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## Egyptian Listed Banks Risks under Macro Variables

By

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## Egyptian Listed Banks Risks under Macro Variables

### Abstract:

The increasing strength of dynamic environment especially economic and political variables which has a rising effect on different business return and risks. The aim of this paper is to measure the significant impact of those variables on bank risks considering bank size and type (Conventional or Islamic) so the banks management can

Finally under step wise regression categorizing according to bank size (Big and small) and type (take the suitable actions to reduce the negative effect of such macro variables.

Descriptive statistics have been utilized to determine the normality of data especially dependent ones. Next correlation matrix to discover the relation strength between different variables and its direction to find out the applicability of estimation model. Then step wise regression analysis to exclude variables with high significant relations automatically to find out the significant effective independent variables on dependent ones. Conventional and Islamic) to find out the difference impact of independent variables on dependent ones for each category.

The results showed that different bank risks affected by the macro variables significantly, also both small size and Conventional banks are more sensitive in responding to macro variables that their correspondences. The researcher recommends that banks needs more concentration on both credit rating concerns, leverage suitability, diversity of loans and investment portfolio, to mitigate the negative influence of macro variables.

**Keywords:** Economic variables; Political variables; Bank risks; Egypt

### 1- Introduction:

There are 38 banks working in Egypt providing wide variety of financial services from about 4577 branches (Central Bank of Egypt annual report, 2021) distributed across different governors. The wide variety of services provided by those banks include different risks which are affected by a variety of macro variables. Where (Ross, 1980) pointed out that there are relatively significant and stable impacts of macroeconomic factors changes and stock return and consequently to risks. And recently due to the increasing conflict across different areas in our world political factors which have been developed by the world bank affect also rise environmental dynamics affecting banks activities and its risks. Political risk factors are expressed in six aggregate indicators which are based on over 30 underlying data sources reporting the perceptions of governance of many survey respondents and expert assessments worldwide (Kaufmann, Daniel, et. al, 2010).

Therefore, measuring the effects of macro variables movements on bank risks has a rising importance to let the banks take the suitable actions to survive according to those movements.

### 2- Literature review:

There are macro factors affect banking performance which may reflect on its risks, where (Hamdi, Khalfaoui, and Hassen, Guenichi, 2021) examined the effect of economic policy uncertainty on credit risk, lending decisions and banking performance of Tunisian listed banks over the period 1999–2019 and

found that significant positive effect of economic policy uncertainty on credit risk and a significant negative effect on loan size and performance. While (Fayman, Alex, 2022) aimed to highlight differences in bank performance based on state politics during the onset of the Covid pandemic and found that banks operating in states with republican governors produced greater profits and exhibited higher liquidity levels.

Also, (Kouzez, Marc, 2023) investigated the relationship between the political environment and bank performance and the results indicated that political uncertainty is associated with a significant decrease in bank performance. Besides this, (Lee, Chien-Chiang, et. al. 2024) studied the influence of banks' environmental, social, and governance (ESG) performance and country-level risk factors on liquidity creation and they found that banks' ESG performance exerts a positive impact on bank liquidity creation and findings are more prompt in countries with high geopolitical risk, corruption risk and low levels of democratization.

And affect banks risk-taking where (Saif-Alyousfi, Abdulazeez Y.H., and Saha, Asish, 2021) examine the effect of bank-specific, financial structure and macroeconomic factors on the risk-taking behavior, stability and profitability of banks in Gulf Cooperation Council (GCC) economies during 1998–2017 and found that Larger commercial banks are less risky and more stable and profitable than smaller banks before the global financial crisis. Islamic banks performed better in terms of fee income, capitalization, liquidity, asset quality and have higher market concentration than conventional banks. While (Moudud-Ul-Huq, Syed, and Akter, Runa, 2022) evaluated the impacts of institutional quality and economic policy uncertainty on bank risk-taking behavior, especially after the global financial crisis of 2007–2008 and found that a positive relationship between economic policy uncertainty and banks' risk-taking behavior of banks', but a negative significant relationship between institutional quality and bank risk-taking behavior. Also, (Wu, Ji, et. al, 2023) examined the impact of economic uncertainty and financial uncertainty on the risk of banks and they found that higher economic uncertainty is associated with higher bank risk-taking level while higher financial uncertainty is associated with lower bank risk-taking. In addition, (Liang, Fang, et. al, 2023) studied how fintech (financial technology) affects the influence of macroeconomic uncertainty on commercial banks' proactive risk-taking and they found that the development of fintech mitigates the dampening effect of macroeconomic uncertainty on commercial banks' proactive risk-taking. Besides this, (Abbas, Faisal, et. al, 2024) examined how economic freedom and its related components, such as open markets, regulatory efficiency, rule of law and the size of government, affect bank risk behavior, focusing on the Japanese context and found that that economic freedom, regulatory efficiency and government size increases the banks' risk-taking while the rule of law and open markets decrease banks' risk-taking.

