's worth mentioning that one commercial bank was excluded from the sample due to the unavailability of data in the specified format and for the designated period included in the analysis. The panel data used in this study are highly balanced and have been sourced from audited financial reports spanning from 2015 to 2022. This dataset encompasses nine (9) distinct groups, resulting in a total of 72 observations. Corporate governance data were extracted from the annual reports of each individual bank. Consistent with the methodology proposed by previous studies, such as Adams and Mehran (2012) and Pathan and Faff (2013), corporate governance data were assessed based on the reporting date declared in the reports.

Our corporate governance dataset comprises four (4) key dimensions. These dimensions encompass an examination of the board of directors' size, gender diversity within the board (including both male and female composition), and the number of other supervisory subcommittees. In assessing bank performance, there are two primary approaches:

a) Structured Approach: This approach focuses on maximizing profits or minimizing costs as the yardstick against which a bank's performance is evaluated.
b) Unstructured Approach: In this approach, bank performance is evaluated through various financial ratios.

Our research adopts the structured approach, leveraging several financial indicators to test the hypotheses outlined in the previous section. We employ a dynamic approach to examine the impact of corporate governance and specific financial ratios on bank performance. The corporate governance variables considered in this study include board size, the composition of male and female board members, the number of board subcommittees, as well as natural logarithms of total assets, equity-to-liabilities ratio, and liquidity as explanatory variables.

To assess bank productivity, we rely on three key performance metrics:

1. Return on Assets (ROA): This metric measures the profitability of a bank in relation to its total assets.
2. Return on Equity (ROE): ROE evaluates a bank's profitability concerning its shareholders' equity.
3. Net Interest Margin (NIM): NIM reflects the difference between the interest income earned and the interest expenses incurred, providing insights into a bank's interest rate management.

Numerous empirical studies (such as Lozano-Vivas & Pasiouras, 2010; Casu & Girardone, 2010; Barth, Lin, Ma, Seade, & Song, 2010) have applied this structured approach to evaluate bank productivity. The rationale for our focus on efficiency and cost lies in the assertion that corporate governance is essentially an internal mechanism with the objective of maximizing the bank's value (Denis, 2001).

One particular factor that is specific to the banking sector is "bank size," represented by the natural logarithm of total assets. The natural logarithm of assets for each financial institution serves as an indicator analyzing the internal rate to external rate ratio in bank lending (Meric et al., 2017). This indicator also functions as a measure of a bank's capital strength for a given year.

Following the global financial crisis of 2008, the quality of a bank's capital and liquidity became a significant concern. In this context, the equity-to-liabilities ratio is a crucial variable of interest. This ratio is selected for examination to investigate its impact on profitability. Research conducted by DeAngelo and Stulz (2015) argues that a higher level of this ratio provides optimal opportunities for bank productivity.

Additionally, we consider liquidity an important indicator for investigation. Banks with sufficient liquidity are better equipped to weather potential shocks. From one perspective, maintaining a "comfortable ratio" of liquidity reduces risk levels and can lead to reduced financing costs, potentially increasing profits (Vogiazas & Alexiou, 2014). However, from another viewpoint, liquid assets often yield lower returns, potentially reducing profitability.

From a productivity standpoint, neo-institutional philosophy suggests that larger boards are more effective in monitoring management and promoting shareholder interests. Larger boards are also believed to reduce information asymmetry among managers and various stakeholders regarding the quality of financial reporting. Neo-institutional philosophy further contends that larger boards are more effective in providing better and more expert advice, as some board directors possess firm-specific knowledge and managerial expertise. However, from an efficiency perspective, other studies have indicated that large boards may face coordination challenges and communication issues among board members, potentially leading to what is known as "free rider" problems. Board composition from a gender perspective has received relatively limited attention in research. Nevertheless, a study by Pathan and Faff (2013) suggests that gender diversity can enhance the performance of banks.

Diversity in the board's composition is seen as potentially improving board efficiency, particularly when board members bring diverse experiences, attributes, and characteristics. These characteristics include gender, age, ethnicity, level of education, and profession. From a productivity viewpoint, it is assumed that board efficiency can significantly improve when board members have diverse genders. Additionally, in terms of legitimacy, boards with high gender diversity can foster more stable links between companies and stakeholders, enhancing the legitimacy of the company and the credibility of the board.

In line with agency theory, establishing independent board committees provides additional control mechanisms that safeguard shareholder interests. As such, the CBK has made it mandatory for all banks to establish independent committees through secondary legislation. These committees, depending on their responsibilities, assess various aspects, including the reporting process, internal controls, credit risk, audit practices, conflicts of interest, and the compliance function's effectiveness.

One of the essential components of good governance practices is the supervisory subcommittee. To ensure that an institution meets its objectives related to reliable financial reporting, operational efficiency, and compliance with laws and regulations, the bank must implement an efficient and reliable system of internal control, overseen by the board, CEO, and subcommittee body (e.g., audit committee, credit risk management committee, etc.) (Arouri et al., 2011).

Table 1. Variable descriptions and expected signs

Variable	**Acronym**	**Expected Sign**
Dependent variables		
Return on assets	ROA	
Return on equity	ROE	
Net interest margin	NIM	
Bank-specific factors		
Natural logarithm of assets	LA	+/-
Equity-to-liabilities	EL	-
Liquidity	LR	+
Board size	BS	-
Board composition (male)	BCM	+
Board composition (female)	BCF	-
Board subcommittees	BSC	+/-

Source: Authors’ calculations

In this table, we provide a clear overview of the variables used in the analysis, including their acronyms and the expected signs of their influence on profitability measures (ROA, ROE, NIM). The expected signs indicate whether we anticipate a positive (+) or negative (-) relationship between each variable and the corresponding profitability metric. For Board subcommittees (BSC), the expected sign is noted as +/- because the direction of the influence may vary or depend on specific circumstances.

Empirical Estimation

To assess the efficiency of commercial banks, various models, approaches, or techniques are employed, all with the overarching goal of achieving sustainable results. Previous studies, such as those by Andres and Vallelado (2008), Pathan and Faff (2013), and Liang et al. (2013), have utilized the dynamic regression approach, specifically the 2SLS GMM estimator, for their analyses. In contrast, other authors, like Fahlenbrach and Stulz (2011) or Beltratti and Stulz (2012), have relied on cross-sectional data for estimation over relatively short periods, including the period from 2007 to 2008.

In line with this research tradition, our study also applies Ordinary Least Squares (OLS) estimators based on the method proposed by Mishra and Nielsen (2000). This approach allows us to assess the relationship between corporate governance variables and financial indicators over the specified time frame, enabling a more in-depth examination of the factors influencing bank performance.

The utilization of OLS estimators provides a robust foundation for exploring the complex interplay between corporate governance practices and banking sector performance, offering valuable insights for stakeholders and policymakers. In the context of Ordinary Least Squares (OLS) estimation, the relationship between corporate governance variables and financial indicators can be represented by linear regression equations. Here are the general forms of these equations:

Return on Assets (ROA) Model:
ROA = β0 + β1 * Board Size + β2 * Equity-to-Liabilities Ratio + β3 * Liquidity + β4 * Board Diversity + β5 * Independent Committees + ε
Where:
ROA represents the Return on Assets, a measure of profitability.
Board Size, Equity-to-Liabilities Ratio, Liquidity, Board Diversity, and Independent Committees are the independent variables related to corporate governance and financial aspects.
β0, β1, β2, β3, β4, and β5 are the coefficients to be estimated.
ε represents the error term.
Return on Equity (ROE) Model:

ROE = β0 + β1 * Board Size + β2 * Equity-to-Liabilities Ratio + β3 * Liquidity + β4 * Board Diversity + β5 * Independent Committees + ε
Where:
ROE represents the Return on Equity, another measure of profitability.
Board Size, Equity-to-Liabilities Ratio, Liquidity, Board Diversity, and Independent Committees are the independent variables.
β0, β1, β2, β3, β4, and β5 are the coefficients.
ε represents the error term.

Net Interest Margin (NIM) Model:
NIM = β0 + β1 * Board Size + β2 * Equity-to-Liabilities Ratio + β3 * Liquidity + β4 * Board Diversity + β5 * Independent Committees + ε
Where:
NIM represents the Net Interest Margin, a financial indicator related to interest rate management.
Board Size, Equity-to-Liabilities Ratio, Liquidity, Board Diversity, and Independent Committees are the independent variables.
β0, β1, β2, β3, β4, and β5 are the coefficients.
ε represents the error term.

These equations illustrate how OLS estimation can be applied to investigate the impact of various corporate governance factors on different financial performance metrics in the context of the banking sector. The coefficients (β0, β1, β2, β3, β4, β5) indicate the strength and direction of the relationships between these variables, helping to determine the extent to which corporate governance practices influence bank performance.

Table 2. Descriptive statistics

	Obs.	Min	Max	Mean	Std. Dev.
ROA	72	-0.0489	0.0561	0.0237	0.0245
ROE	72	-0.1672	0.4361	0.1853	0.0735
NIM	72	0.0007	0.0891	0.0789	0.0283
LA	72	5.8745	9.6734	6.1571	1.5731
EL	72	0.0651	1.7831	0.1784	0.1843
LR	72	0.1761	1.7452	0.6543	0.3160
BS	72	5.000	11.000	6.5327	2.3581
BCM	72	3.000	8.000	5.2396	1.7921
BCF	72	0.000	3.000	1.4572	1.1270
BSC	72	1.000	8.000	4.1579	1.8742

Source: Authors' calculations

ROA indicates modest profitability, with banks achieving a mean return on assets of 0.0237. This suggests that, on average, Kosovo's banking sector is able to generate a reasonable profit from its assets. ROE reflects reasonable performance, with an average return on equity of 0.1853. This indicates that banks in Kosovo are generally effective in generating returns for their shareholders. NIM suggests healthy interest margins, with an average net interest margin of 0.0789. This indicates that banks in Kosovo are earning a healthy spread between their interest income and interest expenses. BS suggests variability in board size, with an average board size of 6.53 members. This indicates that the boards of banks in Kosovo vary in size and composition. BCM indicates male board composition, with an average of 5.23 male members on bank boards. This suggests that the majority of board members in Kosovo's banks are male. BCF reflects variability in female board composition, with an average of 1.46 female members on bank boards. This indicates that there is variability in the representation of females on bank boards. BSC indicates diversity in board subcommittees, with an average of 4.15 subcommittees per bank. This suggests that banks in Kosovo have diverse board subcommittees for various governance functions.

Table 3. Correlation matrix

ROA	**ROE**	**NIM**	**LA**	**EL**	**LR**	**BS**	**BCM**	**BCF**	**BSC**
1.000									
0.827**	1.000								
0.592**	0.661**	1.000							
-0.298	-0.534*	-0.612**	1.000						
-0.654*	-0.367	-0.356**	0.129	1.000					
-0.498**	-0.343	-0.414**	0.321	0.675**	1.000				
-0.265	-0.265	-0.219	0.467**	0.375*	0.128*	1.000			
-0.415**	-0.489**	-0.315*	0.476**	0.298*	0.178*	0.812**	1.000		
0.081	0.305	0.156	0.325*	0.219	0.078	0.746**	0.212**	1.000	
0.017	0.005*	0.061	-0.103	0.131	0.042	0.219**	0.031	0.512**	1.000

Note: ***, **, and * denote significance at 1%, 5%, and 10%, respectively.
Source: Authors' calculations.

The results indicate several correlations between bank productivity parameters and the other explanatory variables: ROA has a negative association with liquidity and the number of board members, both significant at a 5 percent significance level. There is also a negative correlation, at a 10 percent significance level, with the equity capital to bank liabilities ratio. ROE shows a significant negative correlation of 5 percent with male board composition. It exhibits a positive correlation with the number of subcommittees of the bank. NIM has a significant adverse correlation of 5 percent with natural logarithm assets, liquidity, and equity-to-liabilities. It also has an adverse correlation, significant at a 10 percent level, with the explanatory variable male board composition. These correlations provide insights into how these explanatory variables are related to bank productivity parameters. Furthermore, we continue with the results of OLS.

Table 3 Empirical results

Variables	ROA	ROE	NIM
Constant	0.035 (0.000)	0.315 (0.000)	0.191 (0.000)
LA	0.003 (0.052)	-0.031 (0.007)	-0.009 (0.000)
EL	0.015 (0.359)	0.029 (0.516)	0.004 (0.315)
LR	0.017 (0.261)	0. 083 (0.143)	0.031 (0.021)
BS	-0.006 (0.047)	-0.032 (0.069)	0.008 (0.000)
BCM	0.003 (0.495)	0.1523 (0.816)	-0.0098 (0.009)
BCF	0.009 (0.259)	0.022 (0.538)	-0.006 (0.005)
BSC	0.051 (0.064)	0.007 (0.032)	0.002 (0.038)
Observation	72	72	72
Durbin-Watson	1.798	1.826	1.805
R-squared	0.82	0.78	0.87

Source: Authors' calculations.
() p value of statistical significance

In our analysis, we have observed a strong negative effect of board size on bank performance across all assessment parameters (ROA i,t, ROEi,t, and NIMi,t), and these results remain statistically significant at a 1 percent significance level (Adams & Mehran, 2008; Karkowska & Acedański, 2020). This finding supports the hypothesized relationship between board size and the performance indicators defined in the analysis.

The negative coefficient associated with board size suggests that as the number of additional directors increases, bank performance declines, consistent with previous studies (Adams & Mehran, 2008; Karkowska & Acedański, 2020; Yermack, 1996; Bhagat & Black, 2008). These studies have shown that an increase in the number of directors is linked to performance but with diminishing marginal returns, indicating a limit to how much increasing the number of directors can enhance a bank's performance.

Furthermore, our analysis has revealed that board composition in terms of gender diversity (BCM and BCF) also negatively impacts bank performance, with significance levels of 1 percent and 5 percent, respectively. However, these results are significant only for the NIMi,t evaluation parameter, confirming the hypothesis that gender diversity can affect bank performance, particularly in terms of net interest margin (Pathan & Faff, 2013). Moving on to the parameter of independent committees within the bank, our findings indicate a positive impact on bank performance with significance at the 1 percent level for the evaluation parameters ROEi,t and NIMi,t. Thus, the hypothesis regarding the positive impact of independent committees on bank performance is confirmed for these two parameters (Jensen & Meckling, 1976).

Regarding the financial indicators in the study, the natural logarithm of assets is found to have a significant impact on bank performance, and this significance holds for all assessment parameters (ROA, ROE, and NIM) according to OLS regression. However, the equity-to-liabilities ratio is found to be insignificant at the 1 percent level. Finally, the liquidity ratio is significant at the 1 percent level for the NIM assessment, confirming the hypothesis related to liquidity's impact on bank performance (Durguti, 2020; Terraza, 2015). In summary, these findings, supported by various studies, provide valuable insights into the relationships between factors such as board size, board composition, independent committees, and financial indicators, and their impact on bank performance.

Conclusion

In conclusion, this study contributes valuable insights to the literature on corporate governance (CG) in the banking sector by examining the impact of CG components, including board size, male and female board composition, and board subcommittees, on the performance of banks. Additionally, we investigate the relationship between these CG components and various financial indicators in the banking industry. Our analysis, based on panel data and OLS estimation for the period from 2015 to 2022, yields several key findings:
We find that board size and the presence of board subcommittees have a significant influence on bank performance, as measured by Return on Assets (ROA) and Return on Equity (ROE). Larger boards may become less effective, and there appears to be a diminishing marginal return associated with increasing board size.

In the case of NIM, which is another important performance measure, the components of corporate governance (board size, male and female board composition, and subcommittees) also demonstrate a significant impact.
Our analysis of board size reveals that the number of board members in the banks we studied is not excessively high, which aligns with the best practices for effective corporate governance. Furthermore, the study emphasizes the significance of regulations and guidelines, such as the Basel Committee framework and the Central Bank of Kosovo's CG regulation, in ensuring sound corporate governance practices in the banking sector. It's important to note that this study was conducted on 9 out of 10 banks operating in Kosovo, and these banks exhibit functional and effective governance structures in compliance with relevant regulations. In future research, it may be worthwhile to explore additional corporate governance factors, such as significant shareholders, the frequency of board meetings, or the composition of subcommittees, to gain a more comprehensive understanding of their impact on bank performance.

Scientific Ethics Declaration

The authors declare that the scientific ethical and legal responsibility of this article published in EPESS journal belongs to the authors.

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Abstract: This paper delves into the status of the US dollar as a world reserve currency and its profound impact on China's economy. It emphasizes the significance of capital account convertibility for governments and advocates the necessity for reform in the international monetary system. The study sheds light on China's remarkable economic growth and its reliance on the US dollar, while also exploring the emergence of an alternative currency basket featuring the Chinese yuan (RMB). With the gradual depreciation of the US dollar on the horizon, the potential consequences for China's economy are thoroughly examined.Additionally, the paper addresses the risks associated with de-dollarization and the potential flight of USD-denominated debt to alternative assets like gold. A detailed analysis of how Trump's economic policies, especially the trade war with China, have impacted the global role of the US dollar is presented. Furthermore, the paper provides a comprehensive historical review of the international monetary system, spanning from the gold standard to the Bretton Woods system and the Jamaican system. It critically discusses the flaws and instability inherent in the current system, including issues related to currency over-issuance and the multi-currency reserve system.In conclusion, the paper examines the policy signals of the Federal Reserve and the US Treasury, along with the ramifications of Trump's economic policies on the US dollar and the global economy. The findings underscore the urgent need for measures to address the challenges posed by the current monetary system and its potential impact on China's economy. The study advocates for a proactive approach to international monetary system reform to ensure economic stability, promote balanced global economic growth, and address the complexities arising from the dominant status of the US dollar as a world reserve currency.

Keywords: Trade, Dollar, Convertibility, CNY-USD exchange rate, Currency basket, De-dollarization, Globalization.

Introduction

Governments often rely on foreign capital to mitigate the impact of the US dollar on their economies. Capital account convertibility is of vital importance to each country's government, leading them to prioritize financial management and advocate for reforms in the international monetary system. China, in particular, has experienced remarkable economic growth, becoming a key driver of global economic expansion. As such, changes in the US dollar exchange rate significantly affect China's economic development, influencing import and export dynamics, price levels, and employment rates.

Despite the US dollar's substantial dominance, an alternative RMB currency basket has begun to take shape. However, the gradual depreciation of the US dollar is expected to have the most profound impact on China's economy (Molnár et al., 2023; Molnár &Csiszárik-Kocsir, 2022, 2023). The fluctuation of the US dollar exchange rate remains a crucial external factor that influences China's economic performance.

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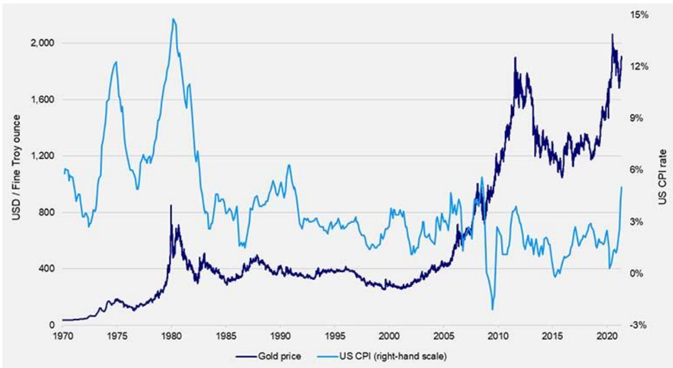
In this paper, we delve into the status of the US dollar as a world reserve currency, carefully examining the risks associated with de-dollarization and the potential flight of USD-denominated debt towards assets like gold and other alternatives. We also analyze how Trump's economic policies, particularly the trade war with China and associated rhetoric, have influenced the global role of the US dollar. By addressing these critical aspects, our study aims to provide a comprehensive understanding of the intricate relationship between the US dollar and China's economy. This analysis contributes to the ongoing dialogue surrounding the international monetary system and underscores the significance of implementing policies that foster economic stability and sustainable growth in the face of currency fluctuations and global economic uncertainties.

Literature Review

Before the 18th century, precious metals like gold and silver were mainly used as currencies. The monetary systems of western countries have experienced a transition period from the silver standard to the gold and silver complex standard. Generally, the gold standard system refers to the gold coin standard system (Gold, W. 1981), 1. As seen in figure 1, gold is an excellent hedge against inflation. (Csapó et al.,2018) (Löblin et al.,2017)



Data: Bloomberg, to 31 May 2021.

Figure 1. Gold price vs CPI. Source: (Funds, 2019)

Historically, the gold bullion standard and the gold exchange standard system have appeared. The significance of the gold standard is to use gold to determine the value of money. Gold is both an internal payment currency and an external payment currency (Garai-Fodor et al.,2022; Fodor,2022). In order to save the utilization of gold, Italy decided to establish the gold exchange standard system in 1922. Within this system, domestic bank vouchers are only circulated in the country. Bank vouchers cannot be exchanged for gold. They can only be exchanged for gold bullion or the currency of a gold standard country (Eichengreen, 1990). In addition to gold, international reserves have a certain proportion of foreign exchange. Foreign exchange can be exchanged abroad. Countries with a gold exchange standard need to maintain a fixed exchange rate with the currency of another country adopting a gold bullion or gold coin standard system and maintain the stability of the value of their currency by buying and selling foreign exchange without restrictions (Nurske, 2005; Garai-Fodor et al., 2023).

Under the gold exchange standard system, due to the consideration of their own interests, countries have devalued their currencies and caused confusion in the international economic order (Grant, 2014). From 1929 to 1933, the world economy experienced a Great Depression, accompanied by deflation and overcapacity, which destroyed the gold bullion and gold exchange standards in western countries (Borazan, 2023; Baranyai et al., 2023).

With the widespread implementation of the currency circulation system in western countries, the crisis of the currency credit system has continued to deepen, and a unified international currency system cannot be established, and currency groups have been successively established. All these developments have raised awareness of the importance of financial literacy (Csiszárik-Kocsir et al., 2013, 2016a, 2016b, 2021; Csiszárik-Kocsir & Varga, 2017; Garai-Fodor et al., 2016; Garai-Fodor &Csiszárik-Kocsir, 2018a, 2018b; Baranyi et al., 2022).

