ESTIMATING THE IMPACT OF FINANCIAL SECTOR DEVELOPMENT IN REDUCING UNEMPLOYMENT IN CHILE (1991-2017)

Yusra Salim Nayyf, College of Administration and Economics, Tikrit University Zena Tariq Ali, College of Administration and Economics, Tikrit University Bilal Abdulhaq Abdul Kareem, College of Administration and Economics, Tikrit University

ABSTRACT

The study aimed to assess the extent to which the development of the financial sector contributed to reducing unemployment in Chile during the period (1991-2017) by using Johanssen for the joint integration procedure, which results from the error correction model. Moreover, the elasticities in the short and long term were estimated, and the results revealed the existence of a complementary relationship. The long-term relationship between the variables of the model and the value of the error correction factor was (-0.024). When estimating the elasticities, the relationship in the short term was for two variables, namely (LnX1) and (LnX3), which express the domestic credit provided to the private sector (GDP%) and the market value of local companies. Listed (% GDP), respectively, is negative in unemployment, that is, they cause an increase in the unemployment rate, while the variable (LnX2), which expresses the money supply in a broad sense (% of GDP), was positive in reducing unemployment, but in the long term it became two variables, namely (LnX) and (LnX3) have a positive effect in reducing unemployment, and the diagnostic tests showed that the model is devoid of any standard problem. Providing objective conditions for economic growth.

Keywords: Financial Sector, Unemployment in Chile, Economic Growth, Chile

INTRODUCTION

The financial sector occupies an important place in the performance of development activities and acts as a catalyst for economic growth. Countries with an advanced banking sector and dynamic stock markets are growing faster than countries with an underdeveloped financial system. The development of the banking sector and the stock market is closely linked to economic development. As the financial system provides information about potential investment and has a major role in the modern economy to achieve improvement in productive efficiency in a country. When this major role is disrupted, the economy may suffer from economic problems such as unemployment, a continuous decline in industrial production, and low profits and real income for consumers. The economy may be at risk especially if policy measures fail to correct the problem properly and quickly.

The outstanding macroeconomic performance of Chile in the late 1980s and 1990s has been portrayed as a successful example of market-oriented policies and as such has been the subject of numerous studies and in recent times one of the areas of greatest interest is financial development. This focus is justified in view. For the remarkable growth in banking intermediation and stock exchange capitalization since the mid-1980s which positioned Chile as the financial leader in Latin America a decade later, and by 1995 the ratio of credit allocated by banks to deposit funds to GDP (49%) was roughly five percent greater than that of Brazil's country. The second in the region in this regard. By the same year, the market value of the stock market as a share of GDP had reached (105) per cent in Chile, at least three times that of any other country in Latin America.

This paper deals with the relationship between financial development and unemployment in the Chilean economy for the period (1991-2017), which is a standard analytical study.

Based on the following hypothesis: There is a negative correlation between financial development indicators and the unemployment rate in Chile for the period (1991-2017).

For the purpose of verifying the research hypothesis, accepting it, denying it, or taking a position on it, the research aims at the following:

1- Clarify the concept of financial development and its measures

2- Presenting the course of financial development in Chile and the policies followed to achieve financial development.

3-Estimating the effect of financial development on the unemployment rate during the study period.

The first axis is on the descriptive method in presenting the theoretical framework for the concept of financial development and reviewing the literature on the relationship between financial development and unemployment.

As for the second axis, the course of development of the financial sector in the Chilean economy was presented.

In the third axis, the standard approach used in estimating the impact of financial development on unemployment was constructed and presented. This axis also included the presentation and discussion of the results.

And the last axis included conclusions and recommendations.

The Theoretical Aspect of the Financial System, Financial Development, and the Relationship with Reducing Unemployment

The Concept of the Financial System

The financial system is defined as both financial institutions - such as commercial banks - and financial markets - such as stock and bond markets. On a broader level, a robust and efficient financial system encourages growth by directing resources to their most productive uses and by promoting more efficient resource allocation (Estrada et al., 2010).