Also, affect banks different risks, starting (Al Samman, Ahmed, and Otaify, Mahmoud, 2017) investigated how volatility of characteristics-sorted portfolios respond to macroeconomic volatility and found that that the money supply volatility is the dominant source of volatility for the characteristics-sorted portfolios, followed by the inflation volatility. (Wang, Rui, and Luo, Hang, 2019) investigated the oil price–bank risk nexus by considering the heterogeneity of bank characters and found that the credit risk of bank loan portfolios is negatively associated with increased oil prices. And (Al-Shboul, Mohammad, et. al, 2020) examined the relationship between political risk and bank stability in comparable manner between Islamic and conventional banks in the Middle East and North Africa (MENA) region and they found that political risk is adversely associated with bank stability, generally supporting the financial fragility hypothesis, also political risk differentially influences the level of stability which have a less detrimental effect on the riskiness of Islamic banks compared with conventional banks. While (Permatasari, Ika, 2020) examined the relationship between corporate governance and risk management of Indonesian banks and found that differences in credit risk, liquidity

risk and operational risk in banks with different governance ratings, except market risk. In addition (Tholl, Johannes, et. al, 2020) Investigated the effect of political development on banks funding costs, and they found compatibility with the point of view that the political development in Rome has affected the relationship between bank funding costs in Italy. Also (Cheng, Maoyong, et. al, 2021) examined how political uncertainty affects city bank lending and they showed that political uncertainty causes banks to significantly increase loan growth thus, increase credit risk. Besides this (Bui, Duy-Tung, et. al, 2021) examined the asymmetric impacts of monetary policy and business cycles on bank risk-taking and they found that monetary policy and macroeconomic fluctuations are conditional on bank-individual characteristics, furthermore, banks are more stable during boom cycles and riskier during bust cycles. However (Bach Phan, Dinh Hoang, et. al, 2022) examined the hypothesis that geopolitical risks have negative effect on bank stability and the results showed that an increase in geopolitical risk is associated with a decline in bank stability. Also (MVK, Jagannath and Maitra, Debasish, 2023) examined whether parliamentary elections, political stability, and government effectiveness affect banks' risk and they found that non-performing loans and lending to the priority sector increase during the years parliamentary elections are held, furthermore a stable political environment reduces net non-performing loans, while an effective government increases non-performing loans and lending to the priority sector. And (Athari, Seyed Alireza, et. al, 2023) examined the impact of country risk, encompassing political, economic, and financial risks, on the banking sector stability from a global perspective and found that a reduction in a country's vulnerability to specific political, economic, and financial risks, contributes to enhanced stability in the banking sector. However, the magnitude and direction of these factors' coefficients depend on the income and risk levels of the countries.

The literature review showed the following aspects:

- Economic policy uncertainty positively affects credit risk and negatively bank performance
- Political uncertainty is associated with a significant decrease in bank performance.
- Higher economic uncertainty is associated with higher bank risk-taking level while higher financial uncertainty is associated with lower bank risk-taking Islamic banks are more able to mitigate the negative influence of undesirable macro factors.
- Political risk is adversely associated with bank stability.
- Stable political environment reduces net non-performing loans, while an effective government increases non-performing loans
- Larger commercial banks are less risky and more stable and profitable than smaller banks

Conceptual Framework

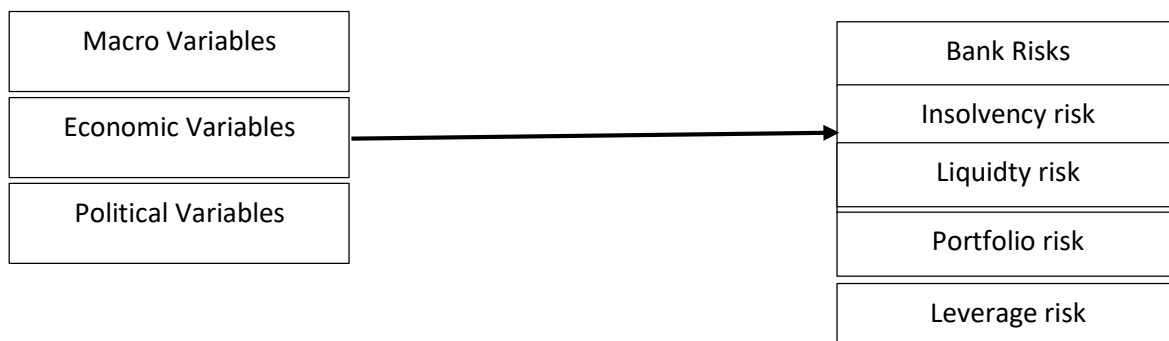


Figure 1: Conceptual framework for the effect of macro variables on Egyptian listed banks risks.

Thus, most previous studies concentrate of the effect of some of macro-economic and political issues on banks performance, risk-taking and risks considering bank size and types especially Islamic one. While this examines the effect of both macro-economic variables according to (Ross, 1976) and political risks created by the World Bank Worldwide Governance Indicators (WGI), (Kaufmann et. al, 2010) bank risks considering bank size and type (Conventional and Islamic) . In doing so, the following questions will be addressed:

- To what extent listed Egyptian banks affected by macro variables?
- Is there a difference between Islamic and Conventional Banks affected by macro variables?
- Is there a difference between big and small banks affected by macro variables?

### 3- Data and Methodology:

The research utilized data extracted from the Site of the Central Bank of Egypt ([Home \(cbe.org.eg\)](http://cbe.org.eg)), data created by the World Bank Worldwide Governance Indicators (WGI), (Kaufmann et. al, 2010) of political risks and data of the Egyptian listed banks from its annual reports over the period from 2013 to 2022. Variable definitions are presented in table 1.