A currency group is centered on the currency of a major country and uses this currency as its internal reserve currency for liquidation. Intra-group foreign exchange payments and free capital flow, but strict control on the receipt and payment and settlement outside the group, gold as an international settlement means, to play its world currency functions. (Wandschneider, 2008; Garai-Fodor,2022;Garai-Fodor et al.,2022) In 1933, the United States established the dollar group, and in 1939 it developed into a dollar zone. The national currencies in the US dollar zone are pegged to the US dollar, and a fixed exchange rate system is implemented (Strange, 1972, p.199). Foreign exchange control is not implemented in the region, and the foreign exchange and US dollars of member countries are basically in the United States.(Foldi,2015a, 2015b) The British Pound District was also established in the same year, mainly including the United Kingdom and the Commonwealth. The objective environment at that time created a lack of a unified currency system in the international community.

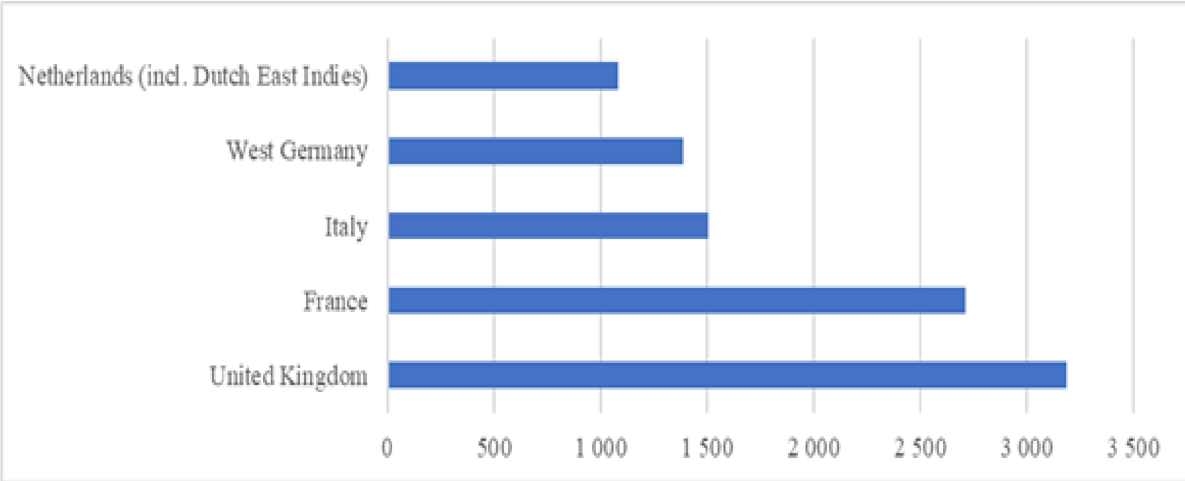


Figure 2. Distribution of aid of Marshall plan in USD millions. Retrieved from statista.com

After World War II, Britain and the United States gradually became advocates for the reconstruction of the post-war international order. But at this time, Britain's economic strength had been greatly reduced because of the war, while the United States achieved sky-high economic strength. In 1944, the United States had become the world's largest economy and the largest gold reserve country, with GDP accounting for 50% of the world's total and gold reserves reaching 63%. In 1948, the United States became the world's largest creditor nation. In order to help countries such as Europe and Japan obtain the US dollar, the United States has launched the Marshall Plan for Europe and the Dodge Plan for Japan. The United States has gradually replaced the United Kingdom as the leader of the global monetary and financial system (DeLong & Eichengreen, 1991; Földi & Medveczky, 2015; Göböly & Földi, 2022).

The Bretton Woods system in the early stage played a positive role in promoting global economic integration and coordinating asset prices. The US dollar has gradually developed into the core of the international monetary system. However, inherent flaws are gradually exposed in the process. In addition, if the United States is to fulfill its obligation to convert gold, it must have sufficient gold reserves. Beginning in the 1950s, the US economy began to deteriorate. With the two US dollar crises and the long-term deficit, the US trade deficit expanded rapidly, and the US gold stocks quickly drained.

In 1969, at the suggestion of Professor Triffin, the International Monetary Fund introduced special drawing rights to join the international reserve system, but for many years the special drawing rights did not play the intended role. The Nixon Administration abandoned the official exchange rate in August 1971, and suspending the obligation of foreign governments or central banks to use the US dollar to exchange gold with the United States, unilaterally torturing this agreement reached by the United States government with countries around the world in 1944 An agreement. Many western developed countries and Japan implementation of a floating exchange rate mechanism. In 1973, with the collapse of the fixed exchange rate mechanism, the system eventually disintegrated.

The Jamaican system is the product of the collapse of the Bretton Wood system, so it cannot be said that it is more advanced or more advanced than the Bretton Woods system. Just like the collapse of the international gold standard, the gold bullion and gold exchange standards entered into the stage are actually transitional stages. As a transitional stage system, it is always a choice and has many shortcomings. The main elements of the Jamaican system: Gold is non-monetized, international reserve assets are diversified, exchange rates are freely chosen (there are no institutional arrangements), and the use of SDR is expanded.

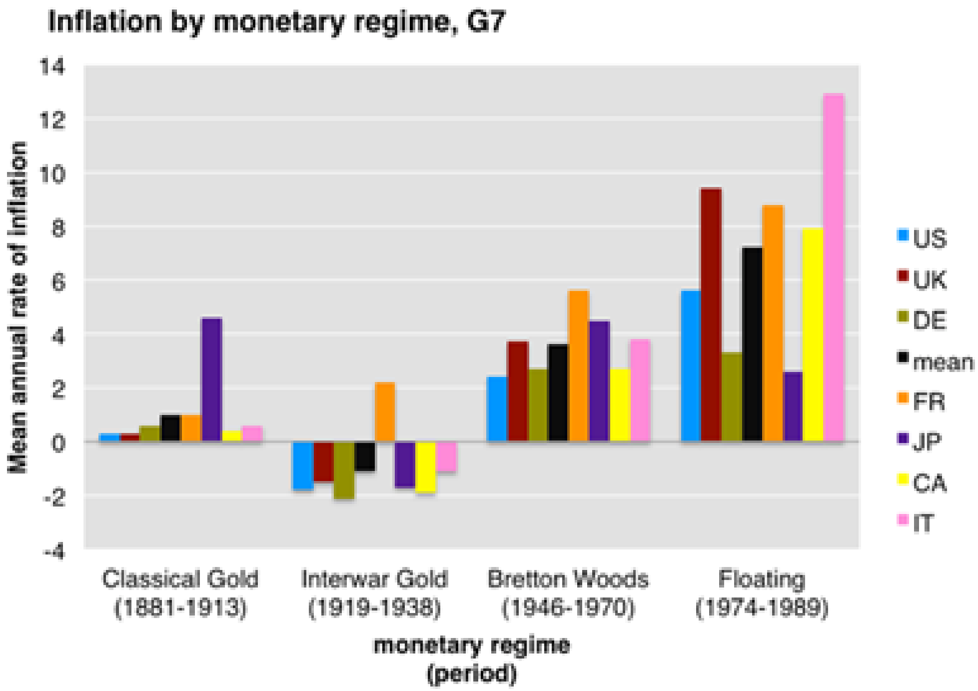


Figure 3. Inflation by monetary regime - Source: (How good was gold, 2013)

It can be seen that since the establishment of the Jamaican system, looking at the world, currency crises and financial crises have continued, and the frequent occurrence of crises has also reflected the huge flaws and instability of the system. The fundamental reason is that after the de-monetization of gold, the sovereign credit currency is regarded as the main international reserve asset, and the issuance of major reserve currencies is not subject to the restriction of gold. The over-issue of currency is widespread. The ways are increasing, causing a flood of global liquidity. At the same time, the multi-currency reserve system with the coexistence of US dollars, yen, and euros has inherent instability: changes in soft and hard currencies have caused foreign exchange reserves to flow from one currency to another, exacerbating the foreign exchange market. Risk has a huge negative impact on the flow of commodities and capital.

Second, under the Jamaican system, according to Lim, (1991) exchange rate selection has autonomy. However, the active choice of developed countries (floating exchange rate) and the passive choice of developing countries (fixed exchange rate, because developing countries lack the basic conditions for implementing a floating exchange rate system), so developed countries can better use floating exchange rate policies In exchange for the internal and external economic balance, in the process of automatically adjusting the balance of payments, at the same time maintaining the independence of the country's monetary policy. However, developing countries must maintain external balance at the expense of internal balance. It is difficult to adjust the balance of payments imbalance and the independence of monetary policy is greatly reduced.

The Status of the US Dollar

The US dollar is still one of the most essential currencies in the global economy although it lost the character as the exclusive international currency, accompanying the rising of euro, yen and other strong currencies. Until the sub-prime crisis broke out in 2007, the US dollar's share of the international reserve system was still as high as 63.8%.The "Griffin" dilemma still exists in the Jamaican system, where the US dollar is unshackled from gold and is more freely issued by the federal reserve.

The United States flows out of the US dollar through its current account deficit and into the US dollar through its capital account overproduction. Whereas, within the BRETTON ystem, the operating mode is that the US dollar flows out of the US dollar through the capital account deficit and flows back into the US dollar through the current account surplus. In addition, the US dollar is not restricted by issuance. The issuance of the US dollar was also constrained by the amount of American gold. In other words, the US dollar exports are provided by the US dollar that it flows back through commodity exports. During the recent years, the exchange rate of US dollar maintained a quite high level, especially after the US election and Trump became the US President.

According to the latest statement from federal reserve chair Janet Yellen, the market expects the probability of a rate hike at the FED meeting to exceed 90%.

The question, however, is whether a strong dollar is beneficial for America, and even for the world. Indeed, much of the world is increasingly hostile to America's abuse of US dollar privileges. Because two-thirds of the US dollar in circulation is held by institutions outside the United States, all inter-bank US dollar settlement must go through the United States computer system. America recently fined European Banks billions of dollars for various reasons, citing its own financial regulations. The US fined BNP Paribas $9 billion in 2014. Other geopolitical factors, such as sanctions against Russia, have also pushed Moscow to settle in RMB. This is accelerating the process of Eurovision. As the US dollar itself becomes a problem and is increasingly recognized around the world, this will affect the credibility of the US dollar. But for now, the US dollar's position remains unassailable.

Policy Signal of Federal Reserve and the Attitude of the United States Treasury

The Fed has complete independence in determining monetary policy, and its goal is maximum noninflationary economic growth. The Fed's interest-rate policy has a big impact on the US dollar. In addition, the Fed's intervention in foreign-exchange markets has had an impact on the US dollar. The FOMC sets policies about money and currency, including announcing interest rates eight times a year, the main one of them is the discount rate. Its change clearly indicates the change of monetary policy although this interest rate is more of a symbolic interest rate, so it could exert a greater influence on exchange rate of US dollar.

Meanwhile, the US Treasury Department has the responsibility and commitment for distributing government bonds and deciding the budget. Although it does not have right to take part in the monetary policy, it comments on the US dollar and could have impact on the exchange rate of the US dollar. Regarding to the meditation of the foreign exchange market, Fed only meditated and controlled the foreign exchange market when they agreed because both the Federal Reserve Bank and the Treasury had foreign exchange accounts.

Trump’s Economic Policies

When Trump was elected the 45th President of the United States, his economic policies over the next four years attracted all kinds of attention. Trump’s economic proposition is reflected in comprehensively reducing domestic taxes and imposing high tariffs on foreign countries to eliminate the trade deficit as to sincerely support American manufacturing. First, the most important part of Trump's economic proposition, which is also the most attractive tax policy to American voters, can be simply summarized as the following:

- Tax cuts for everyone. Policy by overhauling the personal income tax, Trump promised to cut taxes for the middle class and most other Americans. At a time when the middle class is shrinking, Trump's economic policies are attracting many middle-class votes. The top tax will be cut to 25 percent from 39.6 percent. The threshold for individual income tax is set at $25,000 and $50,000 for couples, meaning millions of families will not have to pay income tax.
- Simplify the tax code and cut corporate taxes. The corporate tax rate would be slashed from 35% to 15%, to attract companies back to America. Simplify the tax code and cut corporate taxes. The corporate tax rate would be slashed from 35% to 15%, to lure companies back to America. Large US companies are widely seeking inversions as lo ng as US tax policy remains unchanged. But if he takes office, he will change the law so that American companies cannot use mergers and acquisitions to move their headquarters to other countries to enjoy lower tax rates.
- There will be a one-off tax on the foreign surpluses of re-shoring American firms. Trump believes his plan to slash the US corporate income tax will generate a huge amount of revenue for the US government. The tax cuts would bring back US companies that had moved overseas, and prompt them to repatriate large amounts of their foreign surpluses. It will encourage corporations and organizations to bring assets in overseas back to the United States and pay a one-time tax of 10 percent, bringing new revenue to the US Treasury.
- Close the tax loopholes in the high-end financial industry. Trump wants to eliminate the carried interest loopholes, which allow hedge fund or private equity manager to pay taxes at a lower rate than ordinary people, and he promises to reduce or eliminate most tax credits and other tax loopholes for special interest groups and individuals or companies. At this point, Hillary Clinton proposed "Buffett tax" to increase the tax burden on some securities practitioners with relatively high incomes.

Under the circumstances of tax reduction in the United States, the return of American overseas enterprises may not appear on a large scale in a short period of time. However, infrastructure construction is planned to be carried out on a large scale, and increased government spending will cause a certain scale of government fiscal deficit in the United States, which will inevitably bring a large amount of debt. In the case of fiscal deficit, the government will increase the circulation of currency, make the market value of the US dollar fluctuate, and may even impact the domestic economy of the financial countries in the world, have a bad impact on the reputation of the US dollar and the market. As for the return of overseas funds, Trump's policy advocates to some extent boost the American economy, but other relatively high costs in the United States, such as labor cost, construction cost, land cost, etc., may also hinder the return of overseas funds, and these policies have time lag, and the policy effect cannot be reflected in a short time.

Conclusion

When the Chinese Yuan depreciates against the US dollar, the price of Yuan in dollars seeks equilibrium through the interplay of supply and demand. In this scenario, the demand for Yuan shifts to the left, indicating that individuals holding US dollars are less inclined to acquire Yuan. On the other hand, the supply of Yuan shifts to the right, as individuals holding Yuan become more interested in obtaining US dollars. As Chinese consumers primarily hold Yuan, the depreciation can impact their purchasing power. If they intend to buy American goods, the cost of those goods in Yuan would increase. Assuming American suppliers maintain fixed dollar prices for their goods, the depreciation of the Yuan means that a greater amount of Yuan is needed to equal the value of a single dollar. As a result, American goods become more expensive in China, leading to a potential decrease in demand for American goods by Chinese consumers. This decline in demand can result in reduced American imports into China due to their increased cost. Conversely, in the United States, Chinese goods are typically offered at fixed Yuan prices. Therefore, as the Yuan depreciates against the dollar, fewer dollars are required to match the value of a single Yuan, making Chinese goods less expensive in the US. This competitive pricing can outbid American producers, leading to an increase in Chinese imports into the United States.

In summary, a depreciation of the Chinese Yuan against the US dollar can lead to shifts in demand and supply, impacting the cost of American goods in China and Chinese goods in the United States. This can subsequently influence the volume of imports and exports between the two countries, contributing to the dynamics of their trade relationship.

Scientific Ethics Declaration

The authors declare that the scientific ethical and legal responsibility of this article published in EPESS journal belongs to the authors.

Acknowledgements or Notes

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Investigation of the South African Economy Performance: A Pre, During and Post Covid-19 Era Assessment

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Abstract: The COVID-19 brought disruptions and decline in the economic performance of many countries most especially countries that are less resilient to economic disruptions. Thus, the purpose of this study is to investigate the economic performance of South Africa before, during and after the COVID-19 periods. To measure the economic performance of the South Africa during these periods, secondary data was employed and grouped as follows: national income and prices, labour market, Savings and investment, fiscal position, money and credit, and balance of payments. The descriptive analysis, correlation analysis as well as Wilcoxon signed-rank test were carried out on the dataset using the Statistical Package for Social Science (SPSS) 2022 version. The results obtained indicated some improvements in certain economic indicators such as gross national savings, Gross Domestic Product (GDP), export and import growth as well as gross reserves during the COVID and post COVID periods. Nevertheless, the country witnessed a decline in performance of some economic indicators such as employment rate, public investment, public savings, unit labour rate, gross government debt, annual consumer price inflator, broad money, credit to private sector, current account balance and terms of trade for all the periods. The results further indicate a gradual improvement in the areas of private investment, revenue, expenditure and lending, overall, primary and structural balances after the COVID-19 era. The findings obtained in this study may assist the government, public and private sectors to make informed decisions to promote South Africa's economic development and resilience.

Keywords: Economic development, Economic Indicators and performance, Economic resilience

Introduction

South Africa moved into the covid-19 pandemic era with significant risks and vulnerabilities. Some of these risks and vulnerabilities include high fiscal deficit, decline in revenues, increasing public debt profiles, unemployment, and inequality issues (IMF Report, 2022). Many small and medium scale enterprises most especially the state owned enterprises battled with sustainability issue which weighed on public finances, thereby increasing the pressure on government expenditure. However, efforts were made to address these risks and vulnerabilities through fiscal policies, and development of resilient financial institutions (most especially the banking sector). This is to forestall any increase in public debt and alleviate the risk of insolvency by the financial sector and the national economy. The South African financial institutions were among the key players that played a decisive role in cushioning the negative impact of covid-19 on the South African economy. The Report of the South African National Treasury Policy (2011) indicated that the South African financial institutions are the heart of country's economy because they provide financial services sector and also impacts the lives of the citizens positively. The services of these financial institutions allow people to make daily

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economic transactions, save and preserve wealth in order to meet the present and needs. Not only that, they also insure against unforeseen situations or disaster. At the macroeconomy level, the financial institutions enable economic growth through job creation, development of vital infrastructure and support sustainable development of the country and the citizens (National Treasury Policy Report, 2011). The South African financial sector is a large and multifaceted in nature. It comprises of the banks, insurance companies, collective investment schemes, state owned financial institutions, pension funds and the South African Reserve bank. The banks account for almost 120% of the Gross Domestic Product (GDP), while the five largest banks namely Standard bank, FirstRand, ABSA, Nedbank and Investec account for almost 90% estimated at approximately R5.8 trillion. (Statista Report, 2022). The report of the International Monetary Fund (2019) described the South African financial institutions as developed, sophisticated and resilient. Moyo (2018) indicated that the South African banking sector is competes favourably with other banking sector globally. According to the Financial Sector Conduct Authority (FSCA, 2021), the South African credit market is highly developed and formally provides credit to almost half of the South African population. Thus, indicating the strength of the South African financial institution.

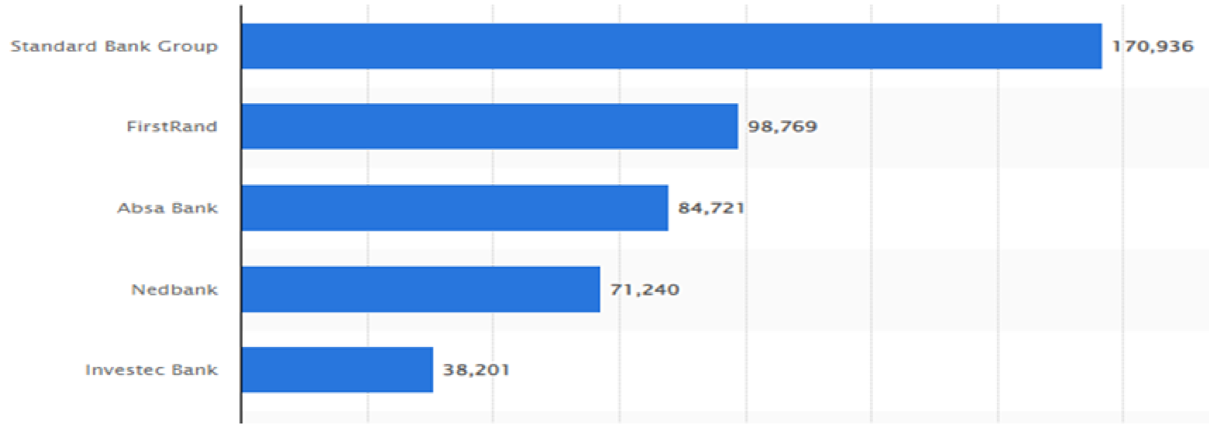

Figure 1. Leading banks in South Africa as of 2022, by assets. Source: Statista report (2022)

Figure 1. Shows the five biggest banks in South Africa according to their assets.The share of the total assets of the South African financial institutions at the end of 2020 is shown in Figure 2.

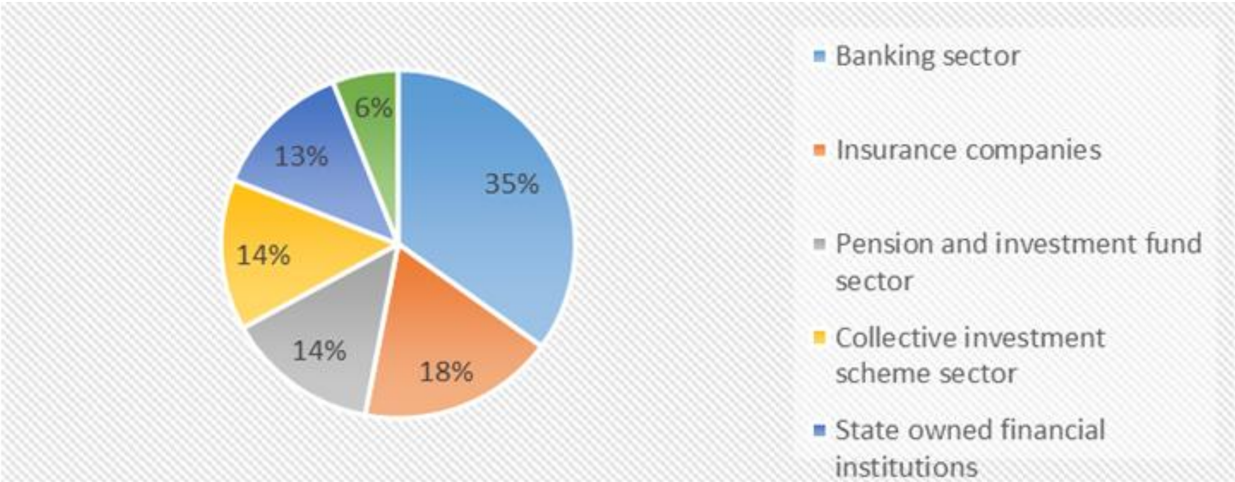

Figure 2. The structure of the South African financial institutions by the end of 2020, Source: International monetary fund (IMF, 2022)

According to the IMF report (2022), the banking sector account for the largest share of the total asset of the financial institution representing 35%. The insurance industry is the second largest industry in the South African financial institution after the banks accounting for 18% of the total asset of the financial institution. However, there is significant variation in the risk profiles of the insurance industry. The pension and investment funds sector as well as the collective investment scheme sector represent a major part of the financial institution each accounting for 14% of the total asset of the financial institution. The state owned financial institutions account for 13% of the total asset of the financial institution while the South African Reserve Bank (SARB) account for the least percent (6%) of the total asset of the South African financial institution. This implies that the South

African financial institution is dominated by the banking sector, insurance industry as the pension and investment funds sector. The Financial Technology sector known as the (Fintech) sector focuses primarily on payments, lending activities, support to business-to-business etc. is small but rapidly growing. The oversight function performed to the financial sector is robust and this reflects the commitment to supervision and implementation of international practices and standards. However, the dynamic and challenging business environment demands more supervision and full implementation of the market conduct framework (IMF, 2022).