The costs of obtaining information and conducting transactions create incentives for the emergence of financial markets and institutions. Financial markets and institutions may emerge to alleviate problems resulting from frictions in information and transactions. Different types and combinations of information and transaction costs motivate different contracts, markets, and financial institutions. To reduce transaction and information costs, financial systems will serve one primary function: they facilitate the allocation of resources across space and time in an uncertain environment.

There are five basic functions of financial systems in economic activity

&- Facilitate trading, hedging, diversification and pooling of risks

&-Resource allocation

&-Monitor managers and exercise control over companies

&-Mobilization of savings

&-Facilitating the exchange of goods and services (Levine, 1997).

Concept and Measures of Financial Development

The term financial development did not take a precise and specific definition According to Robinson (1952), he emphasized the following: In a financial system, when the demand for financial services is large in the context of an economic expansion, this will lead to an increase in financial institutions, financial products and services, and thus financial development can be

considered an expansion In the financial system, it is characterized by an increase in demand for financial services and an increase in the number of financial institutions.

Turunc (1999) also distinguished in his analysis between internal financial development (demand for financial services) and external financial development (supply of financial services), according to which we say about a financial system as being developed if only it guarantees the functioning of an effective and scalable payment system, mobilizing savings and improving its specialization for investment Providing reliable means of exchange is a necessary condition for growth.

As for the DFID (Department for International Development) report, we say that the financial sector is developed if it is able to:

- Improve the levels of efficiency and competition.
- Increase the quantity and quality of financial services available.
- Increasing and diversifying the institutions that operate in the financial sector.
- Increasing the percentage of liquidity available through the financial sector.
- The extent and ability of financial sector institutions to allocate capital to the private sector and respond to its needs.
- Improving the regulation and stability of the financial sector (Safe: 2016, 23-24).

The development of the financial sector is a multi-faceted concept that is not limited to monetary aggregates and interest rates (or rates of return), but also includes financial openness, regulation and oversight, technological advances, the degree of competition and institutional capacity such as the strength of creditors' rights (Crane et at., 2003). Development can be expressed. Financial by presenting the most important indicators for measuring financial development:-

- Money supply in the broadest sense, measured by its ratio to GDP.
- Money supply in the narrow sense, measured by its ratio to GDP.
- The ratio of the supply of cash in the narrow sense to its supply in the broad sense.
- The volume of deposits made to banks, according to their ratio to GDP.
- The volume of domestic credit, measured by its ratio to GDP.
- The volume of credit extended to the private sector, measured by its ratio to GDP.
- The percentage of credit extended to the private sector. Total credit.
- The size of the assets of commercial banks and their ratio to the total assets of the economy.
- The capital of the financial markets, measured by its ratio to GDP.
- The total volume of financial transactions, measured by its ratio to GDP.

Through the foregoing, it is clear that the financial development will lead to an increase in saving and direct it to investment by increasing deposits, as well as providing loans to the private sector in all its forms and increasing the speed of the circulation of money, and all this will stimulate the economy through the investment portal in its broad sense. The impact of financial development on reducing unemployment can be presented in the following paragraph (Saleh & Hatem, 2017).

Review the Literature on the Relationship between Financial Development and Unemployment Reduction

Financial globalization has stimulated the financial sector to control the economies in the world, especially since the 1990s. The increasing influence of the financial sector on the overall economy has prompted researchers to conduct studies related to the impact of changes in the

financial sector on various variables such as economic growth, unemployment, income inequality, innovation and economic fluctuations. A large part of the studies focused on the interaction between economic growth and the development of the financial sector due to the emergence of theories of internal growth and the disclosure that the development of the financial sector has become an important component of long-term growth and enhances economic growth. However, a limited number of studies focused on the relationship between unemployment and financial development and reached conclusions. Different depending on the countries, the period of study, and the method (Bayar, 2016).