Table 1: Variable Definitions

	Variable Name	Definition	Symbol	Used by
A. Dependent Variable				
1	Insolvency risk	$= (-1) * \ln [1 + (ROA_{i,t} + EA_{i,t}) / \sigma (ROA)_{i,t}]$ , where ROA represents return on assets; EA, equity to assets ratio; and $\sigma (ROA)$ , the three-year rolling-window standard deviation of the ROA. A higher value indicates higher bank default risk and vice versa.	Insolv	(Al-Shboul , Mohammad, et. al, 2020)
2	Credit risk	$= \ln [NPL_{i,t} / (100 - NPL_{i,t})]$ , where NPL represents the ratio of non-performing loans to gross loans. A higher value indicates higher bank credit risk and vice versa.	Crd	(Al-Shboul , Mohammad, et. al, 2020)
3	Liquidity risk	$= (-1) * \ln (\text{Liquid assets to total assets})$ . A higher value indicates higher bank liquidity risk and vice versa.	Liq	(Al-Shboul , Mohammad, et. al, 2020)
4	Portfolio risk	$= (-1) * \ln [ROA_{i,t} / \sigma (ROA)_{i,t}]$ , where ROA represents return on assets, and $\sigma (ROA)$ ,	Port	(Al-Shboul , Mohammad, et. al, 2020)

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		the standard deviation of ROA. A higher value indicates higher bank portfolio risk and vice versa.		
5	Leverage risk	$= (-1) * \ln [\text{Equity to assets ratio} / \sigma(\text{ROA})_{i,t}]$ , where ROA represents return on assets. A higher value indicates higher bank leverage risk and vice versa.	Lev	(Al-Shboul , Mohammad, et. al, 2020)
<b>B. Explanatory variables</b>				
1	Growth domestic product growth rate	Growth domestic product growth rate of the country	GDPGR	(Kouzeze, Marc, 2023)
2	Inflation rate	Inflation rate of the country	INF	(Kouzeze, Marc, 2023)
3	Interest rate margin	The difference between loan interest and deposit interest	Inm	(Al Samman, Ahmed, and Otaify, Mahmoud, 2017)
4	Foreign exchange rate	It measures the difference between the amounts of two different currencies of two different countries.	FRX	(Al Samman, Ahmed, and Otaify, Mahmoud, 2017)
5	Money supply	It has to do with all the medium of exchange, currency circulation and other cash tools in a country's economy on a given time	MS	(Al Samman, Ahmed, and Otaify, Mahmoud, 2017)
6	Unemployment rate	Unemployment rate of the country	Unemp	(Al Samman, Ahmed, and Otaify, Mahmoud, 2017)
7	Oil price	Is the oil price per Barrel.	OilP	(Wang, Rui, and Luo, Hang, 2019)
8	Voice and Accountability	reflects perceptions of the extent to which a country's citizens can participate in selecting their government.	VA	(Al-Shboul , Mohammad, et. al, 2020), (MVK. Jagannath and Maitra, Debasish, 2023) and others
9	Political Stability and no Violence	measures perceptions of the likelihood of political instability and/or politically-motivated violence, including terrorism	PS	(Al-Shboul , Mohammad, et. al, 2020), (MVK. Jagannath and Maitra, Debasish, 2023) and others
10	Government Effectiveness	measures the quality of public services, civil service, policy formulation and implementation, and the credibility of a government's commitment to improving or maintaining these aspects.	GE	(Al-Shboul , Mohammad, et. al, 2020), (MVK. Jagannath and Maitra, Debasish, 2023) and others
11	Regulatory Quality	measures the ability of the government to formulate and implement sound policies and regulations that permit and	RQ	(Al-Shboul , Mohammad, et. al, 2020), (MVK. Jagannath and Maitra, Debasish, 2023) and others

		promote private sector development.		
12	Rule of Law	captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence	ROL	(Al-Shboul , Mohammad, et. al, 2020), (MVK. Jagannath and Maitra, Debasish, 2023) and others
13	Control of Corruption	is the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests.	COC	(Al-Shboul , Mohammad, et. al, 2020), (MVK. Jagannath and Maitra, Debasish, 2023) and others
C. Control Variables				
14	Total Assets	Is a dummy variable where 1 for big size banks, total assets > 20 billion EGP and 0 for small banks total assets < 20.	DtotA	Researcher
15	Bank type (conventional-Islamic)	Is a dummy variable where 1 for conventional banks, and 0 for Islamic banks.	Dtyp	Researcher

Source: researcher

This study hypothesizes that macro variables have positive effect on bank risks (Insolvency, Credit, Liquidity, Portfolio, and Leverage risks) by employing stepwise regression models. The empirical model takes the following mathematical forms:

$$Insolv_{it} = \beta_0 + \beta_1 GDPGR_{it} + \beta_2 Inf_{it} + \beta_3 Inm_{it} + \beta_4 FEX_{it} + \beta_5 MS_{it} + \beta_6 Unemp_{it} + \beta_7 OilP_{it} + \beta_8 VA_{it} + \beta_9 PS_{it} + \beta_{10} GE_{it} + \beta_{11} RQ_{it} + \beta_{12} ROL_{it} + \beta_{13} COC_{it} + \beta_{14} DtotA_{it} + \beta_{15} Dtyp_{it} + \varepsilon \dots (1)$$