The South African banking sector is regulated by the South Africa Reserve Bank (SARB) (SARB, 2020). The SARB protects the South African currency's value by regulating the activities of the South African banks and financial institutions to ensure that their in order to ensure a balanced, and sustainable economic growth (SARB, 2020). Thus, the SARB serves as a common platform that regulates the activities of the South African banks and financial institutions in line with the Banks Act (No. 94 of 1990), or the Mutual Banks Act (No. 124 of 1993) (SARB, 2020).

The implementation of emerging digital technologies and innovation has helped the financial institutions in South Africa to combat disruption resulting from natural sources such as the pandemic and cyberattacks amongst others. The digital innovations deliver new and cost effective operating models that is integrated into the organisation's business processes (PwC Report, 2019). This promotes seamless delivery of quality services to the customers both physically and remotely (PwC Report, 2019). The sophistication of the South African financial institution was demonstrated by its resilience during the covid-19 pandemic resulting in minimal disruption. Customers now embrace mobile digital payments and other online platforms for transactions. According to FSCA (2021), the total value of cash payments made between 2019 and 2020 decreased by 1.3% from an average of R12.5 trillion to R12.4 trillion due to the national lockdowns due to covid-19. In the same vein, card payments accounts for 38% of the total volume of transactions made in 2020. There was an expected drop in payment activity in March and April 2020, but as lockdowns eased, consumers began transacting again, as illustrated in the figure below. FSCA (2021), reported that customers preferred contactless transactions in 2020 compared to 2019. Following the post covid-19 era, many customers have gotten accustomed to remote and online banking. This seems easy and fast when there is stable Internet connection but with the risk of cyberfraud. The increase in the number of digital payment method has been driven by the exponential growth in online transactions since the outbreak of covid-19 pandemic in March 2020 which led to incessant lockdowns. People opted more for contactless transactions as well as remote and online banking which resulted to an increase in the volume of transactions carried out on the debit or credit cards. This also led to an increase in the number of fraud cases relating to debit or credit card (PwC report, 2020). As part of the measures to combat this, the banking industry introduced the virtual cards that is digitally driven to make payments. Since 2020, the South African banking industry has consistently witnessed growth in the use of virtual cards, for instance, in 2020, standard bank reported a 400% increase in the number of virtual cards issued to customers, while FNB reported over R1 billion in the payments with the use of the virtual cards. Compared to other forms of digital payments such as credit cards, the use of the virtual card is considered as a safe means of transaction. It is a unique payment card having its number generated digitally and can allow customers to make payments or shop online without any exposure of the card details. This prevents the fraudsters from accessing the confidential information on the card (FSCA, 2021). The leading financial institutions appear liquid in their baseline with adequate capital or cash flows but they may face capital depletion due to financial stress in the absence of proper supervision, and policy framework implementation. Although the impact of Covid-19 on the financial institutions has been contained, but there is a need to ensure the sustainability of the financial institutions in South Africa. This is due to the increasing nature of the risks they are faced with. Some of these risks include: lack of fiscal reforms, fiscal contingencies from poor performing state-owned enterprises, cyber-attack, public sector indebtedness, sovereign risk, global financial instability amongst others (IMF, 2022). According to the Global Financial Stability Report (2020), capital flow into South Africa is becoming increasingly volatile due to a major decline in foreign participation in the domestic market that was worsened during the covid-19 era. However, a strong domestic investor base seems to offset this volatility. Thus, the dynamic business environment necessitates thorough supervision, and governance and the incorporation of the climate change risks in financial stress testing framework. In addition, the financial sector may benefit from reforms to foster market entry and increase capital market financing (IMF, 2022).

Mongale and Monkwe (2015) indicated that some of the variables that influence economic sustainability and growth in South Africa include real GDP, export, import and infrastructure investment amongst others. Mongale *et al.* (2018) further identified credit extensions, leasing finance, and household saving as some of the variables that influences the South African economy. Authors such as Mahlo (2011), Mongale *et al.* (2013), Amusa (2014) and Chipote and Tseyage (2014), concurred that the level of domestic savings in countries such as South Africa is necessary for economic growth if the savings are directed towards profitable and appropriate investment opportunities. According to the authors, these variables are interrelated and can influence economic growth, either positively or negatively. Some authors also opined that the level of a country's export is one of the leading indicators of economic indicators (Westphal, 2002; Palley 2011; Shahid, 2013; Maswanganyi, 2014). However, not many studies have investigated the performance of the South African economy in relation to some of the identified indicators. This is the focal area of the study with the aim to highlight the performance of the South African economy before, during and after COVID-19 periods.

The study also aims to make implementable recommendations on how the economic status of South Africa can be more sustainable. The findings obtained in this study may assist the government, public and private sectors to make an informed decisions on the areas where improvements are needed to promote South Africa's economic development and resilience.

Methodology

To measure the economic performance of the South Africa, the South African economic indicators compiled by the IMF (2022) from 2016-2021 (estimated dataset) and 2022-2023 (projected dataset) were used in this study as the secondary source of data. The economic indicators were grouped as follows: national income and prices, labour market, Savings and investment, fiscal position, money and credit, and balance of payments. These selected economic indicators are indices that summarises the economic activities in South Africa. They are useful in analysing the country's economic performance and in projecting into the future performance

Furthermore, since the financial institutions are the heart of the South African's economy, the economic indicators can be used to evaluate the performance of country's financial markets and institutions as well as the standard of living of people in the country. Thus, experts can employ the economic indices and the findings obtained in this study to assess the strengths, weaknesses and vulnerabilities of the financial institutions in the country. This is crucial to policy formulation and implementation, development and implementation of regulatory frameworks and projection of future performance of the financial institutions and economic soundness of the country.

38 quantitative variables between 2018 and 2023 were employed in this study and multiple regression analysis was carried out. The selected economic indicators are presented in Table 1. The dataset was analyses using the Statistical Package for Social Science (SPSS) 2022 version. First the descriptive analysis including the mean and standard deviation were carried out to provide basic information about variables in the dataset and to highlight the possible relationships between variables. This will allow expert to view at a glance the economic performance of the country. Secondly, the correlation matrix analysis was carried out. The essence of the correlation matrix is to investigate whether there is a relationship between the economic indicators. The existence of a relationship between the variables implies that the performance of one could enhance an increase or decrease in the performance of the other as it relates to the economic well-being of the country. A correlation value of -1 indicates that there is a perfectly negative linear correlation between two variables, while a value of 0 indicates.

That there is no linear correlation between two variables. On the other hand, a correlation value of 1 indicates that there is perfectly positive linear correlation between two variables (*Qadri et al.,* 2023). In addition, the Wilcoxon signed-rank test was carried out on paired samples in order to determine whether there is a statistical difference between the samples or not. When the p value $>$ 0.05, the null hypothesis is accepted and conclusion is made that there may be no significant difference between the paired variables at 95% confidence level. On the contrary, when the p value $<$ 0.05, the null hypothesis is rejected and conclusion is made that there is a statistical difference between the paired variables (*Qadri et al.,* 2023).

The variables are paired according to the years of the dataset. For instance the economic indicator data set from 208-2019 is referred to as the "pre-covid era" while the one from 2000-2021 is tagged "covid era". Conversely, the dataset from 2022-2023 is tagged "post covid era".

The following are the assumptions underlying the Wilcoxon signed-rank test:

1. The dependent variable (economic performance) is measured on a continuous level.
2. The independent variables (economic indicators) are related groups.

Table 1. South Africa's economic indicators

Variable	Description	Variable	Description
National income and prices		Money and credit	
X_1	Real GDP		
X_2	Real GDP per capital	X_{22}	Broad money
X_3	Real domestic demand	X_{23}	Credit to private sector
X_4	GDP deflator	X_{24}	Repo rate
X_5	Consumer Price Inflator (Annual average)	X_{25}	3 month treasury bill interest rate
X_6	Consumer Price Inflator (end of period)	Balance of payments	
Labour market		X_{26}	Current account balance
X_7	Unemployment rate	X_{27}	Current account balance (%) of GDP
X_8	Unit labour cost	X_{28}	Export growth
Savings and investment		X_{29}	Import growth
X_9	Gross national saving	X_{30}	Terms of trade
X_{10}	Public saving (including public enterprise)	X_{31}	Overall balance
X_{11}	Private saving	X_{32}	Gross reserve
X_{12}	National investment (including inventories)	X_{33}	Gross reserve in percent of ARA (Without CFM)
X_{13}	Public investment	X_{34}	Gross reserve in percent of ARA (With CFM)
X_{14}	Private investment	X_{35}	Total external debt (% GDP)
Fiscal position		X_{36}	Nominal effective exchange rate (period average)
X_{15}	Revenue	X_{37}	Real effective exchange rate
X_{16}	Expenditure and net lending	X_{38}	Exchange rate
X_{17}	Overall balance		
X_{18}	Primary balance		
X_{19}	Structural balance		
X_{20}	Gross government debt		
X_{21}	Government bond yield		

ARA (Accessing Reserve Adequacy); CFM (Capital Flow Management). Source: IMF Report (2022)

Results and Discussion

Table 2 presents the descriptive statistics of the dataset employed. The variation in the dataset can be observed at a glance in Table 2. The standard error measures the variability of the economic indicators and can be used to estimate the accuracy, and consistency of the samples. The smaller the magnitude of the standard error, the more representative the sample is in relation to the overall population and vice versa (Kenton, 2022). The standard deviation measures the amount of variance or dispersion of the data dispersed around the mean. The standard deviation statistic is useful in determining the validity of the data based on the number of data points displayed (Kenton, 2022). The higher value the value of the standard deviation and variance of a particular dataset, the more dispersed the observations (or data points) around the mean (Yeo & Cacciatore, 2017).

Table 2. The descriptive statistics of the dataset employed

Variables	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9
Mean	0.6333	-0.7500	1.1500	4.5667	4.2333	4.3000	31.5000	4.3667	14.2667
Std. error	1.555578	1.59515	1.98036	0.43640	1.9944	0.28868	1.46310	0.13581	0.47796
Std. deviation	3.81086	3.00730	4.85088	01.06896	0.48854	0.70711	3.58385	0.33267	1.17075
Variance	14.523	15.267	23.531	1.143	0.239	0.5000	12.844	0.111	1.371
Variables	X_{10}	X_{11}	X_{12}	X_{13}	X_{14}	X_{15}	X_{16}	X_{17}	X_{18}
Mean	-0.5000	14.7667	14.8167	3.9500	10.3333	25.9167	32.8500	-6.8500	-2.5833
Std. error	0.76681	1.16638	0.59521	0.20777	0.24313	0.27497	0.79614	1.03851	0.96451
Std. deviation	1.87830	2.85704	1.45797	0.50892	0.59554	0.67355	1.95013	2.54382	2.36256
Variance	3.2528	8.163	2.126	0.259	0.355	0.454	3.803	6.471	5.582

Variables	X_{19}	X_{20}	X_{21}	X_{22}	X_{23}	X_{24}	X_{25}	X_{26}	X_{27}
Mean	-4.6167	65.5500	9.5500	6.3500	3.3333	5.0750	5.6500	-2.5500	-0.5667
Std. error	0.30046	3.82333	0.23274	0.90213	1.08341	0.91139	0.87797	4.01769	1.02198
Std. deviation	0.73598	9.36520	0.46547	2.20975	2.65380	1.82277	1.75594	9.84129	-2.50333
Variance	0.542	87.707	0.217	4.883	7.043	3.323	3.083	96.851	6.267
Variables	X_{28}	X_{29}	X_{30}	X_{31}	X_{32}	X_{33}	X_{34}	X_{35}	X_{36}
Mean	0.7500	2.8500	2.3833	0.0833	56.7833	77.0167	84.6167	46.5667	-2.0000
Std. error	3.27473	4.61727	2.45131	0.28916	1.34745	1.50895	1.72538	2.08689	4.18290
Std. deviation	8.02141	11.30995	6.00447	0.70828	3.30056	3.69617	4.22631	5.11182	8.36580
Variance	64.343	127.915	36.054	0.502	10.894	13.662	17.862	26.131	69.987
Variables	X_{37}	X_{38}							
Mean	0.5000	14.4250							
Std. error	4.28622	0.15478							
Std. deviation	8.57244	0.30957							
Variance	73.487	0.098							

Table 3. Presents the correlation matrix of the economic indicators. The table highlights the pair of variables that have a relationship with each other (significant correlation) at 0.01 level (2-tailed) and at 0.01 level (2-tailed)

Table 3. The correlation matrix of the economic indicators

Var	X_2	X_2	X_3	X_5	X_6	X_8	X_{28}	X_{29}	X_{31}	X_{35}	X_{36}	X_{37}
X_1	1.000	0.988**	0.981**	0.892*	0.898*	0.832*	0.962**	0.983**	0.847*	0.879*	0.957*	0.988*
X_2	0.988**	1.000	0.972**	0.866*	0.893*	0.856*	0.971**	0.978**	0.867*	0.853*	0.966*	0.994**
X_3	0.981**	0.972**	1.000	0.894*	0.839*	0.856*	0.900*	0.993**	-	-0.878*	-	0.975*
X_5	0.892*	0.866*	0.894*	1.000	0.897*	0.943**	0.818*	0.871*	-	-0.998**	-	-
X_6	0.898*	0.893*	0.839*	0.897*	1.000	-	0.932**	0.862*	-	-0.881*	-	-
X_8	0.832*	0.856*	0.856*	0.943**	-	1.000	-	-	-	-0.955**	-	-
X_{28}	0.993**	0.971**	0.900*	0.818*	0.932**	-	1.000	0.929**	0.813*	-	0.998**	-
X_{29}	0.983**	0.978**	0.993**	0.871*	0.862*	-	0.929**	1.000	-	0.850*	0.964*	0.995*
X_{31}	0.847*	0.867*	-	-	-	-	0.813*	-	1.000	-	-	0.960*
X_{35}	0.879*	0.853*	-0.878*	-0.998**	-0.881*	-0.955**	-	0.850*	-	1.000	-	-
X_{36}	0.957*	0.966*	-	-	-	-	0.998**	0.964*	-	-	1.000	0.981*
X_{37}	0.988*	0.994**	0.975*	-	-	-	0.986*	0.995*	0.960*	-	0.981*	1.000
Var	X_{25}	X_{30}										
X_{14}	0.963*	0.895*										
Var	X_{13}	X_{20}	X_{32}	X_{33}	X_{34}							
X_7	0.884*	0.878*	0.906*	0.920**	0.919**							
Var	X_{11}	X_{14}	X_{15}	X_{26}	X_{27}							
X_9	0.898*	-0.836*	-0.823*	0.950**	0.932**							
Var	X_8	X_{11}	X_{12}	X_{14}	X_{15}	X_{16}	X_{17}	X_{18}	X_{22}	X_{24}	X_{26}	X_{27}
X_{10}	0.874*	-0.962**	0.988**	0.858*	0.839*	0.945**	0.974**	0.922**	-0.818*	0.965**	-0.908*	-0.929**
Var	X_9	X_{10}	X_{12}	X_{14}	X_{15}	X_{16}	X_{17}	X_{18}	X_{24}	X_{25}	X_{26}	X_{27}
X_{11}	0.898*	-0.962**	-0.972**	0.907*	-0.889*	0.864**	-0.922**	-0.929**	-0.999**	-0.990**	0.986**	0.993**
Var	X_8	X_{10}	X_{11}	X_{14}	X_{15}	X_{16}	X_{17}	X_{18}	X_{24}	X_{26}	X_{27}	
X_{12}	0.822*	0.988**	0.972**	0.907*	0.822*	-0.954**	0.985**	0.970**	0.983*	-0.939**	-0.956**	
Var	X_7	X_{14}	X_{19}	X_{20}	X_{32}	X_{33}	X_{34}					
X_{13}	-0.884*	0.818*	0.900*	-0.939**	-0.965**	-0.935**	-0.941**					
Var	X_9	X_{10}	X_{11}	X_{12}	X_{14}	X_{26}	X_{27}	X_{38}				
X_{15}	-0.823*	0.839*	-0.889*	0.822*	0.826*	-0.858*	-0.876*	-0.978*				
Var	X_{25}	X_{30}										
X_4	-0.963*	0.895*										
Var	X_8	X_{10}	X_{11}	X_{12}	X_{14}	X_{17}	X_{18}	X_{26}	X_{27}			
X_{16}	-0.882*	-0.945**	0.864*	-0.954**	-0.835*	-0.988*	-0.952**	0.812*	0.837*			
Var	X_8	X_{10}	X_{11}	X_{12}	X_{14}	X_{16}	X_{18}	X_{24}	X_{26}	X_{27}		
X_{17}	0.858*	0.974**	-0.922**	0.985**	0.895*	-0.988*	0.966**	0.951*	0.877*	-0.902*		
Var	X_8	X_{10}	X_{11}	X_{12}	X_{16}	X_{17}	X_{22}	X_{26}	X_{27}	X_{35}		
X_{18}	0.914*	0.992**	-0.929**	0.970**	-0.952**	0.966**	-0.835*	-0.863*	-0.885*	-0.827*		
Var	X_{13}	X_{14}	X_{20}	X_{24}								
X_{19}	0.900*	0.846*	-0.980**	0.968**								

Var	X_7	X_{13}	X_{19}	X_{24}	X_{25}	X_{32}	X_{33}	X_{34}				
X_{20}	0.878^{*}	-0.939^{**}	-0.980^{**}	-0.989^{*}	-0.964^{*}	-0.852^{*}	0.827^{*}	0.832^{*}				
Var	X_{38}											
X_{21}	0.960^{*}											
Var	X_{10}	X_{18}	X_{24}	X_{30}								
X_{22}	-0.818^{*}	-0.835^{*}	-0.975^{*}	0.912^{*}								
Var	X_{23}											
X_{31}	0.819^{*}											
Var	X_{10}	X_{11}	X_{12}	X_{14}	X_{17}	X_{19}	X_{20}	X_{21}	X_{25}	X_{26}		
X_{24}	0.965^{*}	-0.999^{**}	0.983^{*}	0.991^{**}	0.951^{*}	0.968^{*}	-0.989^{*}	-0.975^{*}	0.986^{*}	-0.993^{*}		
Var	X_4	X_{11}	X_{14}	X_{20}	X_{24}	X_{26}	X_{27}					
X_{25}	-0.963^{*}	-0.990^{**}	0.991^{*}	-0.964^{*}	0.986^{*}	-0.998^{**}	-0.998^{**}					
Var	X_9	X_{10}	X_{11}	X_{12}	X_{14}	X_{15}	X_{16}	X_{17}	X_{24}	X_{25}	X_{27}	
X_{26}	0.950^{*}	-0.900^{**}	-0.986^{**}	-0.939^{**}	-0.915^{*}	-0.858^{*}	0.812^{*}	-0.863^{*}	-0.985^{*}	-0.998^{**}	-0.998^{**}	
Var	X_9	X_{10}	X_{11}	X_{12}	X_{14}	X_{15}	X_{16}	X_{17}	X_{18}	X_{24}	X_{25}	X_{25}
X_{27}	0.932^{**}	-0.929^{**}	0.993^{**}	-0.956^{**}	-0.929^{**}	-0.876^{*}	-0.873^{*}	-0.902^{*}	-0.885^{*}	-0.993^{**}	-0.998^{**}	-0.998^{**}
Var	X_9	X_{10}										
X_{30}	0.895^{*}	0.912^{*}										
Var	X_7	X_{13}	X_{20}	X_{33}	X_{34}							
X_{32}	0.906^{*}	-0.965^{**}	0.852^{*}	0.986^{**}	0.990^{**}							
Var	X_7	X_{13}	X_{20}	X_{33}	X_{34}							
X_{33}	0.920^{*}	-0.935^{**}	0.827^{*}	0.986^{**}	1.000^{**}							
Var	X_7	X_{13}	X_{20}	X_{33}	X_{34}							
X_{34}	0.919^{**}	-0.941^{**}	0.832^{*}	1.000^{**}	0.990^{**}							
Var	X_{15}	X_{21}										
X_{38}	-0.978^{*}	0.960^{*}										

Legend: **Correlation is significant at 0.01 level (2-tailed), *Correlation is significant at 0.01 level (2-tailed)
Source: Statistical computation obtained from SPSS

Table 4 presents the test statistics in terms of the Z–test value and asymptotic significance (2-tailed) while Table 5 presents the outcome of the Wilcoxon signed-rank test carried out. The results presented in both Tables 4 and 5 were used to determine the performance of the economic indicators before, during and after the COVID-19 pandemic.