One of these studies is the study of Gatti, et al., (2009), which dealt with the interaction between unemployment and financial development in selected OECD member countries during the period (1980-2004). The dynamic panel model was estimated using the dynamic panel model. Generalized Moments (GMM) show that the impact of financial variables is highly dependent on the labor market context. They found that stock market capitalization had a negative effect on unemployment. Moreover, they found that the effect of credit provided by the financial sector on unemployment was negative in the case of a highly regulated labour market, but it had a positive effect on unemployment in other cases (Gatti et al., 2009).

There is a study of Shabir & Shabbir, et al., (2012) that examined the relationship between unemployment and various indicators of financial development in Pakistan during the period (1973-2007) using the ARDL autoregressive model. The study revealed that in the long term, the ratio of credit provided to the private sector as a percentage of GDP, the assets of the Central Bank, and the market capitalization rate as a percentage of GDP showed a positive relationship with employment. While M2 was minus the currency in circulation as a percentage of GDP, it had a positive effect in increasing unemployment. In the short term, M2 and the market capitalization rate as a percentage of GDP and assets with the central bank had a negative sign (Shabbir et al., 2012).

Ibrahim, A. (2012) researched the impact of financial services on poverty reduction in rural areas in Katsina State, Nigeria, on the basis of the positive relationship between unemployment and poverty. The primary cross-sectional data were analysed using a multiple logistic regression model and the result revealed a significant negative relationship between financial services and the level of poverty. The implication of this conclusion is that financial development has a first-class role in creating job opportunities that can lead to a reduction in poverty in the least developed countries (Ibrahim& Al-Er:2012,580).

Also Bayar, P. (2016) study on financial development and unemployment in emerging market economies. This study examined the interaction between unemployment, financial development and domestic investment in (16) emerging market economies during the period (2001-2014) using the analysis of the panel data. The study found that there is a long-term relationship between variables and domestic investment, which had a negative impact on unemployment, while financial development did not have a significant impact on unemployment. Moreover, there was one-way causation from financial sector development to unemployment (Bayar, 2016).

The study of Epstein and Shapiro & Epstein (2017) dealt with the relationship between financial development, unemployment fluctuations and sectorial movements. It included a comparison between two groups of countries. The first group was a sample of developed countries. The second group was a sample of developing and emerging economies. The study reached several results, the most prominent of which is that there are A negative and moral relationship between financial development and unemployment fluctuations in developing and emerging economies, while there is no such relationship in advanced economies(Shapiro & Epstein, 2017), that is, the more financial development takes place, the less fluctuations in unemployment rates and the stability of employment.

The Development Path of the Financial Sector in Chile

This section reviews the evolution of the Chilean financial system over the past 40 years.

Financial Repression Before 1973

The financial sector was heavily regulated, which reflected the internal development model implemented in those years in Chile and most other Latin American countries. In the financial sphere, this means the proliferation of controlled interest rates, quantitative restrictions on credit, the compulsory allocation of credit to priority sectors, and state ownership of large banks and other financial institutions, especially the latter during the period 1970-1973.

Financial Liberalization 1974-1981

The radical shift in the country's development model in 1974 was reflected in the removal of most of the regulations affecting the banking sector, in line with the logic of market liberalization. The determination of interest rates and domestic credit was left to market forces. Thus, interest rates were fully liberalized by January 1976 and they were eliminated. The entry barriers in the banking sector gradually decreased, starting in 1975, and the rates of liquidity requirements for most types of deposits decreased between 1974 and 1980. Quantitative controls on credit were abolished in April 1976 while a gradual opening of the capital account took place between 1975 and 1980. An important element of financial liberalization in the 1970s was the privatization of state-owned banks that began in mid-1975 and was implemented through the sale of assets using a high-end financing system. Leveraged. To accompany the privatization process, there was a gradual easing of restrictions on entry into the banking sector. Likewise, many reforms allowed the development of other capital markets such as insurance, bonds and stock markets. In 1980 insurance market rates were liberalized while prudential regulations were applied to insurance companies 'portfolios and in the same year began The pension system is fully funded, and private institutions have begun to manage pension funds by investing them in various financial instruments (Loayza & Gallego, 2000).