Where *Insolv* is the insolvency risks, *GDPGR* is the growth domestic product growth rate, *Inf* is the inflation rate, *Inm* is the interest margin, *FEX* is the foreign exchange rate, *MS* is the money supply *m1* and *m2*, *Unemp* is the unemployment rate, *OilP* is the oil price, *VA* is the voice and accountability, *PS* is the political stability No Violence, *GovE* is the political stability no violence, *GE* is the government effectiveness, *RQ* is the regulatory quality, *ROL* is the rule of law, *COC* is the control of corruption, *Dtot* is the dummy variable logarithm of total assets (Big 1 total Assets > 20 Billion EGP and Small 0 < 20 Billion), *Dtyp* is the dummy variable for bank type (Conventional 1 and Islamic 0) and  $\varepsilon$  is the residual.

$$Crd_{it} = \beta_0 + \beta_1 GDPGR_{it} + \beta_2 Inf_{it} + \beta_3 Inm_{it} + \beta_4 FEX_{it} + \beta_5 MS_{it} + \beta_6 Unemp_{it} + \beta_7 OilP_{it} + \beta_8 VA_{it} + \beta_9 PS_{it} + \beta_{10} GE_{it} + \beta_{11} RQ_{it} + \beta_{12} ROL_{it} + \beta_{13} COC_{it} + \beta_{14} DtotA_{it} + \beta_{15} Dtyp_{it} + \varepsilon \dots (2)$$

Where *Crd<sub>it</sub>* is the credit risks.

$$Liq_{it} = \beta_0 + \beta_1 GDPGR_{it} + \beta_2 Inf_{it} + \beta_3 Inm_{it} + \beta_4 FEX_{it} + \beta_5 MS_{it} + \beta_6 Unemp_{it} + \beta_7 OilP_{it} + \beta_8 VA_{it} + \beta_9 PS_{it} + \beta_{10} GE_{it} + \beta_{11} RQ_{it} + \beta_{12} ROL_{it} + \beta_{13} COC_{it} + \beta_{14} Dtota_{it} + \beta_{15} Dtyp_{it} + \varepsilon \dots (3)$$

Where  $Liq_{it}$  is the liquidity risks.

$$Port_{it} = \beta_0 + \beta_1 GDPGR_{it} + \beta_2 Inf_{it} + \beta_3 Inm_{it} + \beta_4 FEX_{it} + \beta_5 MS_{it} + \beta_6 Unemp_{it} + \beta_7 OilP_{it} + \beta_8 VA_{it} + \beta_9 PS_{it} + \beta_{10} GE_{it} + \beta_{11} RQ_{it} + \beta_{12} ROL_{it} + \beta_{13} COC_{it} + \beta_{14} Dtota_{it} + \beta_{15} Dtyp_{it} + \varepsilon \dots (4)$$

Where  $Port_{it}$  is the portfolio risks.

$$Lev_{it} = \beta_0 + \beta_1 GDPGR_{it} + \beta_2 Inf_{it} + \beta_3 Inm_{it} + \beta_4 FEX_{it} + \beta_5 MS_{it} + \beta_6 Unemp_{it} + \beta_7 OilP_{it} + \beta_8 VA_{it} + \beta_9 PS_{it} + \beta_{10} GE_{it} + \beta_{11} RQ_{it} + \beta_{12} ROL_{it} + \beta_{13} COC_{it} + \beta_{14} Dtota_{it} + \beta_{15} Dtyp_{it} + \varepsilon \dots (5)$$

Where  $Lev_{it}$  is the leverage risks.

#### 4- Results:

##### 4.1- Descriptive Statistics:

Table 2: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
GDPGR	110	1.970	6.200	3.70200	1.350017
INFR	110	5.000	29.500	12.11000	6.623574
INTM	110	.000	5.800	2.12500	1.801843
FRX	110	6.369	24.765	13.71207	5.974015
MS	110	6.078	6.769	6.43033	.228825
Unemp	110	7.200	13.200	10.36000	2.433980
OP	110	37.280	111.110	68.95900	23.406163
VA	110	-1.507-	-1.052-	-1.30881-	.148927
PS	110	-1.639-	-1.028-	-1.31941-	.224474
GovE	110	-.782-	-.251-	-.53091-	.151148
RQ	110	-.893-	-.520-	-.71145-	.119718
ROL	110	-.736-	-.259-	-.44447-	.171307
COC	110	-.811-	-.496-	-.62405-	.088755
Insolv	110	-4.668-	-2.747-	-3.60319-	.368795
Crd	110	-8.153-	-6.293-	-7.16014-	.248024
Liqd	110	.752	2.045	1.68601	.272871
Port	110	-2.792-	-.552-	-1.79503-	.436326
Lev	110	-4.495-	-2.241-	-3.34637-	.441513
Valid N (listwise)	110				

Source: SPSS ver 20

Table 2 showed that all dependent variables insolvency, credit, liquidity, portfolio and leverage risks have standard deviation less than one which indicates that they are normal distributed and the, while independent variables growth domestic product growth rate, inflation rate, interest margin, foreign exchange rate, unemployment rate and oil prices which indicates nonnormal distribution of the data for those variables and the strong changes happened during research period. However, money supply indicates normal distribution addressing the success of central bank of Egypt in maintaining money supply levels, and for all political variables are normal distributed which address weak changes in those variables.