Table 4. The test statistics

S/N	Economic Indicator	Pre-COVID & **d**uring COVID era		During COVID & Post COVID era		Pre-COVID & post COVID era	
		Z-Value	P-value	Z-Value	P-value	Z-Value	P-value
1.	Real GDP	-0.447^{b}	0.665	-0.447^{b}	0.665	-1.342^{b}	0.180
2.	Real GDP per capital	-0.447^{b}	0.665	-0.447^{b}	0.665	-1.342^{b}	0.180
3.	Real domestic demand	-0.447^{b}	0.665	-0.447^{b}	0.665	-1.342^{b}	0.180
4.	GDP deflator	-1.342^{b}	0.180	-1.342^{b}	0.180	-0.447^{b}	0.665
5.	Consumer Price Inflator (Annual average)	-0.447^{b}	0.665	-1.342^{b}	0.180	-0.447^{b}	0.665
6.	Consumer Price Inflator (end of period)	-0.447^{b}	0.665	-0.447^{b}	0.665	-0.447^{b}	0.665
7.	Unemployment rate	-1.342^{b}	0.180	-1.342^{b}	0.180	-1.342^{b}	0.180
8.	Unit labour cost	-1.342^{b}	0.180	-1.342^{b}	0.180	-1.342^{b}	0.180
9.	Gross national saving	-1.414^{c}	0.157	-1.342^{b}	0.180	-1.342^{b}	0.180
10.	Public saving (including public enterprise)	-1.414^{c}	0.157	-1.342^{b}	0.180	-1.342^{b}	0.180
11.	Private saving	-1.342^{b}	0.180	-1.342^{b}	0.180	-1.342^{b}	0.180
12.	National investment (including inventories)	-1.342^{b}	0.180	-1.342^{b}	0.180	-0.447^{b}	0.665
13.	Public investment	-1.342^{b}	0.180	-1.342^{b}	0.180	-1.342^{b}	0.180
14.	Private investment	-0.447^{b}	0.665	-0.447^{b}	0.665	-1.342^{b}	0.180
15.	Revenue	-1.342^{b}	0.180	-1.342^{b}	0.180	-1.342^{b}	0.180
16.	Expenditure and net	-1.342^{b}	0.180	-1.342^{b}	0.180	-1.342^{b}	0.180

	lending						
17.	Overall balance	-1.342[b]	0.180	-1.342[b]	0.180	-1.342[b]	0.180
18.	Primary balance	-1.342[b]	0.180	-1.342[b]	0.180	-1.342[b]	0.180
19.	Structural balance	-1.342[b]	0.180	-1.342[b]	0.180	-1.342[b]	0.180
20.	Gross government debt	-1.342[b]	0.180	-1.342[b]	0.180	-1.342[b]	0.180
21.	Government bond yield	-1.342[b]	0.180	-1.342[b]	0.180	-1.342[b]	0.180
22.	Broad money	-1.414[c]	0.157	-1.342[b]	0.180	-1.342[b]	0.180
23.	Credit to private sector	-1.414[c]	0.157	-0.447[b]	0.665	-0.447[b]	0.665
24.	Repurchase agreement (Repo) rate	-1.342[b]	0.180	-1.342[b]	0.180	-1.342[b]	0.180
25.	3 month treasury bill interest rate	-1.342[b]	0.180	-1.342[b]	0.180	-1.342[b]	0.180
26.	Current account balance	-1.342[b]	0.180	-1.342[b]	0.180	-1.342[b]	0.180
27.	Current account balance (%) of GDP	-1.342[b]	0.180	-1.342[b]	0.180	-0.447[b]	0.665
28.	Export growth	-0.447[b]	0.665	-0.447[b]	0.665	-0.447[b]	0.665
29.	Import growth	-0.447[b]	0.665	-0.447[b]	0.665	-1.342[b]	0.180
30.	Terms of trade	-1.342[b]	0.180	-0.447[b]	0.665	-1.342[b]	0.180
31.	Overall balance	-1.342[b]	0.180	-1.342[b]	0.180	-1.342[b]	0.180
32.	Gross reserve	-1.342[b]	0.180	-1.342[b]	0.180	-0.447[b]	0.665
33.	Gross revenue in percent of ARA (Without CFM)	-0.447[b]	0.665	-1.342[b]	0.180	-1.342[b]	0.180
34.	Gross revenue in percent of ARA (With CFM)	-1.342[b]	0.180	-1.342[b]	0.180	-1.342[b]	0.180
35.	Total external debt (% GDP)	-0.447[b]	0.665	-1.342[b]	0.180	-0.447[b]	0.665
36.	Nominal effective exchange rate (period average)	-1.342[b]	0.180	-0.447[b]	0.665	-1.342[b]	0.180
37.	Real effective exchange rate	-1.342[b]	0.180	-0.447[b]	0.665	-1.342[b]	0.180
38.	Exchange rate	-1.342[b]	0.180	-0.447[b]	0.665	-1.342[b]	0.180

Legend

a. Wilcoxon signed rank test
b. Based on negative ranks
c. Based on positive ranks

Table 5. Results of the wilcoxon signed-rank test

Economic indicator (Variable)	Ranks	Pre-COVID & During COVID era			During COVID & Post COVID era			Pre-COVID & post COVID era			Remarks
		N	Mean rank	Sum of ranks	N	Mean rank	Sum of ranks	N	Mean rank	Sum of ranks	
Real GDP	Negative ranks	1[a]	2.00	2.00	1[a]	2.00	2.00	0[a]	0.00	0.00	No statistical difference in the real GDP by comparing the pre-COVID and COVID era as well as COVID and post COVID era.
	Positive ranks	1[b]	1.00	1.00	1[b]	1.00	1.00	2[b]	1.50	3.00	
	Ties	0[c]			0[c]			0[c]			
	Total	2			2			2			

											However, the real GDP improved slightly when comparing the pre-COVID to the post-COVID era
Real GDP per capital	Negative ranks	1[a]	2.00	2.00	1[a]	2.00	2.00	0	0.00	0.00	No statistical difference in the real GDP per capital by comparing the pre-COVID and COVID era as well as COVID and post-COVID era. However, the real GDP per capital improved slightly when comparing the pre-COVID to the post-COVID era
	Positive ranks	1[b]	1.00	1.00	1[b]	1.00	1.00	2[b]	1.50	3.00	
	Ties	0[c]			0[c]			0[c]			
	Total	2			2			2			
Real domestic demand	Negative ranks	1[a]	2.00	2.00	1[a]	2.00	2.00	0[a]	0.00	0.00	No statistical difference in the real domestic demand by comparing the pre-COVID and COVID era as well as COVID and post-COVID era. However, there is an improvement in the real domestic demand by comparing the pre-COVID to the post-COVID era
	Positive ranks	1[b]	1.00	1.00	1[b]	1.00	1.00	2[b]	1.50	3.00	
	Ties	0 [c]			0 [c]			0[c]			
	Total	2			2			2			
GDP deflator	Negative ranks	0[a]	0.00	0.00	2[a]	1.50	3.00	1[a]	2.00	2.00	GDP deflator increased by comparing the pre-COVID and COVID era. However, the value of GDP deflator decreased slightly when comparing the
	Positive ranks	2[b]	1.50	3.00	0[b]	0.00	0.00	1[b]	1.00	1.00	
	Ties	0[c]			0 [c]			0[c]			

	Total	2			2			2			COVID era to the post COVID era as well as the pre-COVID to the post-COVID era
Consumer Price Inflator (CPI, Annual average)	Negative ranks	1 [a]	2.00	2.00	0 [a]	0.00	0.00	1 [a]	1.00	1.00	For CPI (annual average), there is no statistical by comparing the pre-COVID and COVID era (In other words, no significant changes in the process of goods and services). However, it increased when comparing the COVID era to the post-COVID era. There is no statistical by comparing the pre-COVID to the post -COVID era.
	Positive ranks	1 [b]	1.00	1.00	2 [b]	1.50	3.00	1 [b]	2.00	2.00	
	Ties	0 [c]			0 [c]			0 [c]			
	Total	2			2			2			
Consumer Price Inflator (CPI, end of period)	Negative ranks	1 [a]	2.00	2.00	1 [a]	1.00	1.00	1 [a]	1.00	1.00	No statistical difference in the CPI (end of the period) by comparing all the periods (pre, COVID and post-COVID periods).
	Positive ranks	1 [b]	1.00	1.00	1 [b]	2.00	2.00	1 [b]	2.00	2.00	
	Ties	0 [c]			0 [c]			0 [c]			
	Total	2			2			2			
Unemployment rate	Negative ranks	0 [a]	0.00	0.00	0 [a]	0.00	0.00	0 [a]	0.00	0.00	There is an increase in the rate of unemployment by comparing all the periods (pre, COVID and post-COVID periods).
	Positive ranks	2 [b]	1.50	3.00	2 [b]	1.50	3.00	2 [b]	1.50	3.00	
	Ties	0 [c]			0 [c]			0 [c]			
	Total	2			2			2			
Unit labour cost	Negative ranks	2 [a]	1.50	3.00	2 [a]	1.50	3.00	2 [a]	1.50	3.00	There is a decrease in the unit labour cost by comparing all the periods (pre, COVID and post-COVID periods).
	Positive ranks	0 [b]	0.00	0.00	0 [b]	0.00	0.00	0 [b]	0.00	0.00	
	Ties	0 [c]			0 [c]			0 [c]			
	Total	2			2			2			

Gross national saving	Negative ranks	0[a]	0.00	0.00	0[a]	0.00	0.00	0[a]	0.00	0.00	There is an increase in the gross national saving by comparing all the periods (pre, COVID and post-COVID periods).
	Positive ranks	2[b]	1.50	3.00	2[b]	1.50	3.00	2[b]	1.50	3.00	
	Ties	0[c]			0[c]			0[c]			
	Total	2			2			2			
Public saving (including public enterprise)	Negative ranks	2[a]	1.50	3.00	2[a]	1.50	3.00	2[a]	1.50	3.00	There is a decrease in the public saving (including public enterprise) by comparing all the periods (pre, COVID and post-COVID periods).
	Positive ranks	0[b]	0.00	0.00	0[b]	0.00	0.00	0[b]	0.00	0.00	
	Ties	0[c]			0[c]			0[c]			
	Total	2			2			2			
Private saving	Negative ranks	0[a]	0.00	0.00	0[a]	0.00	0.00	0[a]	0.00	0.00	There is an increase in the private saving by comparing all the periods (pre, COVID and post-COVID periods).
	Positive ranks	2[b]	1.50	3.00	2[b]	1.50	3.00	2[b]	1.50	3.00	
	Ties	0[c]			0[c]			0[c]			
	Total	2			2			2			
National investment (including inventories)	Negative ranks	0[a]	0.00	0.00	2[a]	1.50	3.00	1[a]	2.00	2.00	There was an increase in the national investment (including inventories) by comparing the pre and COVID periods. However, there is a decrease in the national investment by comparing the COVID era to the post COVID era. There is no statistical difference by comparing the pre-COVID to the post-COVID era.
	Positive ranks	2[b]	1.50	3.00	0[b]	0.00	0.00	1[b]	1.00	1.00	
	Ties	0[c]			0[c]			0[c]			
	Total	2			2			2			
Public investment (including public enterprise)	Negative ranks	2[a]	1.50	3.00	2[a]	1.50	3.00	2[a]	1.50	3.00	There is a decrease in the public investment (including
	Positive ranks	0[b]	0.00	0.00	0[b]	0.00	0.00	0[b]	0.00	0.00	
	Ties	0[c]			0[c]			0[c]			

	Total	2			2			2			public enterprise) by comparing all the periods (pre, COVID and post-COVID periods).
Private investment	Negative ranks	2[a]	1.50	3.00	0[a]	0.00	0.00	2[a]	1.50	3.00	There was a decrease in the private investment by comparing the pre-COVID and the COVID periods. Private investment increased by comparing the COVID era to the post-COVID period. However, the value is yet to reach the level it was during the pre-COVID period
	Positive ranks	0[b]	0.00	0.00	2[b]	1.50	3.00	0[b]	0.00	0.00	
	Ties	0 [c]			0 [c]			0 [c]			
	Total	2			2			2			
Revenue (including grant)	Negative ranks	2[a]	1.50	3.00	0[a]	0.00	0.00	2[a]	1.50	3.00	There was a decrease in the revenue (including grant) by comparing the pre-COVID and the COVID periods. Private investment increased by comparing the COVID era to the post-COVID period. However, the value is yet to reach the level it was during the pre-COVID period
	Positive ranks	0[b]	0.00	0.00	2[b]	1.50	3.00	0[b]	0.00	0.00	
	Ties	0 [c]			0 [c]			0 [c]			
	Total	2			2			2			
Expenditure and net lending	Negative ranks	2[a]	1.50	3.00	0[a]	0.00	0.00	2[a]	1.50	3.00	There was an increase in the expenditure and lending by comparing the pre-COVID and the COVID periods. Expenditure and lending decreased by
	Positive ranks	0[b]	0.00	0.00	2[b]	1.50	3.00	0[b]	0.00	0.00	
	Ties	0 [c]			0 [c]			0 [c]			
	Total	2			2			2			

											comparing the COVID era to the post-COVID period. However, the value is yet to drop to the level it was during the pre-COVID period
Overall balance	Negative ranks	2[a]	1.50	3.00	0[a]	0.00	0.00	2[a]	1.50	3.00	There was a decrease in the overall balance by comparing the pre-COVID and the COVID periods. The overall balance improved by comparing the COVID era to the post-COVID period. However, the value is yet to reach the level it was during the pre-COVID period.
	Positive ranks	0[b]	0.00	0.00	2[b]	1.50	3.00	0[b]	0.00	0.00	
	Ties	0 [c]			0 [c]			0 [c]			
	Total	2			2			2			
Primary balance	Negative ranks	2[a]	1.50	3.00	0[a]	0.00	0.00	2[a]	1.50	3.00	There was a decrease in the primary balance by comparing the pre-COVID and the COVID periods. The primary balance improved by comparing the COVID era to the post-COVID period. However, the value is yet to reach the level it was during the pre-COVID period.
	Positive ranks	0[b]	0.00	0.00	2[b]	1.50	3.00	0[b]	0.00	0.00	
	Ties	0 [c]			0 [c]			0 [c]			
	Total	2			2			2			
Structural balance (percent of potential GDP)	Negative ranks	2[a]	1.50	3.00	0[a]	0.00	0.00	2[a]	1.50	3.00	There was a decrease in the structural balance by comparing the pre-COVID and the COVID periods. The structural balance improved by comparing the
	Positive ranks	0[b]	0.00	0.00	2[b]	1.50	3.00	0[b]	0.00	0.00	
	Ties	0 [c]			0 [c]			0 [c]			
	Total	2			2			2			

										COVID era to the post-COVID period. However, the value is yet to reach the level it was during the pre-COVID period.
Gross government debt	Negative ranks	2[a]	1.50	3.00	2[a]	1.50	3.00	2[a]	1.50	3.00	There is an increase in the gross government debt profile by comparing all the periods (pre, COVID and post-COVID periods).
	Positive ranks	0[b]	0.00	0.00	0[b]	0.00	0.00	0[b]	0.00	0.00	
	Ties	0 [c]			0 [c]			0 [c]			
	Total	2			2			2			
Government bond yield	Negative ranks	0[a]	0.00	0.00	1 [a]	2.00	2.00	1 [a]	2.00	2.00	Government bond yield increased by comparing the pre-COVID era to the COVID era. There is no statistical difference between the COVID and post-COVID era as well as the pre and post-COVID periods.
	Positive ranks	2[b]	1.50	3.00	1[b]	1.00	1.00	1[b]	1.00	1.00	
	Ties	0 [c]			0 [c]			0 [c]			
	Total	2			2			2			
Broad money	Negative ranks	0[a]	0.00	0.00	2[a]	1.50	3.00	2[a]	1.50	3.00	Broad money (Amount of money in the national economy both in the liquid and less liquid form) increased by comparing the pre-COVID to the COVID era. However, it decreased significantly by comparing the COVID era to the post-COVID era). By comparing the pre and post-COVID periods, the amount of broad money
	Positive ranks	2[b]	1.50	3.00	0[b]	0.00	0.00	0[b]	0.00	0.00	
	Ties	0 [c]			0 [c]			0 [c]			
	Total	2			2			2			

										was found to decrease
Credit to private sector	Negative ranks	2[a]	1.50	3.00	2[a]	1.50	3.00	2[a]	1.50	3.00	Credit to private sector decreased slightly by comparing the pre-COVID to the COVID era. By comparing the COVID-era to the post-COVID era as well as the pre-COVID to the post-COVID era, credit to private sector decreased significantly
	Positive ranks	0[b]	0.00	0.00	0[b]	0.00	0.00	0[b]	0.00	0.00	
	Ties	0[c]			0[c]			0[c]			
	Total	2			2			2			
Repurchase agreement (Repo) rate	Negative ranks	2[a]	1.50	3.00	1[a]	2.00	2.00	1[a]	2.00	2.00	Repurchase agreement decreased by comparing the pre-COVID era to the COVID era. There is no statistical difference between the COVID and post-COVID era as well as the pre and post-COVID periods.
	Positive ranks	0[b]	0.00	0.00	1[b]	1.00	1.00	1[b]	1.00	1.00	
	Ties	0[c]			0[c]			0[c]			
	Total	2			2			2			
3 month treasury bill interest rate	Negative ranks	2[a]	1.50	3.00	1[a]	2.00	2.00	1[a]	2.00	2.00	3 month treasury bill interest rate decreased by comparing the pre-COVID era to the COVID era. There is no statistical difference between the COVID and post-COVID era as well as the pre and post-COVID periods
	Positive ranks	0[b]	0.00	0.00	1[b]	1.00	1.00	1[b]	1.00	1.00	
	Ties	0[c]			0[c]			0[c]			
	Total	2			2			2			
Current account balance	Negative ranks	0[a]	0.00	0.00	0[a]	0.00	0.00	0[a]	0.00	0.00	Current account balance increased significantly by comparing the pre-COVID to the COVID era
	Positive ranks	2[b]	1.50	3.00	2[b]	1.50	3.00	2[b]	1.50	3.00	
	Ties	0[c]			0[c]			0[c]			
	Total	2			2			2			

											but decreased significantly by comparing the COVID era to the post-COVID era. However, the current account balance was better in the post-COVID era compared to the pre-COVID era
Current account balance (%) of GDP	Negative ranks	0[a]	0.00	0.00	0[a]	0.00	0.00	0[a]	0.00	0.00	Current account balance as a percent of the GDP increased significantly by comparing the pre-COVID to the COVID era but decreased significantly by comparing the COVID era to the post-COVID era. However, the current account balance as a function of the GDP was better in the post-COVID era compared to the pre-COVID era
	Positive ranks	2[b]	1.50	3.00	2[b]	1.50	3.00	2[b]	1.50	3.00	
	Ties	0[c]			0[c]			0[c]			
	Total	2			2			2			
Export growth	Negative ranks	1[a]	2.00	2.00	0[a]	0.00	0.00	0[a]	0.00	0.00	There was no statistical difference in the export growth by comparing the pre-COVID and COVID era. However, export growth increased by comparing the COVID era to the post-COVID era and the pre-COVID to the post-COVID era.
	Positive ranks	1[b]	1.00	1.00	2[b]	1.50	3.00	2[b]	1.50	3.00	
	Ties	0[c]			0[c]			0[c]			
	Total	2			2			2			
Import growth	Negative ranks	1[a]	2.00	2.00	0[a]	0.00	0.00	0[a]	0.00	0.00	There was no statistical difference in the import growth by
	Positive ranks	1[b]	1.00	1.00	2[b]	1.50	3.00	2[b]	1.50	3.00	
	Ties	0[c]			0[c]			0[c]			

	Total	2			2			2			comparing the pre-COVID and COVID era. However, import growth increased by comparing the COVID era to the post-COVID era and the pre-COVID to the post-COVID era.
Terms of trade	Negative ranks	0[a]	0.00	0.00	2[a]	1.50	3.00	2[a]	1.50	3.00	Terms of trade improved by comparing the pre-COVID to the COVID era. It however decreased by comparing the COVID to the post COVID era. The terms of trade was also found to be better during the pre-COVID era compared to the post-COVID era
	Positive ranks	2[b]	1.50	3.00	0[b]	0.00	0.00	0[b]	0.00	0.00	
	Ties	0 [c]			0 [c]			0 [c]			
	Total	2			2			2			
Overall balance (Percent of GDP)	Negative ranks	1[a]	2.00	2.00	2[a]	1.50	3.00	2[a]	1.50	3.00	No statistical difference in the overall balance by comparing the pre-COVID to the COVID era. However, the overall balance decreased by comparing the COVID era to the post-COVID era as well as the pre-COVID to the post-COVID era
	Positive ranks	1[b]	1.00	1.00	0[b]	0.00	0.00	0[b]	0.00	0.00	
	Ties	0 [c]			0 [c]			0[c]			
	Total	2			2			2			
Gross reserve	Negative ranks	0[a]	0.00	0.00	0[a]	0.00	0.00	0[a]	0.00	0.00	There is an increase in the gross reserve by comparing all the periods (pre, COVID and post-COVID periods).
	Positive ranks	2[b]	1.50	3.00	2[b]	1.50	3.00	2[b]	1.50	3.00	
	Ties	0 [c]			0 [c]			0 [c]			
	Total	2			2			2			
Gross reserve in percent of	Negative ranks	0[a]	0.00	0.00	0[a]	0.00	0.00	0[a]	0.00	0.00	There is an increase in the

ARA (Without CFM)	Positive ranks	2[b]	1.50	3.00	2[b]	1.50	3.00	2[b]	1.50	3.00	gross reserve by comparing all the periods (pre, COVID and post-COVID periods).
	Ties	0 [c]			0 [c]			0 [c]			
	Total	2			2			2			
Gross reserve in percent of ARA (With CFM)	Negative ranks	0[a]	0.00	0.00	0[a]	0.00	0.00	0[a]	0.00	0.00	There is an increase in the gross reserve by comparing all the periods (pre, COVID and post-COVID periods).
	Positive ranks	2[b]	1.50	3.00	2[b]	1.50	3.00	2[b]	1.50	3.00	
	Ties	0 [c]			0 [c]			0 [c]			
	Total	2			2			2			
Total external debt (% GDP)	Negative ranks	0[a]	0.00	0.00	2[a]	1.50	3.00	1[a]	2.00	2.00	The total external debt increased slightly by comparing the pre-COVID COVID era to the COVID era. It however decreased by comparing the COVID era to the post COVID era. There was no statistical difference in the total external debt by comparing the pre-COVID and post-COVID era
	Positive ranks	2[b]	1.50	3.00	0[b]	0.00	0.00	1[b]	1.00	1.00	
	Ties	0 [c]			0 [c]			0 [c]			
	Total	2			2			2			
Nominal effective exchange rate (period average)	Negative ranks	0[a]	0.00	0.00	1[a]	2.00	2.00	1[a]	2.00	2.00	Nominal effective exchange rate improved by comparing the pre-COVID era to the COVID era. There is no statistical difference between by comparing the COVID and post-COVID periods as well as pre-COVID and post-COVID periods.
	Positive ranks	2[b]	1.50	3.00	1[b]	1.00	1.00	1[b]	1.00	1.00	
	Ties	0 [c]			0 [c]			0 [c]			
	Total	2			2			2			
Real effective exchange rate	Negative ranks	0[a]	0.00	0.00	1[a]	2.00	2.00	1[a]	2.00	2.00	Real effective exchange rate

	Positive ranks	2[b]	1.50	3.00	1[b]	1.00	1.00	1[b]	1.00	1.00	improved by comparing the pre-COVID era to the COVID era. There is no statistical difference between by comparing the COVID and post-COVID periods as well as pre-COVID and post-COVID periods.
	Ties	0[c]			0[c]			0[c]			
	Total	2			2			2			
Exchange rate	Negative ranks	0[a]	0.00	0.00	1[a]	2.00	2.00	1[a]	2.00	2.00	Exchange rate improved by comparing the pre-COVID era to the COVID era. There is no statistical difference between by comparing the COVID and post-COVID periods as well as pre-COVID and post-COVID periods.
	Positive ranks	2[b]	1.50	3.00	1[b]	1.00	1.00	1[b]	1.00	1.00	
	Ties	0[c]			0[c]			0[c]			
	Total	2			2			2			

Source: Statistical analysis results obtained from SPSS

The results presented in Table 4 indicated that the country performance improved significantly during the COVID and post COVID periods for some economic indicators such as gross national savings, Gross Domestic Product (GDP), export and import growth as well as gross reserves. Nevertheless, the country witnessed a decline in performance for all periods (Pre-COVID, COVID and post COVID periods) for some economic indicators such as employment rate, public investment, public savings, unit labour rate, gross government debt, annual consumer price inflator, broad money, credit to private sector, current account balance and terms of trade.