The Banking Crisis 1982-1984

The process of cancelling interest rate controls and credit and privatizing banks in Chile lacked a cautious organization, which, in conjunction with the fixed exchange rate regime in force at that time, led to a rapid increase in bank credit to the private sector, especially in the non-tradable goods sector. From a mismatch between currencies in the budgets of the banking system, there was a mismatch in the sector that the banks were lending to, which paved the way for the worst financial crisis in the country since the Great Depression and during the late 1970s domestic credit grew at an average annual rate of 40%, which led to an increase The percentage of banks in GDP went from 8% in 1975 to 35% in 1980.

The lack of supervision and regulation of banks during this period became evident when they began to assume excessive risks as the proportion of loans to related parties reached 19% of total loans in 1982 (Betancour et al., 2005).

From 1981 to 1984, the negative shock in terms of trade exchange, the sharp increase in international interest rates, and the consequent significant devaluation of the Chilean currency led to deterioration in the quality of most banks' portfolios and rendered some of them insolvent. Although the negative macroeconomic developments were not entirely unexpected, the banks did not do much to adjust their financial portfolios, perhaps because they expected the government to bail out. Between 1982 and 1985 the government intervened in 21 financial institutions, including Banco de Santiago and Banco de Chile that had a combined 35% of the entire loan portfolio in the banking sector.

Fourteen institutions were liquidated and the rest were rehabilitated and privatized. The state rehabilitated the banks by allowing them to recapitalize and issue long-term debt (bought

by the central bank) to replace their existing non-performing assets. Thus, the state bore an important share of the costs of the 1982 banking crisis.

In the wake of this banking crisis, the liberalization process was partially canceled due to the fact that first the state became the principal manager and creditor of the banks that were rescued, and secondly, the state restored financial controls such as restrictions imposed on foreign capital movements and interest rates "proposed" by the central bank.

The Precautionary System 1985-1990

At this stage, interest rate controls were abolished in 1985 and a new banking law was enacted. This modern precautionary system established the coercive supervisory capacity by the state to secure an explicit deposit, and the new banking law guarantees:-

- -Restrictions on the debt-to-equity ratio and reserve requirements related to the bank's leverage position.
- -Incentives for private monitoring of banks through a partial public guarantee on deposits and mandatory disclosure of information to the public.
- -Segregation between the core business of the bank and its subsidiaries.

The regulatory framework for other capital markets was also improved during this period. The main changes were the following. First, a new bankruptcy law has been implemented that clarifies the extent of the responsibility of the private sector in failed enterprises. The second is to allow shares of domestic companies to be bought and regulated by private pension fund managers. And third, tax reform in 1984 eliminated the preferential treatment of debt obligations by companies (in relation to equity) and provided incentives for financial savings by all investors.

Abolition of External Financial Restrictions 1991-1999

During this period, the reforms that began in the late 1980s were strengthened. Moreover, a number of restrictions related to external capital account transactions were lifted, specifically, firstly, companies with good credit ratings were allowed to issue bonds and shares in foreign markets; Second, institutional investors such as banks, pension fund managers, and insurance companies were allowed to acquire external assets; Third, the permanence requirements for foreign investment and profits have been gradually eased; Fourth, international commercial payments transactions have been liberalized (Loayza & Gallego:2000,6-9).

The Stage of Reforms after the Year 2000

In 2004, after having already dealt with a large number of existing problems as of the last decade, the upcoming reforms focused on completing modern regulations for the local financial system. The second method was capital market reform, which focuses on developing the venture capital industry and eliminating tax distortions in issuances. Through investment funds against stocks, deepening more corporate governance and strengthening scaling mechanisms.

There were recent capital market reforms called (MKIII), which were approved on June 13, 2010, which allowed for weights transactions in foreign exchanges or markets, facilitating the outsourcing of currency and the creation and entry of mutual funds that are traded on stock exchanges.

Another important point related to the proposal for the Chilean structure as a regional investment platform is the exemption from income tax on capital gains in mutual funds established in Chile. For both foreign and domestic investors (Ramírez & Reyes, 2010).