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4.2- Correlation Matrix Table 3: Correlation Matrix

		GDPGR	INFR	INTM	FRX	MS	Unemp	OP	VA	PS	GovE	RQ	ROL	COC	Insolv	Crd	Liqd	Port	Lev	
GDPGR	Pearson Correlation	1	.333**	.310**	.623**	.385**	-.334**	.012	-.225**	.393**	.487**	-.444**	.398**	.253**	.008	.029	.172*	-.181*	.051	
	Sig. (1-tailed)		.000	.000	.000	.000	.000	.451	.009	.000	.000	.000	.000	.004	.466	.381	.036	.029	.299	
	N	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110
INFR	Pearson Correlation	.333**	1	.329**	.281**	-.073-	.314**	-.159*	.282**	-.206*	-.029-	-.609**	-.039-	.733**	.306**	.353**	-.203*	.079	.284**	
	Sig. (1-tailed)	.000		.000	.001	.223	.000	.048	.001	.015	.380	.000	.345	.000	.001	.000	.017	.206	.001	
	N	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110
INTM	Pearson Correlation	.310**	.329**	1	.497**	.288**	-.178*	.353**	-.082-	.186*	-.144-	.222**	.126	.161*	.226**	.094	-.227**	.195*	.248**	
	Sig. (1-tailed)	.000	.000		.000	.001	.032	.000	.198	.026	.066	.010	.094	.047	.009	.164	.009	.021	.005	
	N	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110
FRX	Pearson Correlation	.623**	.281**	.497**	1	.898**	-.793**	-.272**	-.750**	.822**	.716**	.000	.845**	-.174*	-.272**	-.272**	.284**	-.344**	-.240**	
	Sig. (1-tailed)	.000	.001	.000		.000	.000	.002	.000	.000	.000	.498	.000	.034	.002	.002	.001	.000	.006	
	N	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110
MS	Pearson Correlation	.385**	-.073-	.288**	.898**	1	-.956**	-.447**	-.951**	.972**	.826**	.173*	.964**	-.485**	-.483**	-.464**	.379**	-.468**	-.457**	
	Sig. (1-tailed)	.000	.223	.001	.000		.000	.000	.000	.000	.036	.000	.000	.000	.000	.000	.000	.000	.000	
	N	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110
Unemp	Pearson Correlation	-.334**	.314**	-.178*	-.793**	-.956**	1	.328**	.967**	-.966**	-.826**	-.342**	-.903**	.640**	.533**	.492**	-.427**	.447**	.493**	
	Sig. (1-tailed)	.000	.000	.032	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	
	N	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110
OP	Pearson Correlation	.012	-.159*	.353**	-.272**	-.447**	.328**	1	.451**	-.485**	-.614**	.456**	-.600**	.063	.346**	.241**	-.248**	.438**	.381**	
	Sig. (1-tailed)	.451	.048	.000	.002	.000	.000		.000	.000	.000	.000	.000	.255	.000	.006	.005	.000	.000	
	N	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110
VA	Pearson Correlation	-.225**	.282**	-.082-	-.750**	-.951**	.967**	.451**	1	-.946**	-.843**	-.263**	-.918**	.623**	.644**	.536**	-.446**	.578**	.623**	
	Sig. (1-tailed)	.009	.001	.198	.000	.000	.000	.000		.000	.000	.003	.000	.000	.000	.000	.000	.000	.000	
	N	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110
PS	Pearson Correlation	.393**	-.206*	.186*	.822**	.972**	-.966**	-.485**	-.946**	1	.858**	.164*	.968**	-.494**	-.488**	-.448**	.428**	-.461**	-.461**	
	Sig. (1-tailed)	.000	.015	.026	.000	.000	.000	.000	.000		.000	.044	.000	.000	.000	.000	.000	.000	.000	
	N	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110
GovE	Pearson Correlation	.487**	-.029-	-.144-	.716**	.826**	-.826**	-.614**	-.843**	.858**	1	-.131-	.884**	-.317**	-.542**	-.340**	.479**	-.560**	-.518**	
	Sig. (1-tailed)	.000	.380	.066	.000	.000	.000	.000	.000	.000		.087	.000	.000	.000	.000	.000	.000	.000	
	N	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110
RQ	Pearson Correlation	-.444**	-.609**	.222**	.000	.173*	-.342**	.456**	-.263**	.164*	-.131-	1	.016	-.652**	-.069-	-.180*	.003	.239**	-.033-	
	Sig. (1-tailed)	.000	.000	.010	.498	.036	.000	.000	.003	.044	.087		.434	.000	.237	.030	.486	.006	.368	
	N	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110
		GDPGR	INFR	INTM	FRX	MS	Unemp	OP	VA	PS	GovE	RQ	ROL	COC	Insolv	Crd	Liqd	Port	Lev	GDPGR
ROL	Pearson Correlation	.398**	-.039-	.126	.845**	.964**	-.903**	-.600**	-.918**	.968**	.884**	.016	1	-.378**	-.460**	-.419**	.421**	-.480**	-.449**	
	Sig. (1-tailed)	.000	.345	.094	.000	.000	.000	.000	.000	.000	.000	.434		.000	.000	.000	.000	.000	.000	.000