The results obtained from the statistical analysis further indicated that the COVID-19 pandemic impact negatively on the performance of some economic indicators such as private investment, revenue, expenditure and lending, overall, primary and structural balances. However, the post-COVID era witnessed a gradual improvement in these economic indicators but significant improvement is still required to reach the levels they were before the COVID-19 pandemic. The findings in this study agree significantly with existing reports which indicated the effect of the COVID-19 pandemic on the South African macroeconomy (Arndt *et al.*, 2020; IMF report, 2022).

Conclusion

The purpose of this study was to investigate the economic performance of South Africa before, during and after the COVID-19 periods. This was achieved with the use of secondary data that captured South Africa's performance in the areas of national income and prices, labour market, Savings and investment, fiscal position, money and credit, and balance of payments. The descriptive analysis, correlation analysis as well as Wilcoxon signed-rank test were carried out on the dataset using the Statistical Package for Social Science (SPSS) 2022 version. The results obtained indicated some improvement in certain economic indicators such as gross national savings, Gross Domestic Product (GDP), export and import growth as well as gross reserves during the COVID and post COVID periods. Nevertheless, the country witnessed a decline in performance of some economic indicators such as employment rate, public investment, public savings, unit labour rate, gross government debt, annual consumer price inflator, broad money, credit to private sector, current account balance and terms of trade for all the periods. The results further indicate a gradual improvement in the areas of private investment, revenue, expenditure and lending, overall, primary and structural balances after the COVID-19 era. This study contributes empirically to the understanding of the economic status of South Africa. The findings obtained in this study may assist the government, public and private sectors to make an informed decisions on the areas where improvements are needed to promote South Africa's economic development and resilience.

Recommendations

Based on the outcome of this study, the following are recommended as part of the measures that can promote the sustainability and resilience of the South Africa economy.

i. Increase financial inclusion, capital flow and access to finance
ii. Improve financial institutions oversight
iii. Improve the competitiveness and efficiency of the financial institutions
iv. Development and implementation of climate financing frameworks
v. Strengthen liquidity management and systemic liquidity practices.
vi. Review repurchase agreement and improve the repurchase markets.
vii. Encourage both local and foreign investors

Scientific Ethics Declaration

The authors declare that the scientific ethical and legal responsibility of this article published in EPESS journal belongs to the authors.

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The Role of Generative AI and Anthropomorphism in Shaping Conversational Marketing: Creating a Matrix for Future Research

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Abstract: This research studies the interconnected relationship between Generative Artificial Intelligence and Anthropomorphism in the context of Conversational Marketing. The research highlights the transformative potential of Generative AI and the critical role of anthropomorphism in augmenting user experiences by tracing the evolution of Conversational Marketing in recent years. The paper introduces a novel matrix that highlights the impact of varying degrees of Generative AI and Anthropomorphism on Conversational Marketing outcomes. This matrix serves as an invaluable tool for both academics and industry professionals. It offers profound insights into potential synergies, as well as the challenges that arise from integrating different AI sophistication levels with varying degrees of anthropomorphic designs. The study emphasizes the importance of reaching a balance between the two elements to ensure optimal customer engagement and marketing strategy efficacy. Practical examples from each quadrant of the matrix reveal the real-world implications further, providing a comprehensive understanding of future research directions.

Keywords: Conversational marketing, Digital marketing, Generative AI, Anthropomorphism, Artificial intelligence

Introduction

In today's dynamic business environment, Conversational Marketing stands out as a transformative approach, reshaping the way businesses engage with their customers. Historically, marketing strategies were largely one-dimensional (Sinha & Singh, 2018) with businesses broadcasting their messages and customers passively receiving them. However, the rise of new technologies and changes in customer expectations caused a paradigm shift towards marketing methods that are more interactive and tailored to each person. Therefore, one of them is known as "conversational marketing," which places an emphasis, at its foundation, on real-time, meaningful dialogues between companies and their customers, with the goal of building deeper connections and more personalised experiences (Sotolongo & Copulsky, 2018; Israfilzade, 2021; 2023).

The primary goal of this study is to thoroughly investigate the interaction between Generative AI and Anthropomorphism and to decode their combined effects on the field of Conversational Marketing. The study is intended to first unpack the key principles and evolutionary path of Conversational Marketing. Following that, it intends to evaluate the significant role and influence that Generative AI has in developing Conversational Marketing strategies. The investigation concludes with the presentation of a comprehensive matrix that incorporates different levels of Generative AI and Anthropomorphism, providing a detailed perspective on their impact on Conversational Marketing practises. To achieve the aforementioned objectives, this study employs a comprehensive literature review methodology. By examining a myriad of scholarly articles, journals, and previous research works, the study aims to collate, analyze, and present a holistic view of the topic. The logic of the presentation follows a structured approach, beginning with an overview of Conversational Marketing, followed by an in-depth exploration of Generative AI and Anthropomorphism, and culminating in the introduction of a matrix that encapsulates the research's core findings.

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In assumption, as businesses try to imitate deeper connections with their customers, understanding the potential and challenges of integrating Generative AI and Anthropomorphism in Conversational Marketing becomes paramount. This research endeavours to shed light on this complex interplay, offering valuable insights to marketers, managers, and business strategists alike.

Literature Review

Integration of Generative AI and Anthropomorphism has emerged as a critical area of study in the rapidly developing landscape of Conversational Marketing. This is due to the fact that anthropomorphism and AI are both used to model human behaviour. The literature review section of this paper conducts a thorough analysis of previous academic research to better understand the development and present status of Conversational Marketing. This analysis highlights the transformative impact of Generative AI, which has changed the boundaries of customer engagement by enabling dynamic and real-time dialogues. Meanwhile, the present review expands into the notion of Anthropomorphism in technology, a concept with the objective of reducing the difference between digital interfaces and human interaction by empowering machines with characteristics similar to human qualities. Therefore, the Literature Review not only places the study in its proper context within the larger academic discourse, but it also provides a practical and theoretical foundation for constructing the matrix that will map out the complex interplay that exists between these two essential components of conversational marketing.

Impact and Development of Conversational Marketing

Historically speaking, the major approach of operation for marketing tactics has been a broadcast approach (Sinha & Singh, 2018). Companies provided promotional content, and customers were primarily passive users of this information across a variety of mediums, including newspapers, television, radio, and even the earliest digital venues. Personalization and engagement with customers on a one-to-one level were not possible with this business model, even though it helped companies reach a large audience. Despite this, the advent of the digital age and the proliferation of social media platforms have brought about a fundamental shift in the marketing industry, which is now frequently referred to as Digital Marketing (Sinha & Singh, 2018; Puri, 2020). Customers in the modern day are more knowledgeable than ever before (Pilelienė et al., 2022) and now anticipate experiences that are not just personalised but also interactive. They want interactions that go in both directions, in which their questions and concerns are swiftly addressed and in which their opinions and suggestions are taken into consideration.

This paradigm shift resulted in the creation of new methods and strategies, one of which came to be known as *conversational marketing* (Israfilzade, 2021; 2023). Conversational marketing emphasizes the significance of direct and meaningful discussions between firms and customers. The concept of *"dialogue"* is at the very core of what is referred to as *"conversational marketing."* Even while it would appear obvious given its name, the relevance of this straightforward idea cannot be underestimated. This is especially true when compared to the context of traditional marketing methods, which tend to overload consumers with a wave of information, oftentimes without their request.

Conversational marketing represents a customer-focused, dialogue-based approach that aims to engage customers through significant, real-time interactive conversations (Sotolongo & Copulsky, 2018; Cancel & Gerhardt, 2019; Israfilzade, 2021; 2023). Straying from traditional, one-directional marketing communications, it aims to interact with customers by leveraging the power of conversation to convey information, resolve inquiries, and collect feedback, consequently establishing deeper, more personalized connections with customers. It should come as no surprise, given that we are now living in the digital age, that the majority of these contacts take place on instant messaging platforms. These platforms are the modern touchstones of online discourse.

Therefore, it is possible to comprehend what exactly constitutes conversational marketing. Here is a definition of conversational marketing that can be discerned from the current study:

> “Conversational marketing is a contemporary marketing approach predicated on real-time, personalized one-to-one interactions across diverse channels, facilitating collaborative brand and product experiences and thereby strengthening customer relationships and enhancing overall customer experience.”

This slightly modified definition was initially introduced in the study *"Conversational Marketing as a Framework for Interaction with the Customer"* by author Israfilzade (2021).

Conversational marketing, on the other hand, makes use of the potential of interactive dialogues to do more than just relay information; rather, it deeply engages customers by facilitating a dynamic exchange in which they move from being passive receivers to active participants. Interactions become more meaningful and personalised, and as a result, more engaging (Zhang et al., 2018; Shumanov & Johnson, 2021). This can be accomplished by tailoring conversations to the specific context of each individual customer. For instance, artificial intelligence chatbots are able to handle multiple customer conversations at the same time (Harbola, 2021), which enables them to provide instant responses and individualised experiences to a wider audience.

These interactive exchanges serve as a rich resource for businesses to gain crucial insights into their customers' needs, preferences, and challenges. Such knowledge becomes instrumental in refining product offerings, crafting personalized marketing strategies, and enhancing customer service delivery (Hu & Sun, 2023). Consequently, conversational marketing exceeds the conventional concept of marketing that solely focuses on product or service promotion. It fosters understanding and engagement with customers, addresses their concerns, and cultivates relationships, rendering it an influential tool for customer relationship management (Van Doorn et al., 2017).

According to the author (Israfilzade, 2021; 2023), conversational marketing is an innovative and forward-thinking strategy that fundamentally revolves around six key principles (Table 1) that have been formulated specifically for the purpose of this research. To begin, it takes a customer-centric approach, which centres on addressing customer needs and interests in order to provide a curated and individualised experience. It also highlights the importance of real-time engagement, which involves promptly interacting with customers in order to significantly improve both their level of satisfaction and their experience as a whole. In addition, this method of marketing encourages interactive dialogues, which helps to foster communication in both directions and active participation from customers, rather than limiting customers to the role of passive receivers of marketing messages.

Table 1. Key principles of conversational marketing

PRINCIPLES OF CONVERSATIONAL MARKETING	DESCRIPTION
CUSTOMER-CENTRIC APPROACH	This strategy focuses on meeting the needs and interests of the customer, with the goal of providing a personalised experience.
REAL-TIME ENGAGEMENT	Conversational marketing highlights the importance of responding quickly to customers, which improves their experience and satisfaction.
INTERACTIVE DIALOGUES	This approach encourages two-way communication and active customer involvement, shifting away from passive receipt of marketing messages.
DATA-DRIVEN INSIGHTS	Businesses can gain valuable insights into customer behaviour, preferences, and pain points by engaging in conversations with them.
OMNICHANNEL PRESENCE	Conversational marketing makes use of a variety of platforms, including social media, email, and chatbots, to interact with customers wherever they feel most at ease.
BUILDING LONG-TERM RELATIONSHIPS	The approach is aimed not only at immediate sales but also at building long-term relationships with customers, fostering stronger connections and loyalty.

Source: Created by author

Another basis of this strategy is gathering data-driven insights, with businesses using conversations to understand their customers' behaviours, preferences, and challenges better. Further, conversational marketing is characterized by its omnichannel presence, leveraging various platforms - from social media and email to chatbots - to interact with customers wherever they're most comfortable. Lastly, instead of solely aiming for immediate sales, this approach focuses on building long-term relationships with customers, nurturing stronger connections and loyalty over time.

Furthermore, it is also essential to differentiate between conversational marketing and conversational commerce. Nevertheless, in this context, an essential distinction needs to be made: conversational marketing and conversational commerce are not the same thing, but they are interdependent on one another. The term "conversational commerce" describes the combination of messaging apps and online purchases (Piyush, Choudhury & Kumar, 2016). This refers to the growing practice of communicating with businesses through instant messaging and chatting applications such as Facebook Messenger, WhatsApp, and WeChat. On the other hand, conversational marketing goes beyond merely doing business; rather, it focuses on developing brand resonance, increasing visibility, and drawing attention to a product or service. Eventually, it becomes evident that conversational commerce represents an essential part of conversational marketing, rather than separate marketing tactics.

Generative AI in Conversational Marketing

Generative AI, a subset of Artificial Intelligence, is revolutionizing the domain of conversational marketing with its ability to create new, original content from existing data (Sotolongo & Copulsky, 2018; Kulkarni et al., 2019; Mayahi & Vidrih, 2022; Liu et al., 2023). This branch of AI utilizes advanced machine learning techniques to innovate content creation, offering a leap forward from the conventional AI focus on data interpretation and decision-making (Goodfellow et al., 2014; Houde et al., 2020; Dwivedi et al., 2023).

Unlike its traditional counterparts, Generative AI ventures into the realm of creativity, generating a variety of content responses tailored to user interactions (Israfılzade, 2023). It encompasses a range of models such as Generative Adversarial Networks (GANs), Variational Autoencoders (VAEs), and Transformer-based models like the GPT series from OpenAI (Liu et al., 2023). Each of these models brings its unique capabilities to the table; GANs, for instance, are adept at crafting lifelike images, whereas GPT models excel in producing text that closely mimics human writing (Radford et al., 2019; Houde et al., 2020; Liu et al., 2023).

In the realm of conversational marketing, the indication of Generative AI is most evident in the development of advanced chatbots or virtual assistants. These AI-powered chatbots, unlike their rule-based counterparts, are capable of understanding, learning from, and dynamically responding to human input. They utilize natural language processing and machine learning techniques to interpret customer queries, learn from past interactions, and generate human-like responses in real-time (Nuruzzaman & Hussain, 2018; Harbola, 2021; Ooi et al., 2023).

The incorporation of Generative AI in conversational marketing yields multiple benefits. Firstly, it enables round-the-clock customer service. AI-driven chatbots can instantly and continuously handle customer inquiries, offering an enhanced level of customer service that isn't limited by time zones or human capacity (Harbola, 2021; Umamaheswari & Valarmathi, 2023; Dwivedi et al., 2023). Secondly, Generative AI promotes personalization at a scale previously unattainable. By learning from each interaction and remembering customer preferences, it can tailor responses to individual customer needs, significantly enhancing the customer experience.

Looking into the future, Generative AI holds immense potential to transform conversational marketing strategies even further. As the technology continues to evolve, we are likely to see the development of more advanced models capable of handling more complex conversations, understanding context with greater precision, and generating more relevant and engaging responses. Additionally, Generative AI is beginning to synergize with other technologies, such as augmented reality (AR) and virtual reality (VR), promising more immersive and interactive conversational experiences (Dwivedi et al., 2023, Ooi et al., 2023).

Nevertheless, the rise of Generative AI also brings along several challenges and ethical considerations. Issues surrounding data privacy, the transparency of AI mechanisms, and the potential for AI-generated misinformation or deception need to be conscientiously addressed. As we progress further into this exciting frontier, it will be critical to navigate these challenges effectively to truly tap into the potential of Generative AI in conversational marketing.

Anthropomorphic Generative AI on Conversational Marketing

Anthropomorphism is a term that comes from the Greek terms *anthrōpos* (ἄνθρωπος), which means "human," and *morphē*, which means "shape" or "form." This term refers to more than only the practice of attributing life to nonliving things, which is known as animism. To be involved in anthropomorphism, one must move beyond the practice of describing actions, whether imagined or observed. Scholars from a wide variety of fields have pointed out for a very long time that humans tend to view nonhuman agents as being humanlike (Horowitz & Bekoff, 2007; Epley, Waytz & Cacioppo, 2007; Murphy, Gretzel & Pesonen, 2019; Wan & Chen, 2021; Crolic et al., 2022; Makany et al., 2023). Anthropomorphic explanations have been called into question as to whether or not they have an appropriate place in scientific discourse, and whether or not anthropomorphism can account for phenomena ranging from religious belief to successful marketing campaigns.

Non-human entities or objects are *anthropomorphized* by giving them human-like traits, intentions, emotions, or behaviours (Epley, Waytz, & Cacioppo, 2007). The idea underpins human cognition and is often unconscious (Guthrie, 1993). Anthropomorphism is used in artificial intelligence and conversational marketing to create conversational agents that feel human and improve user experience.

The emergence of Anthropomorphic Generative AI has facilitated groundbreaking opportunities in the field of conversational marketing. Anthropomorphic conversational agents are assuming more complex roles in influencing the dynamics of customer-business interactions, surpassing their initial function as mere facilitators of communication. Anthropomorphic Generative AI demonstrates exceptional proficiency in the creation and sustenance of human-like engagements within the field of conversational marketing. According to Van Doorn et al. (2017), this distinctive characteristic provides notable benefits for marketers by enabling them to enhance customer relationships and establish a competitive advantage within the market.

Moreover, the learning and evolution capacity of Generative AI enables the creation of more personalized, relevant, and valuable dialogues. By amassing and analyzing data from user interactions, these AI systems can fine-tune their responses to better mirror human conversation patterns. This feature paves the way for more dynamic and robust dialogues, allowing marketers to engage customers in more meaningful and impactful conversations.

However, blending anthropomorphic design with Generative AI in conversational marketing is not without hurdles. AI systems that closely imitate human conversation can potentially lead to user dissonance and perceptions of deception. Over-promising with anthropomorphic design can generate high user expectations, and any failure to meet these expectations can lead to dissatisfaction (Ciechanowski et al., 2019, Makany et al., 2023; Hu & Sun, 2023; Ooi et al., 2023).

Achieving an optimal balance in the utilisation of anthropomorphism in conversational marketing holds significant importance. A comprehensive strategy is required that goes beyond simply providing AI systems with human-like characteristics. In order to mitigate potential divergence or misrepresentation arising from exaggerated AI capabilities, the design and competencies of conversational agents must be aligned with user expectations. According to Jakesch et al. (2019), the utilisation of a suitably anthropomorphized artificial intelligence (AI) has the potential to enhance the quality of interactions, elevate user satisfaction, and facilitate a more efficient marketing strategy.

The primary difficulty lies in finding a balance between integrating desirable human-like characteristics and effectively managing user expectations with regard to the capabilities of the artificial intelligence system. The presence of an excessive amount of anthropomorphism can lead to the formation of unrealistic expectations, whereas an insufficient amount can result in the AI appearing impersonal and mechanical. Therefore, effectively managing this intricate equilibrium is crucial for harnessing the complete capabilities of Anthropomorphic Generative AI in the context of conversational marketing.

Creating a Conversational Marketing Matrix for Intersections of AI and Anthropomorphism

In the evolving landscape of digital marketing, the interplay between technology and user experience continues to intensify. Conversational marketing, a concept gaining traction, harnesses the power of interaction to offer a more personalized and responsive approach to the consumer. Instead of the traditional one-way bombardment of information (Sinha & Singh, 2018), this paradigm shift facilitates a two-way conversation, tailoring the marketing strategy to the needs and preferences of individual users. The conversation is mediated via advanced technologies, with Generative AI at the forefront. Yet, with great power comes an intricate web of design challenges and considerations. The degree to which these AI systems mimic human behaviours and characteristics - a quality termed "anthropomorphism" - plays a pivotal role in shaping user experiences and perceptions.

This research expands into the intersection of Generative AI and anthropomorphism, providing a comprehensive analysis of their collective impact on conversational marketing. Through the construction of a matrix that incorporates different levels of both factors, our objective is to define the possible domains of involvement and non-involvement. The purpose of this analytical framework is to provide guidance to marketers, designers, and business strategists on the optimal utilisation of AI technologies in interactive marketing contexts. It is referred to as "Implications of Generative AI and Anthropomorphism Levels on Conversational Marketing" and is presented in Table 2. The matrix not only illustrates the qualitative variations in interactions among various AI-anthropomorphism combinations but also emphasises the inherent advantages and disadvantages associated with each. As individuals navigate through the matrix, they will acquire insights into the impact of various combinations on user satisfaction, trust, and the overall effectiveness of conversational marketing strategies.