Standard Side

Description of the Approved Model and Methodology

To measure the impact of financial development on reducing the unemployment rate in the Chilean economy for the period from (1991-2017), this study used the Johansen method to conduct joint integration, which results from the Error Correction Model (VECM). One of the most important advantages of this method is to overcome On the pseudo-regression problems associated with non-static time-series data, in addition, this method enables the researcher to obtain long-term equilibrium relationships (Mahmoud & Bashar, 2018).

The model variables can be expressed by the following equation:-

LnY= Bo + B1Ln X1 + B2Ln X2 + B3Ln X3 + U(1) Whereas: LnY = unemployment rate (%) (LnX1 = Domestic credit to private sector (% of GDP (LnX2 = Money supply broadly (% of GDP LnX3 = Market value of listed domestic firms (% of GDP) BO, B1, B2, and B3) represent the parameters.) U = represents the error limit.

The results of the analysis can be presented as follows:-

The Unit Root Test Results to Measure the Stability of the Time Series Variables

By applying the Extended Dickie Fuller test to test the staticity of the time series included in the model expressed in the logarithmic form, the results contained in Table (1) were obtained, which indicate that all the variables suffer from the problem of instability at the level where all the calculated values are less than Critical values (Macinnon, 1991) at 5% significance, After that, the Extended Dickie Fuller test was performed on all the variables after taking the first difference, and it was found that all-time series became dormant at the level of 5% significance, so that the time series constituting the standard model were integrated from the first degree.

Table 1 EXTENDED DICKEY-FULLER TEST RESULTS										
	The level				The First Difference					
variable	Without		Fixed term vect	and time tor The result		With	out	Fixed term and time vector		The result
	Calculated	Tabular	Calculated	Tabular		Calculated	Tabular	Calculated	Tabular	
LnY	0.07	-1.95	-1.62	-3.59	Unstable	-6.44	-1.95	-6.92	-3.6	unstable
LnX1	0.09	-1.95	-1.53	-3.59	Unstable	-2.99	-1.95	-4.36	-3.6	unstable
LnX2	1.14	-1.95	-1.37	-3.59	Unstable	-4.53	-1.95	-4.81	-3.6	unstable
LnX3	0.26	-1.95	-3.53	-3.59	Unstable	-6.76	-1.95	-6.54	-3.6	unstable

Source: From the researcher's work using Eviews8

Common Integration Test

The results of the unit root test showed that all the variables are static at the first difference (1) I, that is, they are mono-integral. Therefore, we can perform the cointegration test using the Johansen Co-integration Test. Beginning to determine the appropriate lengths of deceleration periods to estimate models that do not suffer from the problem of autocorrelation, and the Schwarz and Akaike criterion will be used to determine the appropriate length of slowdown periods.

The results of the joint integration test, as shown in Table (2), indicate the rejection of the nihilist hypothesis that there is no co-integration at a level of significance of 5%. The results of the Trace Test revealed the existence of one complementary vector (one long-term relationship).

The result of the Johansen test shows that the effect statistic value was greater than the critical value at the level of 5% significance, and therefore the null hypothesis, which says that there is no co-integration between the variables, was rejected and the alternative hypothesis was accepted, which indicates the existence of a vector of common complementarity between the variables.

Table 2						
JOHANSEN COINTEGRATION TEST RESULTS						
	Н0	Impact statistic	Critical values			
Integration			at 5%	Probability values		
Integration			significance			
			level			
Nothing	r=0	50.12009	47.85613	0.0302		
At most 1	r≤l	25.74890	29.79707	0.1364		
At most 2 r≤2 10.06319 15.49471 0.27						
Impact test indicates the existence of a vector of covariance between the variables.						
Rejecting the nihilism hypothesis at the 5% level of significance.						

Estimation of the Error-Correct Vector Model

Since all the variables are unstable at the level, stable at the first difference, and first-class integral, a vector error correction method will be used. It is called the error correction limit when the following conditions are met:

1-That all the variables are non-static at the level, and that all the variables become static after making the differences for them at the same degree of difference.