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COC	N	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110
	Pearson Correlation	.253**	.733**	.161*	-.174*	-.485**	.640**	.063	.623**	-.494**	-.317**	-.652**	-.378**	1	.449**	.601**	-.237**	.223**	.407**
	Sig. (1-tailed)	.004	.000	.047	.034	.000	.000	.255	.000	.000	.000	.000	.000		.000	.000	.006	.010	.000
Insolv	N	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110
	Pearson Correlation	.008	.306**	.226**	-.272**	-.483**	.533**	.346**	.644**	-.488**	-.542**	-.069-	-.460**	.449**	1	.441**	-.244**	.899**	.992**
	Sig. (1-tailed)	.466	.001	.009	.002	.000	.000	.000	.000	.000	.000	.237	.000	.000		.000	.005	.000	.000
Crd	N	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110
	Pearson Correlation	.029	.353**	.094	-.272**	-.464**	.492**	.241**	.536**	-.448**	-.340**	-.180*	-.419**	.601**	.441**	1	-.241**	.437**	.426**
	Sig. (1-tailed)	.381	.000	.164	.002	.000	.000	.006	.000	.000	.000	.030	.000	.000		.006	.000	.000	
Liqd	N	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110
	Pearson Correlation	.172*	-.203*	-.227*	.284**	.379**	-.427**	-.248**	-.446**	.428**	.479**	.003	.421**	-.237**	-.244**	-.241**	1	-.115-	-.270**
	Sig. (1-tailed)	.036	.017	.009	.001	.000	.000	.005	.000	.000	.000	.486	.000	.006	.005	.006		.115	.002
Port	N	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110
	Pearson Correlation	-.181*	.079	.195*	-.344**	-.468**	.447**	.438**	.578**	-.461**	-.560**	.239**	-.480**	.223**	.899**	.437**	-.115-	1	.902**
	Sig. (1-tailed)	.029	.206	.021	.000	.000	.000	.000	.000	.000	.000	.006	.000	.010	.000	.000	.115		.000
Lev	N	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110
	Pearson Correlation	.051	.284**	.248**	-.240**	-.457**	.493**	.381**	.623**	-.461**	-.518**	-.033-	-.449**	.407**	.992**	.426**	-.270**	.902**	1
	Sig. (1-tailed)	.299	.001	.005	.006	.000	.000	.000	.000	.000	.000	.368	.000	.000	.000	.000	.002	.000	
	N	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110

\*\* . Correlation is significant at the 0.01 level (1-tailed).

\* . Correlation is significant at the 0.05 level (1-tailed).

Source: SPSS ver 20

Table 3 showed that there are some strong and significant correlations between independent variables which may cause multicollinearity in regression models such as foreign exchange and money supply, ‘Voice and Accountability’, ‘Political Stability and no Violence’ positively, while unemployment rate negatively, to avoid such matter step wise regression has been utilized to exclude automatically such variables.

**4.3- Regression Analysis results:**

Table 4-1 the estimation of the effect of macro variables on insolvency risk utilizing step wise regression model.

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.825	.681	.669	.212299

Predictors: (Constant), VA, MS, RQ, ROL

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-2.395	3.025		-.792	.430
VA	5.860	.483	.2366	12.121	.000
MS	1.281	.456	.795	2.812	.006
RQ	1.233	.230	.400	5.365	.000
ROL	2.021	.563	.939	3.592	.001

Dependent Variable: Insolv  
Source: SPSS ver 20 results

The model explained 68.1% which means that there were 31.9% explained by other variables and the calculated coefficients of money supply, ‘voice and accountability’, regular quality and rule of law have a positive effect on Egyptian banks insolvency risk at 5%.

Table 4-2 the estimation of the effect of macro variables on credit risk utilizing step wise regression model.

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.712	.507	.462	.181876

a. Predictors: (Constant), COC, VA, RQ, ROL, GovE

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-3.287	.653		-5.035	.000
COC	1.840	.324	.659	5.677	.000
RQ	1.039	.231	.502	4.506	.000
VA	1.167	.323	.701	3.618	.000
GovE	.862	.288	.525	2.991	.003

Dependent Variable: Crd  
Source: SPSS ver 20 results

## Egyptian listed Banks risks under macro variables

The model explained 50.7% which means that there were 49.3% explained by other variables and the calculated coefficients of control of corruption, regular quality, ‘voice and accountability’ and government effective have a positive effect on Egyptian banks credit risk at 5%.

Table 4-3 the estimation of the effect of macro variables on liquidity risk utilizing step wise regression model.

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.515	.265	.251	.236132

Predictors: (Constant), GovE, INFR

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	2.234	.091		24.458	.000
GovE	.854	.150	.473	5.707	.000
INFR	-.008-	.003	-.189-	-2.277-	.025

Dependent Variable: Liqd

Source: SPSS ver 20 results

The model explained 26.5% which means that there were 73.5% explained by other variables and the calculated coefficients of government effective has a positive effect and inflation rate has negative effect on Egyptian banks liquidity risk at 5%.

Table 4-4 the estimation of the effect of macro variables on portfolio risk utilizing step wise regression model.