Table 2. Implications of generative ai and anthropomorphism levels on conversational marketing

	Low Anthropomorphism	High Anthropomorphism
Low Generative AI	Conversational Marketing Impact: Limited engagement due to lack of personalization and human-like interaction. Effective for simple, transactional interactions.	Conversational Marketing Impact: Increased engagement due to a relatable, human-like interface. Risk of disappointment if AI fails to deliver human-like responses.
High Generative AI	Conversational Marketing Impact: Improved engagement due to personalized responses. Potential disengagement if responses seem inauthentic or machine-like.	Conversational Marketing Impact: Highly engaging and dynamic conversations are possible. Risk of discomfort or dissonance if AI appears too human-like or fails to meet high expectations.

Source: Created by author

The presented table, entitled "The Implications of Generative AI and Anthropomorphism Levels on Conversational Marketing," displays a matrix that classifies the potential implications of different levels of anthropomorphism and Generative AI sophistication on conversational marketing. The table has been divided into four quadrants, with each quadrant denoting a distinct combination of anthropomorphism and AI power.

The combination of Generative AI and Anthropomorphism is of significant importance in influencing these digital dialogues. Generative AI presents the possibility of dynamic and personalised interactions, and the incorporation of anthropomorphism can augment the relatability and attractiveness of these digital entities. However, the combination of these factors does not consistently lead to the most effective level of involvement. The visual representation provided in Figure 1, entitled 'The Conversational Marketing Matrix: Intersections of AI and Anthropomorphism', presents a classification of different combinations of these elements into four distinct quadrants.

Figure 1. The conversational marketing matrix: intersections of ai and anthropomorphism

The four quadrants in this framework represent distinct interaction styles, which emphasise the interplay and potential challenges that arise from different degrees of AI complexity and anthropomorphic design. The subject matter has been divided into four discrete quadrants, with each quadrant symbolising a distinct combination of the abovementioned variables.

1. ***Digital Clerk* (Low Generative AI & Low Anthropomorphism):** These digital tools are specifically designed for simple tasks or to offer fundamental information without any additional features or embellished details. The interaction with these entities is straightforward and utilitarian, lacking any additional elements of individualization or anthropomorphic qualities.

2. **Humanoid Echo** (Low Generative AI & High Anthropomorphism): These entities represent the influential forces operating behind the scenes. Lacking a humanoid form, they make up for this deficiency through their remarkable intelligence. Chatbots have the ability to offer responses that are tailored and relevant to individual users. However, their lack of human-like characteristics can occasionally create a sense of detachment or excessive mechanisation for certain users.

3. **Almost Human (High Generative AI & High Anthropomorphism):** This quadrant depicts chatbots or AI tools that have been painted with a human-like facade, mirroring predetermined responses. Although they may exhibit human-like characteristics upon initial observation, their interactions are limited by predetermined patterns. Individuals may initially be attracted to the familiar and relatable visual presentation of the system, but over time, they may experience a sense of dissatisfaction due to the system's limited ability to engage in adaptive conversation.

4. **Silent Genius (High Generative AI & Low Anthropomorphism):** These entities have both a human-like appearance and an advanced capacity for dynamic interaction, representing the highest level of technological complexity in the field of conversational marketing. In addition, they are capable of carrying on natural-sounding conversations. They have the ability to learn, adapt, and communicate in complex ways. On the other hand, in order to avoid the *uncanny valley* effect (Mori et al., 2012), a careful balance is required. The design and communication strategy need to take measures to ensure that the human-like presentation does not give unreasonably high expectations for human-level understanding and responses.

When engaging in the field of conversational marketing, it is essential for businesses to determine the alignment of their strategies within the various quadrants. By employing this strategy, individuals can enhance their methods, optimising them to enhance user engagement, satisfaction, and overall effectiveness.

Theoretical matrix and categorizations offer a systematic framework for comprehending the dynamics of Anthropomorphism and Generative AI. However, practical examples serve to anchor these concepts in concrete scenarios, thereby providing a clear perspective on their implications in real-world interactions. These examples not only provide illumination on the various outcomes that arise from different combinations of anthropomorphism and AI sophistication, but they also offer valuable insights for businesses seeking to leverage the potential of conversational marketing. Through careful analysis and introspection of these tangible examples, professionals in the fields of design, marketing, and artificial intelligence can enhance their ability to effectively navigate the intricate interplay between user expectations and technological advancements.

Consequently, the following are illustrative examples corresponding to each quadrant:

1. **Low Generative AI & Low Anthropomorphism**: An example of this quadrant is a simple customer service chatbot that responds to specific keywords with pre-set responses. These bots can handle straightforward queries such as "What are your operating hours?" efficiently but are unable to engage in complex, dynamic conversations.

2. **Low Generative AI & High Anthropomorphism**: Early versions of virtual assistants like Apple's Siri or Amazon's Alexa fit this category. They feature human-like voices and personalities to enhance user engagement but initially had limited generative capabilities, responding to a narrow set of commands which could lead to user disappointment when the interaction did not meet the human-like expectation set by their appearance.

3. **High Generative AI & Low Anthropomorphism**: consider an advanced analytics platform that utilizes machine learning to interpret customer data and provide actionable insights. This system, while not designed to interact with customers directly in a human-like manner, leverages its generative AI capabilities to analyze customer behaviour, predict trends, and personalized recommendations for the

marketing team. It operates with a high level of intelligence, sifting through vast amounts of data to generate reports and strategies that marketers can use to enhance their campaigns. However, it does so without any anthropomorphic characteristics—it doesn't have a name, voice, or persona, and interactions with it are strictly data-driven and functional, focusing on efficiency and accuracy over relatability.

4. **High Generative AI & High Anthropomorphism:** envision a sophisticated virtual customer service agent, like an evolved version of a digital assistant, that not only understands and processes natural language but also recognizes emotional cues and adapts its responses accordingly. This agent, equipped with a name, a back-story, and even a customizable avatar, engages with customers through voice or text, providing assistance that feels remarkably human. It can handle complex tasks such as resolving customer complaints, offering personalized shopping advice, or managing bookings, all while maintaining a conversational tone that mimics human warmth and understanding. Its generative AI capabilities allow it to learn from each interaction, continuously improving its ability to converse, empathize, and provide solutions that feel both personal and intuitive, thereby enhancing the customer experience significantly.

The aforementioned examples serve to underscore the diverse implications of anthropomorphic design and generative artificial intelligence (AI) capabilities in relation to the efficacy and user perception of AI systems within the context of conversational marketing. Every combination of factors presents a unique set of opportunities and challenges that necessitate thorough consideration during the design and implementation phases.

Conclusion

The study on the combination of Generative AI and Anthropomorphism in Conversational Marketing has revealed a novel approach to facilitating communication between customers and businesses. The research demonstrates that conversational marketing encompasses more than mere real-time conversations, as it also involves the establishment of authentic and intimate relationships. The inclusion of Generative AI in this paradigm enhances its capabilities, enabling dynamic and contextually responsive interactions that closely resemble human conversations in terms of depth and authenticity.

Conversational marketing, with its focus on real-time, meaningful conversations, is a powerful way for businesses to build deeper, more personal relationships with their customers. In an age where individuals want real interactions, this approach is a beneficial change from traditional, one-dimensional marketing methods. When you add Generative AI to this mix, Conversational Marketing becomes even more powerful. Generative AI's ability to generate unique, context-relevant content allows businesses to engage customers in dynamic conversations that change in real-time, just like how people talk to each other. This not only makes the user experience better, but it also makes it possible to make marketing plans that are better informed and more specific.

On the other hand, anthropomorphism makes these AI-driven interactions more familiar and easy to understand. Businesses may reduce the technological gap and make technology easier for people to use and more meaningful to them by making conversational agents that have human-like traits. But, as the research shows, it's important to find an appropriate balance. Overemphasising or underemphasizing anthropomorphic attributes can cause issues. This shows how important it is to take a sophisticated approach The introduction of a matrix that shows the multifaceted connection between Generative AI and Anthropomorphism is one of the most important parts of this research. This matrix is divided into four separate quadrants, each of which shows a different way that these variables interact with each other:

1. **Digital Clerk**: Basic AI functionalities with minimal human-like attributes, focusing on task-oriented interactions.
2. **Humanoid Echo**: Advanced AI capabilities combined with moderate anthropomorphic traits, offering a blend of efficiency and relatability.
3. **Silent Genius**: High AI capabilities with minimal anthropomorphic features, emphasizing intelligence and problem-solving without overt human-like characteristics.
4. **Almost Human**: A near-perfect blend of advanced AI functionalities and pronounced anthropomorphic traits, closely emulating human interactions in depth and nuance.

Each quadrant has a roadmap that shows the potential benefits, challenges, and strategic implications of its own combination. This gives businesses a full set of instructions for how to customise their Conversational Marketing strategies.

In summary, the combination of Generative AI and Anthropomorphism in Conversational Marketing anticipates a novel phase characterised by enhanced and more significant engagement with customers. Given the ongoing evolution of technology and the changing expectations of consumers, it is crucial for businesses to maintain flexibility and utilise the findings of this research in order to develop marketing strategies that are not only efficient but also highly impactful. The early stage of Conversational Marketing promises vast possibilities for its future development.

Recommendations

The swift evolution of Generative AI and Anthropomorphism in conversational marketing underscores the need for ongoing research. It's essential to understand the long-term consumer impacts, adapt to cultural differences, address ethical concerns, and keep up with technological progress. Future studies should focus on these areas to ensure that AI-driven marketing is both effective and responsible, considering the implications for consumer trust, industry practices, and the broader societal context. Future research recommendations for the paper on Conversational Marketing could be as follows:

1. **Cross-Disciplinary Studies**: Future studies could benefit from a cross-disciplinary approach, integrating insights from cognitive psychology, human-computer interaction, and data science to deepen the understanding of user engagement with anthropomorphic AI in conversational marketing.
2. **Longitudinal Impact Analysis**: There is a need for longitudinal studies to assess the long-term effects of interactions with high anthropomorphic and generative AI systems on consumer behaviour, trust, and brand loyalty.
3. **Cultural Variability in AI Reception**: Exploring how different cultures perceive and interact with varying degrees of anthropomorphism in AI could provide valuable insights for global marketing strategies.
4. **Ethical Considerations**: Further research should be directed towards the ethical implications of using highly anthropomorphic AI in marketing, including issues of privacy, consent, and the potential for manipulation.
5. **Technological Advancements**: As AI technology evolves, continuous research will be required to understand the capabilities and limitations of new generative AI models in conversational marketing.
6. **Industry-Specific Applications**: Investigating the effectiveness of generative AI and anthropomorphism in various industries could reveal sector-specific best practices and challenges.
7. **Consumer Segmentation**: Future research could look into how different consumer segments respond to varying levels of AI sophistication and human likeness, potentially leading to more targeted marketing approaches.
8. **AI and Emotional Intelligence**: Studies focusing on the integration of emotional intelligence in generative AI could provide insights into enhancing customer satisfaction and engagement.
9. **Impact on Employment**: Research could also explore the impact of anthropomorphic generative AI on the marketing job landscape, identifying new roles and skills that will be in demand.
10. **Measurement Metrics**: Developing new metrics to measure the effectiveness of conversational marketing strategies that employ generative AI and anthropomorphism would be beneficial for the field.
11. **User Experience Design**: There is a scope for research into the design of user experiences that seamlessly integrate high levels of AI and anthropomorphism without causing user discomfort or the uncanny valley effect.
12. **AI Governance**: With the increasing use of AI in marketing, there is a need for research into governance models that ensure responsible use of AI, including transparency, accountability, and fairness.

By examining these domains, future research can enhance our comprehension of the role of Generative AI and Anthropomorphism in Conversational Marketing, and direct the advancement of more efficient, ethically conscious, and customer-focused marketing technologies.

Scientific Ethics Declaration

The author declares that the scientific ethical and legal responsibility of this article published in EPESS journal belongs to the author.

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A short history of the USD and a Reflection on the Current World Order

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Abstract: Economic integration has emerged as a significant concern due to its potential threats to local culture, social stability, and economic growth. Led by the United States, Western countries have adopted economic integration as a means to further their global political and economic interests. The dominance of the US dollar in the global economy empowers the US to manipulate world markets and exert control over other nations' economies. This paper delves into the evolution and historical significance of the US dollar, with a specific focus on its influence on the Chinese economy. It investigates the economic, political, and other implications of US dollar exchange rate fluctuations on China, particularly in relation to Chinese-US trade and import-export activities. This study introduces a novel perspective on the potential impacts of the US dollar exchange rate on China's economic relations with the United States. The paper concludes by proposing measures and countermeasures from China's standpoint to identify viable solutions.The literature review section provides a comprehensive overview of the historical evolution of the US dollar, drawing from the works of Ferguson, Marthur, Duncan, and other researchers. It traces the journey of the US dollar from its origins in colonial America, through the establishment of the gold standard, the impact of wars and crises, to the transition to the Bretton Woods system. The review also highlights the US dollar's central role as a dominant currency in international trade and the leverage it grants the United States in imposing trade sanctions and influencing other countries. In conclusion, the abstract underscores the urgency for reform in the international monetary system to mitigate the adverse effects of the US dollar on the global economy. It advocates for a more independent and equitable system that fosters fair economic relations among nations. Addressing the challenges posed by economic integration and the dominance of the US dollar is essential for safeguarding local cultures, social stability, and sustainable economic growth worldwide. By exploring the impacts on China's economy, this study contributes valuable insights to develop effective strategies for fostering a balanced and mutually beneficial global economic landscape.

Keywords: Dollar, Monetar, Global economy

Introduction

Local culture, social stability and economic growth are threatened by economic integration. Our century has brought many changes to our lives, which has not left the field of finance untouched (Csiszárik-Kocsir et al., 2013; Csiszárik-Kocsir et al., 2016a, 2016b; 2021; Csiszárik-Kocsir & Varga, 2017; Garai-Fodor et al., 2016; Garai-Fodor & Csiszárik-Kocsir, 2018a, 2018b).

Western countries are more inclined to use economic integration as the tool of achieving global political and economic interests (Pervez et al., 2022). The United States, the leading country in the global economic integration, uses the power of the petrodollar to occupy a more dominant position in global markets. Simultaneously, the fluctuation of US dollar exchange rate dramatically influences the other countries' economy. It gradually achieves the strategic purpose of manipulating the world economy (Molnár et al., 2023;

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Molnár & Csiszáirk-Kocsir, 2022, 2023). Due to the crucial status of US dollar in world economy, various individuals and organizations realize the existence of enormous economic benefits in the fluctuations of the US dollar exchange rate.

In this paper we first discuss the evolution and historical status of the US dollar through a literature review and statistical analysis. Then we analyze the impact of US dollar exchange rate fluctuations on the Chinese economy. At the same time, we examine and compare the economic, political and other effects of US dollar exchange rate on China. Particularly, here we provide a new perspective to study the potential influences of the US dollar exchange rate on Chinese-US trade as well as China import and export trade. Finally, from China's point of view, suggestions and countermeasures are proposed to find feasible solutions.

Based on our analysis, we determine the history of the US dollar, we review the classical literature that concerns with the currency. Furthermore, we establish what the new world order is, how it is defined and what are the prospects of a US dollar dominated global economy in the future. We find that there is a correlation between cycles of an empire and the strength of the currency and if the currency is pegged to gold or not. We further draw parallels between how the US became an undiputable superpower and net creditor with the Marshall plan in World War II and how it is still a net creditor today.

Literature Review

Since the monetary history of the US has been heavily researched by generations of historians, it didn't prove to be too complicated to find relevant sources of information regarding the historical evolution of the US dollar.(Garai-Fodor, 2022) In the modern era, Ferguson's (1953) work reflects on former researchers' experience and shows how the US monetary base was manipulated to finance the war for independence, the war of 1812 and the civil war. (Ferguson,1953) The history of seigniorage was researched by Marthur, (2009).(Garai-Fodor et al., 2022) Current works include Duncan's (2011) the Dollar crisis, where a detailed assessment is given to the interdependence of China and the US economic machines.(Loblin et al., 2017; Duncan, 2011)

A Brief History of the US Dollar

The history of paper currency of the United States can be dated to 1690, when the land still belonged to British and French colonies. Originally, the Province of Massachusetts Bay Colony created paper notes to pay for military activities. (Bozsik et al.,2022) After the circulation of paper notes, other places in America quickly followed the Massachusetts practice. (Foldi, 2015a)

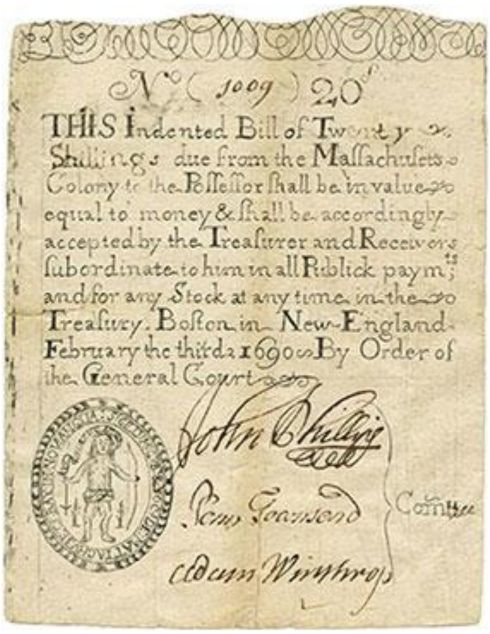

Figure 1. General court promissory note in Massachusetts bay colony, Feb 3, 1690 issue, 20s. (altered) (Courtesy of the Stack Family). Source: Archives

There were many kinds of the paper currencies in colonies that were circulated until British government carried out regulations and restrictions on them.(Pervez et al., 2022; Csapó et al.,2018) The Continental Congress introduced the Continental currency in 1775. However, this did not persist for a long time due to the lack of funds and these kinds of paper notes were easy to forget

Figure 2 Revolutionary war: Continental congress. Continental currency promissory notes. Source: (Szramiak, 2016)

Congress attempted to find ways to reconstruct the currency system by abolishing the previous circulated notes and releasing brand-new ones, however this measure affected the value of the currency to a very limited degree. The Continentals gradually became ineffectual and useless so that they were terminated to distribute as currency by the middle of 1781. This is where the saying “not worth a continental” comes from (Thies, 2021).

With the failure of Continental currency Robert Morris became the Superintendent of Finance of the United States in 1781. He started a series of reforms and rectifications to improve the financial system at that time. He was the first to use the nomination of US dollar sign with official documents. (Goboly& Foldi,2022) Several years later in 1785, the Continental Congress of the States formally approved the authorization of the issuance of new currency. That was the prototype of the US dollar. (Garai et al.,2022; Foldi,2015b)

With the introduction of the US dollar, in 1790s, leading by the Secretary of the Treasury, Alexander Hamilton, the American government shifted and focused its attention to monetary affairs again to enhance to implied powers of the current currency. Hamilton claimed that the Constitution should have the authority to fund and distribute national debts and establish the legal government funded bank – a central bank. Of course Hamilton was known to be influenced by the British experience in central banking (Sylla et al, 2009). According to Hamilton's suggestions, the Coinage Act of 1792 was approved and initiated by the Congress. With this bill, the US dollar was officially identified as the unit of currency and the US currency decimal system was created. (Garai et al.,2023)

The implementation of the Coinage Act formulated the US coin circulation system and established the United States Mint as a responsible institution to create coins for public distribution (Marthur, 2009). Although some of the provisions of the Coinage Act of 1792 have been amended over time, the main content of the Act's provisions remains valid for a long time. (Fodor,2022) It provides the basic framework for all subsequent bills. The first draft of the bill provided that all coins could use the portrait of the president as the front design, and the final version was determined to be a symbol of freedom. The bill also provides for the construction of a mint building in Philadelphia. This is the first federal building built under the US Constitution. (Garai-Fodor,2016; Garai et al.,2023)

The 1792 Coinage Act authorized the minting of a variety of coins. The Eagle Coin is the largest denomination among them (Mathur et al.,2009) The mint first minted copper and silver coins, and it was not until 1795 that gold coins were produced. During that time, both silver and gold were casted as coins and circulated, known as the bimetallism. And the exchange rate between them was established through legislation. (Foldi & Medveczky, 2015)

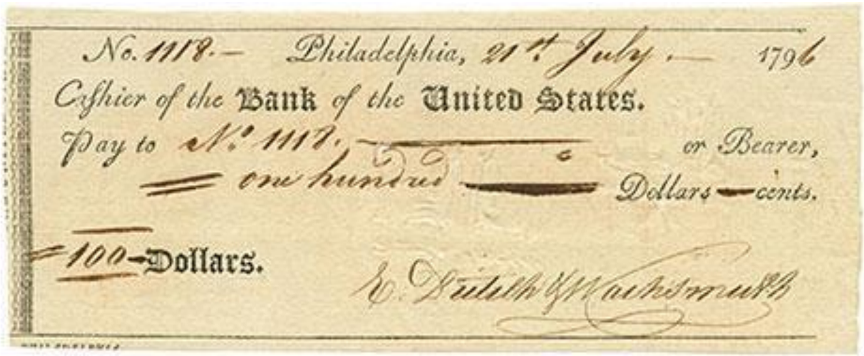

Figure 3. United States. Bank of the United States, Philadelphia, July 21, 1796, cashier's check for $100.
Source: (Szramiak, 2016)

In the nineteenth century, there was a political dispute over significant deposits of silver minerals that had been found in the Midwest. Owing to the increase deposit of silver, the price of the silver decreased significantly. At the same time, this caused the dramatical depreciation of the intrinsic value of silver coins. From 1873 to 1900, to solve the situation, United States enacted a series of legislations and regulations. In 1873, the United States abolished the circulation of silver coin officially and introduced the gold standard system with the passing of the coinage reform law. The "gold standard law" legislated in 1900 formally terminated the Double Standard System. Ever since then, gold was the only value standard of the US dollar, allowing US dollar to exchange for gold until 1971 (Calomiris, 1992).

Figure 4. United States. Gold-backed currency. Late 1800's-early 1900's - $5 note. Source: (Szramiak, 2016)

At the beginning, the United States was once outside World War I. (Natelson,2008) Many US organizations and companies had enormous amount debts to pay for European governments for their military supplies. During World War I, gold from European countries flowed into the United States to buy war products. The Federal Reserve's use of this gold as legal tender has led to inflation. During World War I, there were two periods that the gold standard was suspended. Congress carried out the Aldrich-Vreeland Act of 1908 to intervene and control the exchange rate of the dollar with stable fluctuation.(Bozsik, 2022) The bill provided a mechanism for urgent currency issuance during a crisis and established the National Monetary Commission to seek long-term solutions to national banking and financial problems. With the direct of Senator Aldridge, the commission developed a central bank plan controlled by bankers. William Jennings Bryan and other progressives lashed out at the plan, hoping to create a central bank controlled by the people, not bankers. In 1912, Democrat Woodrow Wilson elected the president, which also strangled Republican Aldrich's plans.