2-The presence of at least one vector from the covariance of the variables

This model is used to reach a state of equilibrium, as this model provides us with a way to dynamically link short-term changes and long-term changes during adjustment processes with the aim of reaching balance in the long term.

Table 3						
ERROR CORRECTION MODEL RESULTS						
Independent variables		Coff.	t-Statistic	Prob.		
Fixed limit		-0.016	-0.423788	0.6		
LnX1	1.36		-1.811915	0.03		
LnX2		-0.6	1.557	0.005		
LnX3		0.008	1.73	0.04		
Error correction limit		0.024	1.65	0.02		
parameter ECt-1		-0.024	-1.05	0.02		
R-squared	0.74					
Adjusted R-squared	0.628090					
Log likelihood	9.590358					
F-statistic	1.993870	Prob (F-statistic)) 0.000000			

Source: From the researcher's work using Eviews8

It is clear from the 2R determination value, that the model explains about 74% of the changes in the LnX1 LnX2 LnX3 response during the study period, indicating that the explanatory factors (ACOTNt-1 LnX1 LnX2 LnX3) are the factors that have the largest influence on the LnY response function, and 26% of The unexplained factors are responsible for the non-model variables represented by the random variable.

The variables expressing financial development showed mixed results, as the variable (LnX1) was positively correlated with the unemployment rate in the short term, which means

that the increase in credit provided to the private sector in the short term causes an increase in the unemployment rate.

As for the variable (LnX2), which expresses the money supply in a broad sense, it was negatively associated with the unemployment rate and this is consistent with the articulation of economic theory, i.e. increasing this indicator will lead to a decrease in the unemployment rate.

The variable (LnX3), which represents companies registered in the stock exchange, this variable showed a positive relationship with the unemployment rate in the short term, meaning that an increase in this indicator leads to an increase in the unemployment rate.

When studying the overall significance of the model, we find that the calculated F value was 19 and significant at the level of 5%. This is evidence that the model is statistically significant and that the variables explained in the model as a whole have an effect on (LnY).

In light of the results of the error correction model in Table (3), we note the significance of the error correction limit (ECt-1) at the level of 5% with the expected negative sign, and this confirms the existence of a long-term equilibrium relationship in the model, and the value of the error correction factor indicates (-0.024) To LnY it changes towards its equilibrium value in each time period by a ratio equal to (-2.4%) of the remaining imbalance of the period (t - 1), that is, when LnY deviates, during the short term in the period (t - 1), from its equilibrium value in In the long run, -2.4% of this deviation is corrected. On the other hand, this correction ratio reflects a low rate of adjustment towards equilibrium, meaning that LNY takes approximately 40 years (1 (-0.024) towards its equilibrium value after the impact of the shock in the system (model) as a result of a change in its determinants.

Estimating Short-Term and Long-Term Elasticities

Based on the cointegration analysis, which revealed the existence of a long-term relationship between the variables, as well as the estimated error correction model, whose parameters represent the short-term relationship, the two-term elasticities of the model variables can be presented according to Table (4).

Table 4				
FLEXIBILITY OF THE SHORT TERM AND THE LONG TERM				
Dependent variable (LnY)	LnX1	LnX2	LnX3	
Short term	1.36	-0.6	0.008	
Long term	-0.32	-0.875	0.003	

We notice through Table (4) that the signals of the variables ((LnX1 and ((LnX3)) in the short term were positive, and this contradicts the expectations of economic theory, but in the long term they have indicated two variables, namely (LX1) and (LnX2) negative, which means that the relationship between financial development The unemployment rate is adjusted to become more in line with theoretical expectations, as financial development has an effect on reducing unemployment in the long term, but from reviewing the elasticities, we find that most of them were less than one, and this means that the degree of response to these variables is described as being inelastic, but on the other hand, we find it. LnX1 is different from the other elasticities and is greater than one, and the reason for this is the difference in importance (LnX1).

Model Diagnostic Tests

Table (5) shows the results of the diagnostic tests of the model and notes that the model does not suffer from the problem of self-correlation or from the problem of heterogeneity of variance, and also notes that the residues are normally distributed, which means that the model is free of standard problems and the accuracy of the estimates obtained.