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.845	.713	.700	.239172

Predictors: (Constant), VA, Unemp, GDPGR, ROL, RQ

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	12.609	1.999		6.308	.000
VA	7.587	1.036	2.590	7.321	.000
Unemp	-.153-	.084	-.856-	-1.829-	.070
GDPGR	-.029-	.040	-.091-	-.739-	.462
ROL	2.930	.494	1.150	5.936	.000
RQ	2.070	.518	.568	3.996	.000

Dependent Variable: Port

Source: SPSS ver 20 results

The model explained 71.3% which means that there were 28.7% explained by other variables and the calculated coefficients of ‘voice and accountability’, regular quality and rule of law have a positive effect while unemployment rate and inflation rate have a negative effect on Egyptian banks portfolio risk at 5%.

Table 4-5 the estimation of the effect of macro variables on leverage risk utilizing step wise regression model.

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.820	.672	.660	.257516

Predictors: (Constant), VA, MS, Unemp, GDPGR

## Egyptian listed Banks risks under macro variables

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-4.338	2.767		-1.568	.120
VA	9.165	.834	3.092	10.989	.000
MS	2.450	.442	1.270	5.546	.000
Unemp	-.245	.047	-1.348	-5.212	.000
GDPGR	-.064	.024	-.194	-2.666	.009

Dependent Variable: Lev

Source: SPSS ver 20 results

The model explained 67.2% which means that there were 32.8% explained by other variables and the calculated coefficients of ‘voice and accountability’, and money supply have a positive effect while unemployment rate and growth domestic product growth rate have a negative effect on Egyptian banks leverage risk at 5%.

Table 5-1 the estimation of the effect of macro variables on insolvency risk for big banks utilizing step wise regression model.

### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	DtotA = .00 (Selected)			
1	.798	.637	.614	.235587

Predictors: (Constant), VA, MS, RQ, ROL

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-4.935	4.209		-1.173	.245
VA	6.009	.673	2.365	8.935	.000
MS	1.671	.634	1.011	2.638	.010
RQ	1.167	.320	.369	3.652	.001
ROL	1.694	.783	.767	2.165	.034

a. Dependent Variable: Insolv

b. Selecting only cases for which DtotA = .00

Source: SPSS ver 20 results

The model explained 63.7% which means that there were 36.3% explained by other variables and the calculated coefficients of money supply, ‘voice and accountability’, regular quality and rule of law have a positive effect on Egyptian banks insolvency risk at 5%.

Table 5-2 the estimation of the effect of macro variables on credit risk for big banks utilizing step wise regression model.

### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	DtotA = .00 (Selected)			
4	.783	.614	.590	.114362

Predictors: (Constant), VA, COC, RQ, GovE

## Egyptian listed Banks risks under macro variables

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-4.286	.525		-8.161	.000
VA	.777	.259	.650	2.995	.004
COC	1.484	.261	.740	5.693	.000
RQ	.934	.186	.628	5.034	.000
GovE	.467	.232	.397	2.017	.048

a. Dependent Variable: Crd

b. Selecting only cases for which Dtota = .00

Source: SPSS ver 20 results

The model explained 61.4% which means that there were 38.6% explained by other variables and the calculated coefficients of control of corruption, regular quality, 'voice and accountability' and government effective have a positive effect on Egyptian banks credit risk at 5%.

Table 5-3 the estimation of the effect of macro variables on liquidity risk for big banks utilizing step wise regression model.

### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	Dtota = .00 (Selected)			
1	.505	.255	.245	.234853

a. Predictors: (Constant), GovE

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.177	.103		21.148	.000
	GovE	.901	.187	.505	4.831	.000

a. Dependent Variable: Liqd

b. Selecting only cases for which Dtota = .00

Source: SPSS ver 20 results

The model explained 25.5% which means that there were 74.5% explained by other variables and the calculated coefficient of government effective has a positive on Egyptian banks liquidity risk at 5%.

Table 5-4 the estimation of the effect of macro variables on portfolio risk for big banks utilizing step wise regression model.

### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	Dtota = .00 (Selected)			
4	.800	.640	.618	.277472

Predictors: (Constant), VA, Unemp, GDPGR, MS

## Egyptian listed Banks risks under macro variables

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	4.530	3.738		1.212	.230
VA	10.211	1.127	3.396	9.064	.000
Unemp	-.393-	.063	-.2139-	-6.210-	.000
GDPGR	-.145-	.032	-.437-	-4.496-	.000
MS	1.811	.597	.925	3.035	.003

a. Dependent Variable: Port

b. Selecting only cases for which DtotA = .00

Source: SPSS ver 20 results

The model explained 64% which means that there were 36% explained by other variables and the calculated coefficients of 'voice and accountability' and money supply have a positive effect while unemployment rate and growth domestic product growth rate have a negative effect on Egyptian banks portfolio risk at 5%.

Table 5-5 the estimation of the effect of macro variables on leverage risk for big banks utilizing step wise regression model.

### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	DtotA = .00 (Selected)			
1	.801	.641	.625	.277897

Predictors: (Constant), VA, Unemp, MS

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-2.794-	3.691		-.757-	.452
VA	8.429	.944	2.775	8.928	.000
Unemp	-.235-	.061	-1.263-	-3.861-	.000
MS	2.002	.533	1.013	3.757	.000

a. Dependent Variable: Lev

b. Selecting only cases for which DtotA = 00

Source: SPSS ver 20 results

The model explained 64% which means that there were 36% explained by other variables and the calculated coefficients of 'voice and accountability' and money supply have a positive effect while unemployment rate has a negative effect on Egyptian banks leverage risk at 5%.