At that time, most Americans believed that the country needed a central bank as a mean of stabilizing the currency and financial system, but there were two distinct views on the establishment of a similar central bank. Bankers from New York and some politicians in Washington supported the establishment of a strong central bank that would be able to issue currency and supported the efficient operation of payment systems. They claimed that the central banking institution should be managed by the bankers themselves and that the institution should be based in New York. However, many Americans did not trust such a powerful central entity. People didn't want to give New York special interests and Washington politicians so much power. In addition, the United States had a vast territory, and the economic needs of different regions were different (Meltzer, 2010).

In the middle of The Great Depression in 1929, the US stock market collapsed, the US crisis prompted capital to flee to the UK, and the dollar depreciated. The international panic was transmitted from the United States to Europe, the collapse of the largest bank in Austria-the collapse of the German bank-the failure of the British bank, a gold exchange wave occurred, and the pound depreciated. Money flowed back to the United States (Rothbard, 1972). The UK broke away from the gold standard, while the United States attempted to implement active monetary and fiscal policies encountered constraints inherent in the gold standard. In April 1933, the United States announced its departure from the gold standard and implemented a thorough easing monetary policy. As a result, the US dollar depreciated sharply, and the US stock market rose by 100% from April 1933 to the end of the year.

By the end of World War II, the United States was the only one that made money in the war and the economy developed unprecedentedly. Gold continued to move into the United States, and in 1945, the US GNP accounted for 60% of the gross domestic product of all capitalist countries. The United States' gold reserves increased from 14.51 billion US dollars in 1938 to 20.08 billion US dollars in 1945, equivalent to 3/4 of the entire capitalist gold reserve, which puts it in the capitalist world's dominant position (Szemere et al., 2022)

Figure 5. United States. Federal reserve notes, Atlanta F6, Series 1977: $1 note. Source: Archives

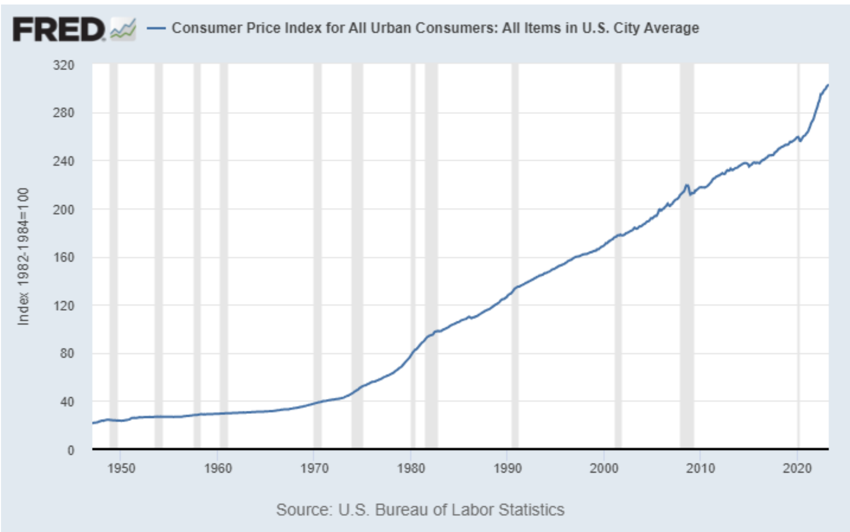

Figure 6. U.S. Bureau of labor statistics, Consumer price index for all urban consumers: All items in U.S. city average [CPIAUCSL], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/CPIAUCSL, June 9, 2023.

In July 1944, on the eve of World War II's impending victory, 44 allies in World War II organized and held the "International Conference on International Monetary and Finance of Union and Alliance Countries" with 730 participants in a hotel in Bretton Woods. This was the commencement of the Bretton Woods system.

However, due to inflation during World War II, inflation after World War II, inflation during the Korean War and Vietnam War, and another round of inflation between the two inflations, the price level in US doubled between 1934 and 1971. Meanwhile, the United States kept the exchange rate between dollar and gold unchanged according to its strong economic strength and gold reserves. This resulted the overestimate of the dollar and underestimate of the gold. Meanwhile, central banks of various countries began to reserve gold and exchanged the dollar in their hands for gold to increase their reserves. In 1948, the United States had 70% of the world's monetary gold reserves, equivalent to 700 million ounces.

Japan and Western Europe experienced fast recovery and development with the help and US. And the global position of the United States has continued to drop. Correspondingly, the US dollar has exacerbated the negative situation of the supply and demand of gold. The deficit and the continuous increase in currency issuance have made the US dollar far lower than the parity of gold. Anti-American sentiment was generated in Europe due to the Vietnam War, and France took the lead to reserve all surpluses in the form of gold. As a result, the United States' gold reserves fell from 700 million ounces in 1948 to 250 million ounces in 1970. More than half of the gold reserves were lost. The US dollar was used to place bets on gold, leading to the complete crash of the fixed exchange rate system. The "US dollar crisis" occurred in 1971. From the 1960s to the 1970s, such US dollar crises broke out 11 times. Despite the many emergency measures the US government has taken to save the dollar, it has not worked successfully. The US economy is in recession, capital is being lost, and the US dollar is flooding the world. In the end, the US gold reserves were facing a great crisis so that to abandon the US dollar gold standard.

The Position of the US Dollar in the World Economy

The US dollar is a dominant currency of US trade. This gives the US a big leverage over exporting countries. America's rivals are vulnerable on US trade sanctions.

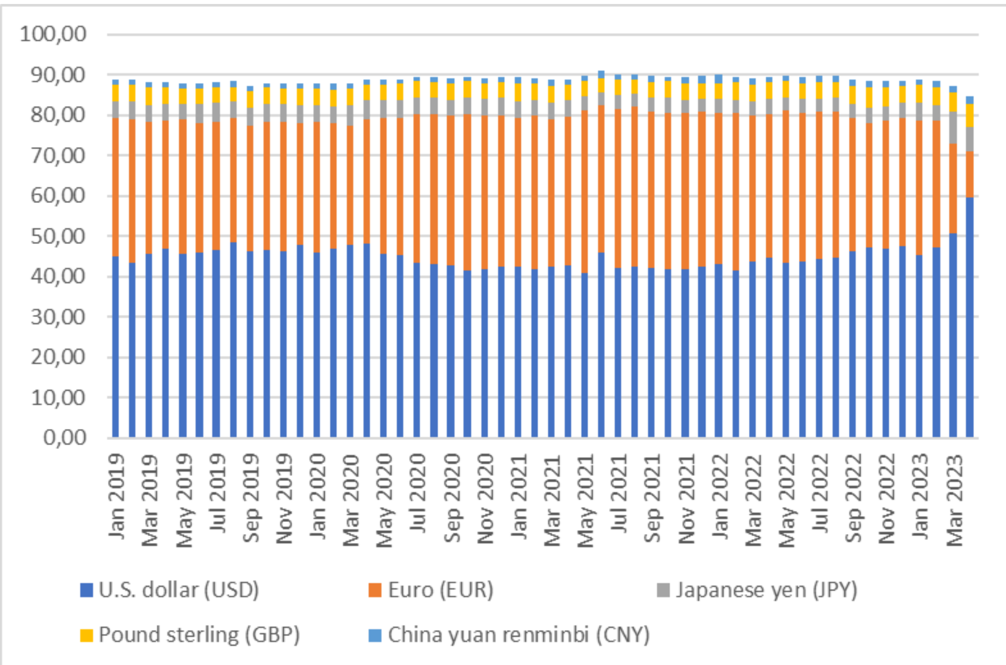

Figure 7. Most used currency in the world for international payments in SWIFT from January 2019 to April 2023, based on share in total transaction value. Source: statista.com

A Saudi Arabian oil company sells Oil to China. The buyers bank in China and the Sellers bank in Saudi Arabia settle the transaction in US dollars via correspondent banks in the United states. These correspondent banks have accounts at the federal reserve. Their status as correspondent banks means that they are safe counterparties. The interpretation is that since the settlement of the trade goes through a US -based correspondent bank, the money touches US soil giving it legal jurisdiction and compelling other countries to abide by US and international law to fight money laundering and corruption. The US used the power of the dollar to:

- cut out the sources of terrorist organizations
- increase surveillance of global money flows
- curb financing toward that actors
- invoked sanctions against rivals
- The US has the power to limit access to its currency.

Conclusion

As one vital driving momentums of global economic improvement, the benefits brought to the United States by the regular small fluctuation of the exchange rate are undoubtedly advantageous to the global economic mushrooming. However, if the exchange rates of the US dollar and other major currencies fluctuate sharply, the world economy would be serious impacted accordingly. Owing to the dollar plays two important roles: international reserve currency and international trade settlement currency, its appreciation and depreciation affects the nerves of most countries. In order to avoid the disadvantageous effects of the US dollar on the world economy, while actively seeking the short-term policy of decoupling the US dollar, countries have been calling for the reform of the US dollar as an independent international monetary system in the long term.

Scientific Ethics Declaration

The authors declare that the scientific ethical and legal responsibility of this article published in EPESS journal belongs to the authors.

Acknowledgments or Notes

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Examining the Strategic Embeddedness of Corporate Security

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Abstract: In comparison with the academic literature on public security, national security, social and economic security, and the challenges of the private security sector, corporate security policies have received little attention in the last decade. This is particularly surprising given that, as in the above-mentioned areas, there is a serious ongoing struggle and competition at the corporate level to meet new security challenges in response to the turbulent environment. The aim of this paper is to examine the strategic embeddedness of corporate security policy and its inherent challenges. The theoretical basis of the study, in line with the above, is provided primarily by the conceptualization of corporate security policy and the presentation of the trends and tendencies in this area. Based on the significant shift in the perception of security in organizations, it is predicted that new challenges and converging risks fundamentally change the security priorities of companies today. The exploration of new aspects of corporate security is done in the form of qualitative research through in-depth interviews with experts. The aim of the research is therefore to analyses the relationship between corporate security policy and strategic planning.

Keywords: Corporate security, Integrated security, Maturity levels

Introduction

Over the last two decades, the perception of security has changed significantly, at the level of society, individuals and companies. Businesses are taking an increasingly complex approach to the issue, integrating preparation and protection against different types of risk. At the same time, the responsibility of companies in shaping individuals' perceptions of security is increasing (Saáry, 2020). It is therefore important to examine how the perception of corporate security policy has changed in recent times and what factors are influencing this process. The research presented in this paper explores the views of industry professionals along the above lines. The aim of the research is to examine how companies' perceptions of security have changed in the recent past, and to what extent security is embedded in strategic planning today. Accordingly, the literature review is presented, followed by a description of the research methodology and results, and a summary of the findings on this topic.

Corporates Security

In reviewing the definitions of corporate security, it can be stated that security is a business requirement; corporate objectives cannot be met without a guarantee of it (Vasvári et al., 2006). The security of a company is a favourable state (acceptable to the organisation, given the threat - security sensitivity), where changes are unlikely but not impossible (Vasvári, 2009). The main focus of corporate security policy is the protection of the most important factor of production: the protection of human life and health, along with the viability of the company (Király & Pataki, 2013).

Corporate security is the applied field of security sciences, with a business-oriented approach aiming to protect people, information and corporate assets within the organisation, and to ensure corporate self-protection.

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Corporate security policy enables the organisation to respond to security threats in a controlled and regulated way (Ludbey et al., 2017).

One hundred percent security cannot be obtained, the threat to the company remains until the causes are eliminated or become negligible (Király & Pataki, 2013). Corporate security is acceptable if the threat to the confidentiality, integrity and availability of the resources of the company, i.e. the risks (internal and external), meet the level defined in the security strategy (Vasvári et al., 2006; Buzan et al, 1998). It should be noted that some authors argue that the definition of corporate security cannot be interpreted without taking into account the specificities of the sectors concerned, and therefore propose the formulation of sector-specific definitions instead of a generally adapted definition (Brooks, 2010; Walby & Lippert, 2013).

The common feature of the definitions presented above is that they focus almost exclusively on protecting the company against external threats. Michelberger (2014) highlights a very important aspect of corporate security as his definition does not focus exclusively on the protection of the organisation, but emphasises its role in creating and maintaining the security of its environment. According to the author corporate security is a state in which an enterprise is able to maintain its viability and value-creating processes over long terms. A further criterion for security is that the future of the enterprise is in its own hands, based on its strategic plans, and that the enterprise does not endanger its environment, external and internal stakeholders in its activities.

The Evolution of the Perception of Corporate Security

While the currently prevailing perception does not necessarily reflect the true meaning and importance of corporate security, it has taken many years and significant changes in the way companies approach security to get to this point (Dalton, 2003). The phases in the evolution of the perception of corporate security in the 20th century were as shown in Figure 1. This historical development does not, however, mean that the perceptions of each period are not reflected in today's corporate practices.

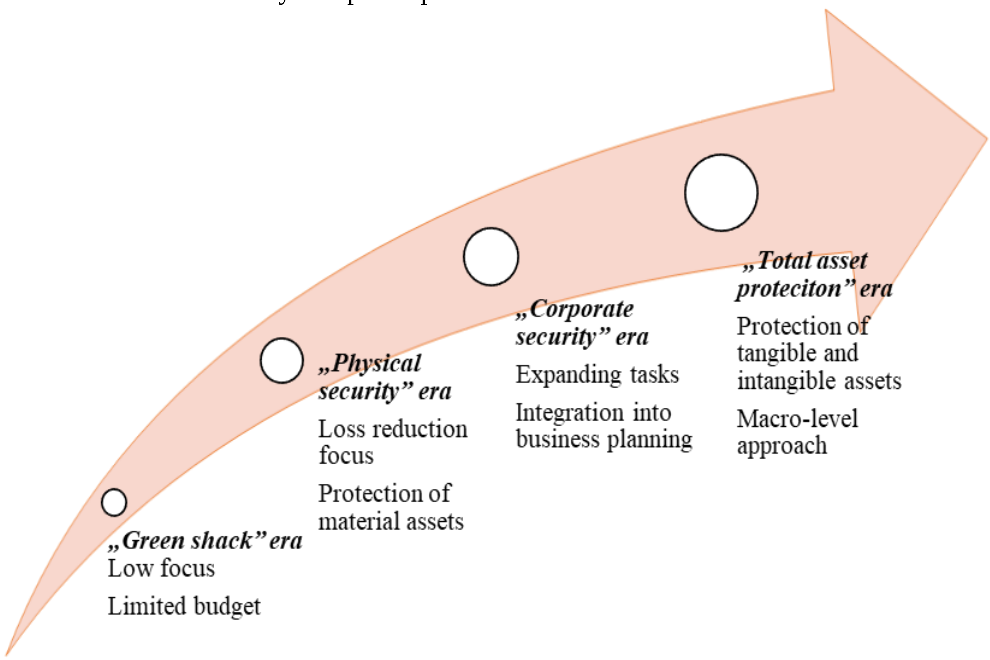

Figure 1. Evolutionary stages in the understanding of corporate security
Source: author's own elaboration based on Dalton (2003)

Looking at the phases of transformation, we see that the third era emerged as the time when the multifaceted approach to security in the enterprise as understood today began to be implemented. An important feature of this era is that business and security interests are converging, and companies are taking a proactive approach to protection (Dalton, 2003). The macro-level approach that characterizes the era of total asset protection, in the view of some authors, foreshadows the evolutionary perspective that will unfold in the 21st century, in which public, governmental institutions will adopt corporate practices and corporate security policy. This culture of strict supervision and control, adopted and infiltrated from the corporate environment, has an impact on the well-being and perceptions of security of members of society (Walby & Lippert, 2013). The authors refer to this trend, which is indeed evident today, as the corporate security creep era.

Convergence and an Integrated Approach to Corporate Security

In the last two decades, the issue of convergence of security areas has become increasingly relevant in the international literature. Convergence of security refers to the harmonisation of traditionally independent areas (islands) of operational risk management in order to achieve a higher level of security in a more cost-effective way. This means an integrated approach to logical, IT, physical, personnel (human) security, business continuity, including disaster recovery and risk management at the level of resources and processes (Tyson, 2007). The growing focus on integrated corporate security is in fact a response to the challenges induced by convergence of risks. However, it is important to distinguish between the concept of an integrated approach, which is manifested at the level of decision-making/management and ideally in the corporate culture, and the concept of an integrated security management system, which can be understood as a functional aspect of the first concept (Papp, 2006). The synergetic effect of combining tools from different areas of security will result in a better, more effective and, last but not least, less expensive overall security system (Kuris, 2010).

The consultancy company Booz Allan Hamilton (2005) has explored what change is needed to create convergent corporate security, based on the views of industry experts. In a multi-phase study, the experts identified nine operational dimensions in three areas (strategic impact: risk management, governance, cost planning; process management: regulation, integration, case studies; and finally, human factor management: leadership style, responsibilities and tasks, and understanding the essence of the business) that play a key role in organisational change.

Method

In line with the objective presented in the previous section, the empirical research explored the perception of security issues within organizations. The method used was qualitative research, in-depth interviews with corporate security managers. The selection of the participants was based on the idea of including representatives of several economic sectors, taking into consideration that corporate security policies are highly industry-specific. The selection was constrained by the availability and willingness to respond of the participants. The interviewees all held senior positions in the security field, their position in the corporate hierarchy and some characteristics of their organizations are presented in Table 1.

Table 1. Centre the caption above the table.Source: author's own elaboration

Inter-viewees	Represented industry	Size of security department	Position in the company hierarchy
C1	Food and chemical industry	3	Production Manager's report
C2	Energetics	8	Top manager's report
C3	Electronics	11	Top manager's report
C4	Telecommunications	19	Chief executive's report
C5	Telecommunications	~30	Chief executive's report

According to the selected methodology of the research, the information was collected along an interview guide which, although it may limit the flow of information, helps to avoid possible loss of data due to a complete lack of structure. In this case, a total of five 45-60 minute interviews were conducted. In processing the information a simple content analysis was used.

Results and Discussion

The results of the research will be presented starting with a review of the priorities identified in the literature, including the strategic embeddedness of corporate security policy, the appearance of integration and expert opinions on security as a potential competitive advantage. The aim was to capture the complexity of security in the context of corporate security. Based on industry expert reports and academic research, we see that there has been some recent shift in the perception of security and risk, yet security policy remains primarily an operative management area in corporate practice.

Regarding the perception of corporate security within the organisation, the only consistent view that emerged from the in-depth interviews was that it depends on a number of factors. Without exception, the interviewees perceive that, although there has been some positive shift in the prestige of the field, security managers must continue to take action to ensure that security policies are accepted. All respondents highlighted the importance of management commitment (which they consider to be highly personality-dependent) and the importance of the security expert's personal persuasiveness.

The recognition of security within the organisation is clearly reflected in the position of the security manager in the organizational hierarchy. This can be confirmed by what one interviewee (C3) said "as the number of levels between top management and the safety executive increases, the effectiveness of the safety organisation decreases." In four of the companies in the research, the head of security was a direct subordinate of the top manager, although there was one company (C5) where this was the result of a change in organisational structure that had taken place just over a year earlier. The reorganisation in their case was not only important from this point of view, but also involved the integration of different areas (facilities, information security, compliance, regulatory data), resulting in a highly complex centre of competence. In the one remaining case, most of security functions, due to their sectoral nature, belong to a significant operational area (supply chain organisation), and operate as a separate island, completely isolated from IT security. Nevertheless, the expert's view is that, also in this case, the management has recognised the increased importance of security and is treating this area as a growing priority.

Heterogeneous opinions were expressed on the extent to which security considerations are incorporated into the strategic planning process. Security is elusive, its absence mostly manifesting itself in different incidents. This is precisely the reason why security organisations often take a reactive approach, as preparedness and proactivity typically involve high costs. It can be stated that for today's business executives, "security is important, but not sufficiently so" (C3) to avoid dealing with this area retrospectively. In the light of the above, it is rather utopian that security is always integrated into the design phases of all processes ("security as design"). However, efforts are being made in this direction, as it has been proven in numerous cases that prevention costs less than mitigation (C5).

Although there was one interviewee (C1) who believes that managers take security aspects into account to a sufficient extent in strategic planning, this seems to be contradicted by the common understanding that emerged among the experts regarding the setting of the security budget. There was therefore a consensus that the budget planning of the security organisation is clearly an operational issue for companies. From this point of view, again, the skills of the security manager, who can justify the expenditure on the basis of a cost/savings - or even revenue - approach, become of paramount importance. "...business is almost always the priority" (C1). At the same time, conscious strategic planning is obviously hampered by a number of factors, such as the issues, items that are difficult to monetise, and the lack of information available in certain situations and risk analysis.

Interviewees also agreed that security is a value, that "security and quality cannot be questioned" (C1), and that security management is therefore a "value-creating process" (C2), a "productive area" (C3), a "driving force" (C4) that brings companies closer to meeting business objectives. Moreover, one company has a "profit centre" (C5) within the security organisation, where security services are sold on the basis of the "security as a service" principle.

In addition to the above, safety executives, with the exception of one participant, all believe that safety can be a competitive advantage. The comparative advantage manifests itself mainly in the form of guarantees offered to customers and clients, protection, quality assurance linked to standards. According to the interviewees, these certifications distinguish their company from competitors and thus have a direct impact on purchasing decisions. Furthermore, the reputation associated with a reliable partnership implicitly influences the market position of the company.

Summarising the information provided in the interviews, it can be concluded that, according to the views of the security executives, there has not necessarily been a significant change in the perception of security in recent years, although there has been a major shift in the context of digitalisation and globalisation pressures for more than a decade. It can also be seen that the importance and perception of this area within the company is determined less by external trends than by the personality, negotiating power, actions and approach of the security manager. Security aspects are not typically considered in strategic planning. The general consensus among interviewees is that corporate security continues to be viewed primarily as a cost centre by managers, despite the unanimous emphasis among practitioners on the value-added potential of this field. A summary of the experts' opinions is shown in Figure 2.