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	Table 5							
	DIAGNOSING THE MODEL							

The test	Chi- square	The probability value	The decision	
Self-correlation (Serial Correlation)	11,60,573	0,676720	There is no autocorrelation	
Heterogeneity test	19,26,849	0,2456	There is homogeneity in the contrast	
Normal residue distribution	16,25,975	0,4435	The distribution is normal	

Source: From the researcher's work using Eviews8

CONCLUSION

- 1-There is no conclusive result about the role of financial development in reducing unemployment, as experimental studies have shown mixed results on the role of various financial development indicators in reducing the unemployment rate.
- 2-Chile was distinguished by being one of the first Latin American countries to move towards developing the financial sector and strengthening the role of the private sector and market forces in directing it.
- 3-The result of the Johansen test showed the existence of a vector of common complementarity between the variables, which means that there is a long-term relationship between financial development and the unemployment rate.
- 4-The results of the error correction model showed the significance of all the economic variables included in the model, but some of them took different signals to the economic theory, namely the variable of the credit ratio provided to the private sector ((LnX1) and the percentage of registered local companies (LnX3), while the variable (LnX2) which expresses Money in a broad sense presented a positive relationship in reducing the unemployment rate, but in the long term the sign of two variables, namely (LnX1) and (LnX2) was negative, which means that the effect of financial development on unemployment needs a longer time to show its positive effect in reducing unemployment.
- 5-That this experimental contradiction in the variables signals with the theoretical expectations reached by the study is similar to the findings of other studies such as Gatti & Vaubourg (2009); Kanberoğlu (2014); Ogbeide et al., (2015).

RECOMMENDATIONS

- 1-Financial development is a necessary condition for promoting economic growth, which creates more jobs and reduces unemployment.
- 2-In order for financial development to be able to reduce unemployment in the long term, the objective conditions specified for economic growth, such as infrastructure, accumulation of human capital, and institutional quality must be met.
- 3-The financial sector needs continuous amendment in laws, the institutional environment, and continuous follow-up to face the changes that occur in the local and global economy and to avoid the negative effects of shocks.
- 4-The relationship between financial development and unemployment needs more studies in the future in order to experimentally identify the mediating factors between financial development and unemployment.

REFERENCES

- Amna, B.D. (2016). Financial Development and Economic Growth in Developing Countries, a standard study using data from a sample of 25 countries during the period 1989-2014. Algeria.
- Aliero, H.M., & Ibrahim, S.S. (2012) Does Access to Finance Reduce Poverty? Evidence from Katsina State. *Mediterranean Journal of Social Sciences*, 3(2).
- Al-Ghamdi, L.M. (2021). "Towards adopting AI techniques for monitoring social media activities". Sustainable Engineering and Innovation, 3(1), 15-22.