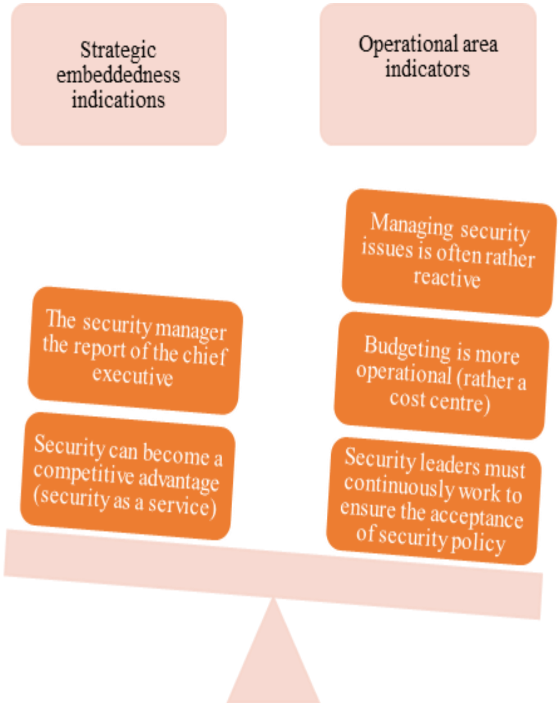

Figure 2. Perception of security within organizations based on expert's opinion
Source: author's own elaboration

However, when interpreting the results, we must take into consideration the fact that for professionals working in this field, familiarity with the field, day-to-day problem solving, active participation in the processes may make it difficult to abstract and to assess the trends underway as an external observer.

Conclusion

The research examined the position of security management within the company, based on the opinions of security managers. Based on literature background a significant shift in the perception of security within the company was predicted based on the fact that new challenges and converging risks are fundamentally changing the security priorities of companies today. International good practice in this area therefore highlights the trend towards the spread of the concept of integrated security and the integration of security issues into strategic decision-making as a direction of development. On the basis of the in-depth interviews with experts, it was found that Hungarian practice in terms of the strategic embedding of corporate security policy typically lags behind international trends and recommendations. As regards the perception of security within the company, although a certain shift can be observed, the positioning of this area is still mainly a function of the competencies of security managers and not based on environmental expectations. For security executives, this is why it is particularly important to make security "visible", which can only be achieved by mapping the right - in the first instance - internal stakeholders and through targeted, effective communication. Involving internal stakeholders is the first step in the change process, as they will later become the first point of contact for a wider range of stakeholders.

Overall, it can be stated that the performance of companies in this area depends to a large extent on the perception of security within the company and the recognition of the security organization. Internal company characteristics therefore have a significant influence on the extent to which security is integrated into strategic planning. Taking all this into account, the maturity or corporate orientation model, as set out in Table 2. emerges.

The guarantees of progress between maturity levels and stages can be provided by appropriate assessment and diagnostics (with targeted methodologies), as well as assistance in the development of strategies and operational tools for each maturity level, which are still being developed.

Table 2. Centre the caption above the table. Source: author's own elaboration

Corporate orientations/ Level of maturity	Focus of security policy	Target groups
Invisible security	Problem solving Reactive behaviour Support for operations	Not applicable
Visible security	Proactive Ad hoc coordination of areas Ensuring operations	Employees (internal stakeholders)
Total, "holistic" security	Integrated (comprehensive security) Strategic embeddedness	External and internal stakeholders

Along with the above conclusions, it would also be important to highlight the limitations of the research. While qualitative research methodologies do not allow for generalizable findings, they do support a deeper understanding of phenomena. In this respect, therefore, in-depth interviews with experts, although a good choice for the discussion of the issue of security responsibility, are only suitable for declaring generally accepted results with reservations due to the small sample size. It is important to emphasise, however, that due to the specificity of the topic and the relatively small population of security policy practitioners/interviewees, the conclusions drawn from the results of the five in-depth interviews can be generally valid. This belief is partly confirmed by the qualitative predominance of the theoretical grounding in the field, which is also evident in related studies, and by the fact that already from the fourth interview onwards, theoretical saturation was noticeable.

The issue of security within the company is an increasingly important, though less researched, area. As has been seen, corporate security executives are taking steps to improve the perception of this area, but it is also important to broaden the scope of academic research on this topic.

Scientific Ethics Declaration

The author declares that the scientific ethical and legal responsibility of this article published in EPESS journal belongs to the author.

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The Role of Tourism Innovation in Supporting Tourism Competitive Advantage : The Case of a Sample of Tourism Agencies in the State of Tlemcen, Algeria

Larabi Oukacha
Aflou University

Abstract : For more than two decades, Algeria has been seeking to diversify its economy by reducing hydrocarbons dominance on its exports. Tourism sector therefore, has gained considerable attention in Algerian economic policies. The main purpose of this work is to highlight the impact of tourism innovation on tourism competitive advantage. To achieve such goal, a field study including a sample of tourism agencies active in the field of tourism services and travel in the state of Tlemcen was carried out. SPSS package's outputs points out the existence of a strong statistical impact of various forms of tourism innovation such as promotional, distribution and architectural on tourism competitive advantage. We notice however, a complete absence of any effect of other forms of innovation such as pricing, administrative and operational. Our results contribute to the existing litterature on the issue of promoting tourism competitive advantage. As far as policy makers are concerned, the above mentionned results could be of extreme importance in building a tourism competitivity.

Keywords : Innovation, Tourism innovation, Tourism competitive advantage

Introduction

There is no doubt in saying that companies today's environment is characterized by instability, constant dynamism and rapid development in various areas. Thus, in the midst of these challenges, successful economic institutions are those who can do things differently than do their competitors. This new manner of handling things is the new concept known as innovation. Innovation refers to the performance of a process in a radically new way with the objective of achieving dramatic improvements in response time, quality, and efficiency. Contemporary business world has known new aspects like accelerating the introduction of new products and services and the disappearance of old ones, as well as the emergence of new markets and the decline of others.

Finally, the new situation has led institutions to invest heavily in innovation as an important competitive factor to increase their market share or maintaining it. Given this brief introduction, the rest of this paper is structured as follows : Section 2 contains four subsections, the first subsection provides a detailed definition for the concept of innovation and how it differs from other similar terms. The Second subsection discusses deeply tourism innovation. In the third subsection, tourism competitive advantage is explained while the fourth subsection is devoted to the link between tourism innovation and tourism competitive advantage. Section 3 describes the data, methodology and presents the empirical results while Section 4 summarizes the main findings, provides an economic interpretation and some policy recommendations.

Tourism Innovation and Tourism Competitive Advantage

Innovation and Some Similar Terminology

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The concept of innovation should not be confused with some other similar terms such as creativity, invention and discovery. In what follows, a definition of each term is given. Starting with innovation, according to [Guilter & Roffins], innovation can be defined as the processes of creating an idea and transforming it to a useful product, service or a production method (Khairallah, 2008). Creativity however, looks different, as in GAWAN definition, is a combination of abilities, aptitudes and personal characteristics that, if combined with a suitable environment can promote mental processes leading to original and beneficial results for the individual, organization, community, or a worker (Muhammad&Salim, 2009). It is defined by others Creativity is new, useful ideas, related to an optimal problems solution , developing methods or goals, deepening a broader vision and recomposing known patterns of administrative behavior into distinctive and advanced forms that take their owners forward (Manea, 2010). Another definition of creativity can be found in MacKinnon, who sees it as a combination of four basic components, namely, creative work, creative process, creative person and creative attitude (Muhammad&Qandil, 2009). The most common comprehensive definition is to consider creativity as a mental process, which means that a person uses his mind to create ideas, concepts, artistic forms, and theories characterized by modernity (Naima &Abdelkader, 2010). Finally, it comes to invention, which, according to Coulter and Robbins, refers a completely new idea, related to technology and affects societal institutions (Abboud, 2003).

Tourism Innovation

According to (Williams & Hall 2008), innovation means creating new ideas with the aim of solving an existing probem, reorganizing, reducing costs, developing new budget systems, improving communications, changing processes, providing new products or services. Given this, innovation,simply means the ability to change and adapt (Khasawneh, 2011). In the same sense, Innovation in the field of tourism is bringing new ideas, services and products to the market in such away to include the tourism value chain as a whole (Terad, 2007). However, It does not mean only adapting to the changing tourism industry with new marketing strategies, but also promoting new and innovative services, products and processes as well. Innovation thus, should be a permanent, comprehensive and dynamic process. As regards fields of tourism, and following Schumpeter's approach to innovation in the field of tourism, two types of innovation arise; distribution innovation and institutional innovation (Normal & Vergananti, 2012). Accordingly, innovation can occur in one or more of the following five categories:

- Innovation in product or service : Refers to changes observed directly by the client. These changes are new, in either the sense of of not having been seen before before, or new to a particular project or destination. Innovation in a product or service is perceptible to tourists to the extent that it may become a factor in a purchasing decision. Innovation in partially or completely variable products and services, developed at the marketing stage, and must be evident either for producers, consumers, suppliers or competitors, such products and services have been developed in recent years, such as loyalty programs, environmentally sustainable accommodation facilities , commemoration of events according to local traditions (tangible and intangible heritage) (Fadel, 2011). Innovation plays an essential role in creating new products and services or introducing modifications , whether radical or partial , in such away that differ from current products (LuqmanAhmed, 2010). Researchers in the field of product development disagreed on establishing a specific classification for new products due to their differences in defining the term new product, considering that the latter is relative and multidimensional. In this context, Philip Kotler presented a classification of new products based on the integration of two criteria ; the degree of innovation in relation to the market and the degree of innovation in relation to the organization. He distinguished the following types (Lashahab&all, 2017): Introducing new product, adding new product lines, expanding existing product lines, improving existing products, repositioning and new products at low prices.
- Process innovation (Lashahab&all, 2017): refers to programs and systems that increase efficiency, productivity, and flow. It is therefore, the core of the innovative process. Process innovations are a means of increasing existing processes efficiency (Hjalager, 2009). It is concerned with new technology or reengineering a production line. The type of innovations that ultimately lead to product or service innovation are good examples of process innovation in tourism field, such as creating or improving systems to make tourists movements in crowded places easy or developing techniques to facilitate luggage movement in airports.
- Administrative innovation : It aims to improve working conditions, improve employee satisfaction, increase knowledge and efficiency and encourage...Institutional values creating a one-team spirit, which enables employees through job enrichment, decentralization, and training to innovate administrative (Védrine, 2003).

Since tourism institutions rely on human element, which explain their dependence on administrative innovation.

- Institutional innovation : This category deals with cooperative and organizational structures, beyond individual institution. It puts rules and new systems, such as forming agreements with banks for financing, such as preparing or changing the conditions for obtaining financing from institutions credit, whih affects tourism (Shoukal, 2017). It is a combination of institutions, each of which specializes in a specific field providing together a service or product. Examples of institutional innovation can be seen In tourism field, transportation institutions of all kinds, banks, hotels, and tourist agencies agree with each other to facilitate the tourist's movement providing a wide variety of services and products that compete with leading institutions in the tourism field (AbuJumaa, 2003).
- Marketing innovation : It is concerned with putting new, unconventional ideas in actual marketing practices application (Nordin, 2008) , it is also about an activity or group of innovative, interconnected marketing activities that contribute to meeting current and potential consumers needs and desires (lambain, 1993). Marketing innovation is the activity that anticipates these needs and searches for new potential ones that a consumer cannot reveal or express. This can be done through imagination and action achieving therefore, solutions that consumer had not thought of (AbuJumaa, 2003). So, marketing innovation develops new ideas or non-traditional marketing practice. It is an activity or group of innovative marketing activities Interconnected which contribute to meeting and fulfilling the current, future or potential consumers needs and desires (Lahoual, 2008).
- Logistics innovation : It refers to how the flow of materials, information, resources, and customers is dealt with, it also reshaped external exchanges, which affects an enterprise the position in the value chain. Innovations in services modern logistics in the tourism field includes; vertical links in the food and restaurant industries, internet marketing, promotion (Hjalager, 2009).

Competitive Advantage and Tourism Competitive Advantage

After a deep discussion about tourism innovation, we turn now to the the second part of the research represented by tourism competitive advantage. According to [Porter 1993], According to (Porter, 1993), an organization's competitive advantage arises primarily from value benefits that an organization can create for its customers, which can take the form of lower prices relative to competitors' ones for equivalent products , or by providing unique benefits to compensate a higher price orter(1999). Mc Fetridge however, believes that an organization competitive advantage can be achieved whenever this latter is able to maintain a high level of productivity and profits beside low costs and an increase in market share, without being at the expense of profits. Competitive advantage can be clarified in the following points (Bilali, 2005):

- Competitive advantage is the ability to overcome competitors in terms of price, production, size of the target market, as well as differentiation with resources.
- Distinctive characteristics that enable an organization to dominate and maintain the same position in the market.
- The organization's ability to perform its business by providing and developing new services and winning over competitors.

As for competitive advantage dimensions, are characteristics that an organization chooses and focuses on when presenting products. The five dimensions of competitive advantage are summarized by cost, quality, delivery, flexibility, and innovation (AlSakarneh, 2008).

The role of Innovation in Strengthening Organization's Competitive Advantage

According to the study conducted by (M.Porter, 2000) in ten countries namely, the United States of America, England, Germany, Switzerland, Sweden, Korea, Japan, Denmark, Italy and Singapore, According to the study conducted by Michael Porter (M.Porter, 2000) in ten countries: the United States of America and England Germany, Switzerland, Sweden, Korea, Japan, Denmark, Italy and Singapore, institutions that are able to acquire and maintains a competitive advantage in a high competitive situation are those institutions that constantly innovate and develop through a continuous dynamic process, as well as a commitment to continuous investment (Lashahab&all, 2017). Organizations working in the tourism industry have resorted a combination of options in all areas and activities related to operations management. Such combination represents the competitive precedence that if relied upon or adopted by organizations as a means of competing can leads to achieving goals related to the long term. We notice some disagreement among researchers regarding dimensions that make up competitive priorities. Consensus about such dimensions however, includ cost, quality, service delivery and flexibility. Innovation was added to achieve relevant outcomes (AbdelKarim & Majeed, 2004). In what follows a brief overview of these dimensions :

- Cost: Providing products at lower prices compared to competitors leads to increasing the organization's share in the competitive market . Lowering costs, requires distinction between value added and non value added activities in the aim of raising efficiency for the former and eliminating the latter (AlHayali Attiya, 2006). Cost represents a primary goal of operations and is affected by other performance goals. High operational efficiency aims to eliminate waste and providing goods and services to cosumers with an increased value at the same time (AbdelKarim & Majeed, 2004).
- Quality : means doing things right from the first time avoiding thereby rework. It aims thus, at gaining customer's satisfaction which highly contributes to loyalty of this latter towards the institution. (Dilworth & James, 1996).
- Efficiency : Relates institution's inputs and outputs. High efficiency consistes at obtaining an increased level of outputs with the sames amount of inputs (Thamer & Ahmed, 2008).
- Delivery time : Achieving a high delivery time means reducing the leading time between receiving an order from the customer and fulfilling it (Thamer & Ahmed, 2008).

Data, Methodology and Results

In order to achieve our objectives, this section will be divided to three sub-sections. The first one deals with the data collection. The second section discusses the research methodoly while the third one will be allocated to the empirical results and discussion.

Data Collection

Our field study focused on a group of service institutions represented by travel agencies in the state of Tlemcen, operating at both national and international levels. Agencies selection rests upon performance criteria and are therefore, very innovative compared to their competitors. The study sample includes 11 tourism agencies active in providing travel services inside and outside Algeria. For the purpose of collecting data, a questionnaire was distributed to 40 employees in these entities, 10 of which were dropped for not meeting the requirements. Thus, the number of approved questionnaires was 30.

Research Methodology

To ensure the validity, effectiveness, and stability of the scale used in the study, alpha Cronbach coefficient was measured, the value of this latter for all scale data reached 93.3%, signling high statistical significance, evidence of consistency and stability between the statements of the model used. Hence, the scale has high signs of reliability. A range of information can be obtained from the use of the SPSS package at this stage, such as statistical significance between tourism innovation forms as independent variables and tourism competitive advantage as a dependent one. The nature of the previously mentioned relationship is inferred as well and the degree of impact which allow the hypothesised effect to be captured in an equation form.

Empirical Results and Discussion

The previously set of information mentioned, gathered from SPPP package, are related to statistical significance, the direction and strength of the relationship between the dependent variable expressed as tourism competitive advantage and the independent variables expressing various forms of tourism innovation, namely, pricing, promotion, distribution , administration and architectural are proceeded and analysed in this section. Regression results of tourism competitive advantage on tourism innovation are summarized in Table 1 below :

The main finding in table 1 above , is that at a significance level of 0.009, less than 5%, there is a statistically significant relationship between tourism innovation and tourism competitive advantage. A 0.470 correlation coefficient points out the existence of a moderate direct relationship between the two variables. It can be said that tourism innovation affects competitive advantage by 22%. Such effect is therefore, captured by the following linear relationship

Table 1. Tourism innovation and tourism competitive advantage relationship

Constant a_0	Significance Level	Degree of Freedom	Factor Regression a_1	t Calculated	Determination Coefficient	Correlation Coefficient
1.175	0.009	1 28 29	0.574	2.818	0.221	0.470

$$\boldsymbol{Y = \quad 1.175 + 0.574x + \ \varepsilon}$$

Where $\boldsymbol{Y}$ stands for tourism competitive advantage and $\boldsymbol{x}$ for tourism innovation. Results of the impact of the different forms of tourism innovation on tourism competitive advantage are shown by tables 2 to 5. As regards the administration and the operational effects however, were found not signifcant and for clarity are not reported.

Table 2. Tourism innovation impact: pricing channel

Constant $\mathbf{a_0}$	Significance Level	Degree of Freedom	Factor Regression $\mathbf{a_1}$	t Calculated	Determination Coefficient	Correlation Coefficient
2.201	0.338	1 28 29	0.159	0.886	0.027	0.165

From table2 above, it is clear that at a 0.338 level of significance greater than 5%, no effect of tourism innovation throught the pricing channel on tourism competitive advantage is recorded for the concerned institutions.

Table 3. Tourism innovation impact : promotional channel

Constant $\mathbf{a_0}$	Significance Level	Degree of Freedom	Factor Regression $\mathbf{a_1}$	t Calculated	Determination Coefficient	Correlation Coefficient
1.158	0.000	1 28 29	0.603	4.285	0.396	0.629

Regression of tourism competitive advantage on tourism innovation at a promotional level represented by table3 shows a strong direct relationship with a 0.629 of correlation. Accordingly, innovation at the promotion level affects competitive advantage by 39.6%. Hence, the consequent regression equation takes the following form:

$$\boldsymbol{Y = \quad 1.158 + 0.603x_2 + \ \varepsilon}$$

Where $\boldsymbol{Y}$ and $\boldsymbol{x_2}$ represent tourism competitive advantage and tourism innovation at a promotional level respectively.

Table 4. Tourism innovation impact: distributional channel

Constant $\mathbf{a_0}$	Significance Level	Degree of Freedom	Factor Regression $\mathbf{a_1}$	t Calculated	Determination Coefficient	Correlation Coefficient
1.207	0.01	1 28 29	0.596	3.757	0.335	0.579

A◌́s is shown in table 4, another impact of tourism innovation represented this time by the distributional component on tourism competitive advantage. Results in table 4 point out to a moderate relationship between the two mentioned variables. With a 0.579 correlation coefficient at a 1% level of significance, tourism innovation affects tourism competitive advantage by 33.5%. The regression equation follows:

$$\boldsymbol{Y = \quad 1.207 + 0.596x_3 + \ \varepsilon}$$

$\boldsymbol{Y}$ and $\boldsymbol{x_3}$ stand respectively for tourism competitive advantage and tourism innovation at a distributional level.

Table 5. Tourism innovation impact: architectural channel

Constant $\mathbf{a_0}$	Significance Level	Degree of Freedom	Factor Regression $\mathbf{a_1}$	t Calculated	Determination Coefficient	Correlation Coefficient
1.758	0.026	1 28 29	0.367	2.347	0.164	0.405

Tourism competitive advantage could also take another form represented by the architectural variant. Results of such form are summarized in table 5. Outputs in the table mean that at a 0.026 significance level, less than 5%, there is a statistically significant relationship between architectural innovation and competitive advantage. This is confirmed by the correlation coefficient estimated at 0.405, which indicates the existence of a moderate direct relationship between the two variables. The determination coefficient indicates that architectural innovation affects competitive advantage by 16.4%. Accordingly, the linear equation can be formulated as follows :

$$\boldsymbol{Y = 1.758 + 0.367x_4 + \varepsilon}$$

$\boldsymbol{Y}$ and $\boldsymbol{x_4}$ stand respectively for tourism competitive advantage and tourism innovation at an architectural level.

Concluding Remarks

As a way of alleviating its reliance on hydrocarbons sector and thereby diversify its economy, tourism sector was among sectors given priorities in algerian economic policy in recent years. Increasing interest in this sector stems from its dual role as a way of diversification first and second as a locomotive for other sectors such as traditional industries. In order to develop the forementioned sector, a clear, well defined starategy has to be put foreward. Thus, a large set of means of successing should be provided. Among which, travel and tourism agencies seem a good starting point. The foregoing discussion leads to question about algerian travel and tourism agencies efficiency extent . Efficiency for the mentioned agencies simply means that their provided services should be done differently from their competitors, briefly speaking, they have to innovate. The primary purpose of the work in hand was to investigate a sample of travel and tourism agencies's efficiency. The agencies efficiency is proxied by the impact of tourism represented by a set of innovation channels, including pricing, promotional, distributional, architectural, operational and administrative on tourism competitive advantage. Regression results presented in previous section ranked from strong , moderate to weak, indicating therefore, Strengths in some forms of innovation and weaknesses in others. Our results are of extreme importance for both levels namely; policy makers and accademicians. For the former, more emphasis is needed on either strengths and weaknesses. As regards the latter, and for future research, the list of innovation forms could be extended to include other new forms for more continuous efficiency improvement.

Scientific Ethics Declaration

The author declares that the scientific ethical and legal responsibility of this article published in EPESS journal belongs to the author.

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