- Barik, R.K., Patra, S.S., Kumari, P., Mohanty, S.N., & Hamad, A.A. (2021, March). A new energy aware task consolidation scheme for geospatial big data application in mist computing environment. *In 2021 8th International Conference on Computing for Sustainable Global Development (INDIACom)* (48-52). IEEE.
- Barik, R.K., Patra, S.S., Patro, R., Mohanty, S.N., & Hamad, A.A. (2021, March). GeoBD2: Geospatial big data deduplication scheme in fog assisted cloud computing environment. *In 2021 8th International Conference on Computing for Sustainable Global Development (INDIACom)* (35-41). IEEE.
- Bayar, Y. (2016) Financial development and unemployment 1in emerging market economies. *Scientific Annals of Economics and Business.*
- Cristina, B., José, D.G., Alejandro, J. (2005). Improving the banking system: the Chilean experience, This paper was prepared for the BIS meeting on "*The Banking System in Emerging Economies: How Much Progress Has Been Made*?" Basel, December 2005.
- Francisco, G., & Norman, L., (2000). Financial structure in Chile: Macroeconomic developments and microeconomic effects, This paper has been prepared for the conference "Financial Structures and Economic Development," organized by Asli Demirguc-Kunt and Ross Levine, The World Bank, 10-11, 2000.
- Gatti, D., Christophe, R., & Anne-Gaël, V. (2009) Unemployment and Finance: How do Financialand Labour Market Factors Interact?, CESIFO Working Paper No. 2901.
- Gemma, E., Park, D., & Arief, R. (2010). Financial development and economic growth in developing Asia. Asian Development Bank, ADB Economics Working Paper Series No. 233.
- Hamad, A.A., Al-Obeidi, A.S., Al-Taiy, E.H., Khalaf, O.I., & Le, D. (2021). Synchronization phenomena investigation of a new nonlinear dynamical system 4d by gardano's and lyapunov's methods. *Computers, Materials & Continua*, 66(3), 3311-3327.
- Khalaf, O.I., Ajesh, F., Hamad, A.A., Nguyen, G.N., & Le, D.N. (2020). Efficient dual-cooperative bait detection scheme for collaborative attackers on mobile ad-hoc networks. *IEEE Access*, 8, 227962-227969.
- Mahmoud, Z.H., & Bashar, S. (2018). Measuring the effect of changes in some determinants of the width of the cotton crop in Iraq using the joint integration and error correction model for the period 1970-2010, Al-Dinanir Magazine, Issue 12. College of Administration and Economics - Iraqi University
- Maria-Antony, L.T., & Hamad, A.A. (2020). A theoretical implementation for a proposed hyper-complex chaotic system. *Journal of Intelligent & Fuzzy Systems*, 38(3), 2585-2590.
- Ogbeide, F.I., Kanwanye, H., & Kadiri, S. (2015). The determinants of unemployment and the question of inclusive growth in Nigeria: Do resource dependence, government expenditure and financial development matter? *Montenegrin Journal of Economics*, 11(2), 49-64.
- Ross, L. (1997). Financial development and economic growth: Views and agenda, finance and private sector development division policy research department world bank.
- Ramírez, S., & Reyes, G. (2010). Financial Development and Economic Growth: A Case Study for Chile.
- Suzanne, C., Rishi, G., Ahmed S.M., & Randa, S. (2003). Financial development in the Middle East and North Africa, International Monetary Fund.
- Salih, L.Y., & Hatim, G. (2017) economic growth in the context of financial development in Iraq for the period (1990-201). *Baghdad College of Economic Sciences Journal*, 53.
- Shabbir, G., Sofia, A., & Zakir, H. (2012). Contribution of financial sector development in reducing unemployment in Pakistan. *International Journal of Economics and Finance*, 4(1).
- Sahin, A., & Unlu, M.Z., (2021). "Speech file compression by eliminating unvoiced/silence components". Sustainable Engineering and Innovation, 3(1), 11-14.
- Thivagar, M.L., & Hamad, A.A. (2019). Topological geometry analysis for complex dynamic systems based on adaptive control method. *Periodicals of Engineering and Natural Sciences (PEN)*, 7(3), 1345-1353.
- Thivagar, M.L., Ahmed, M.A., Ramesh, V., & Hamad, A.A. (2020). Impact of non-linear electronic circuits and switch of chaotic dynamics. *Periodicals of Engineering and Natural Sciences (PEN)*, 7(4), 2070-2091.
- Thivagar, L.M., Hamad, A.A., & Ahmed, S.G. (2020). Conforming dynamics in the metric spaces. *Journal of Information Science and Engineering*, 36(2), 279-291.
- Tripathi, M. (2021). "Facial image denoising using AutoEncoder and UNET". Heritage and Sustainable Development, 3(2), 89–96.
- Wong, W.K., Juwono, F.H., Loh, W.N., & Ngu, I.Y. (2021). "Newcomb-Benford law analysis on COVID-19 daily infection cases and deaths in Indonesia and Malaysia". *Heritage and Sustainable Development*, 3(2), 102– 110.
- Zhang, G., Guo, Z., Cheng, Q., Sanz, I., & Hamad, A.A. (2021). Multi-level integrated health management model for empty nest elderly people's to strengthen their lives. *Aggression and Violent Behavior*, 101542.