Table 6-1 the estimation of the effect of macro variables on insolvency risk for small banks utilizing step wise regression model.

### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	DtotA = 1.00 (Selected)			
1	.905	.820	.799	.155585

Predictors: (Constant), VA, MS, RQ, ROL

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.049	3.677		.557	.581
VA	5.599	.588	2.423	9.530	.000
MS	.598	.554	.397	1.080	.288
RQ	1.347	.279	.469	4.824	.000
ROL	2.593	.684	1.291	3.792	.001

a. Dependent Variable: Insolv

b. Selecting only cases for which Dtota = 1.00

Source: SPSS ver 20 results

The model explained 82% which means that there were 18% explained by other variables and the calculated coefficients of money supply, ‘voice and accountability’, regular quality and rule of law have a positive effect on Egyptian banks insolvency risk at 5%.

Table 6-2 the estimation of the effect of macro variables on credit risk for small banks utilizing step wise regression model.

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	Dtota = 1.00 (Selected)			
1	.658	.433	.418	.257412

a. Predictors: (Constant), COC

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-5.643-	.290		-19.437-	.000
	COC	2.482	.461	.658	5.387	.000

a. Dependent Variable: Crd

b. Selecting only cases for which Dtota = 1.00

Source: SPSS ver 20 results

The model explained 43.3% which means that there were 46.7% explained by other variables and the calculated coefficients of control of corruption, has a positive effect on Egyptian banks credit risk at 5%.

Table 6-3 the estimation of the effect of macro variables on liquidity risk for small banks utilizing step wise regression model.

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	Dtota = 1.00 (Selected)			
1	.566	.320	.283	.236632



Predictors: (Constant), VA, INTM

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	.574	.333		1.725	.093
VA	-.914	.253	-.491	-3.607	.001
INTM	-.050	.021	-.325	-2.387	.022

a. Dependent Variable: Liqd

b. Selecting only cases for which DtotA = 1.00

Source: SPSS ver 20 results

The model explained 32% which means that there were 68% explained by other variables and the calculated coefficient of government effective has a positive on Egyptian banks liquidity risk at 5%.

Table 6-4 the estimation of the effect of macro variables on portfolio risk for small banks utilizing step wise regression model.

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	DtotA = 1.00 (Selected)			
1	.891 <sup>c</sup>	.793	.776	.197926

Predictors: (Constant), VA, RQ, ROL

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	9.433	1.294		7.287	.000
VA	5.947	.679	2.134	8.753	.000
RQ	2.696	.336	.777	8.024	.000
ROL	3.404	.570	1.405	5.972	.000

a. Dependent Variable: Port

b. Selecting only cases for which DtotA = 1.00

Source: SPSS ver 20 results

The model explained 79.3% which means that there were 20.7% explained by other variables and the calculated coefficients of ‘voice and accountability’, regular quality and rule of law have a positive effect on Egyptian banks portfolio risk at 5%.

Table 6-5 the estimation of the effect of macro variables on leverage risk for small banks utilizing step wise regression model.

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	DtotA = 1.00 (Selected)			
1	.883	.780	.755	.206241

Predictors: (Constant), VA, MS, RQ, ROL

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.188	4.874		.039	.969
VA	6.846	.779	2.465	8.790	.000
MS	1.214	.734	.672	1.655	.107
RQ	1.606	.370	.465	4.339	.000
ROL	2.641	.906	1.094	2.914	.006

a. Dependent Variable: Lev

b. Selecting only cases for which Dtota = 1.00

Source: SPSS ver 20 results

The model explained 78% which means that there were 22% explained by other variables and the calculated coefficients of ‘voice and accountability’, money supply, regular quality and rule of law have a positive effect on Egyptian banks leverage risk at 5%.

Table 7-1 the estimation of the effect of macro variables on insolvency risk for Islamic banks utilizing step wise regression model.

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	Dtyp = .00 (Selected)			
1	.692	.479	.460	.339726

Predictors: (Constant), VA, MS

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-14.564	2.849		-5.113	.000
VA	5.930	.960	1.917	6.179	.000
MS	2.948	.625	1.465	4.720	.000

a. Dependent Variable: Lev

b. Selecting only cases for which Dtyp = 00

Source: SPSS ver 20 results

The model explained 47.9% which means that there were 52.1% explained by other variables and the calculated coefficients of ‘voice and accountability’ and money supply have a positive effect on Egyptian banks insolvency risk at 5%.

Table 7-2 the estimation of the effect of macro variables on credit risk for Islamic banks utilizing step wise regression model.

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	Dtyp = .00 (Selected)			
1	.531	.282	.270	.253966

Predictors: (Constant), COC

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-6.073-	.234		-25.966-	.000
	COC	1.771	.371	.531	4.773	.000

a. Dependent Variable: Crd

b. Selecting only cases for which Dtyp = 00

Source: SPSS ver 20 results

The model explained 28.2% which means that there were 71.2% explained by other variables and the calculated coefficients of control of corruption has a positive effect on Egyptian banks credit risk at 5%.

Table 7-3 the estimation of the effect of macro variables on liquidity risk for Islamic banks utilizing step wise regression model.

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	Dtyp = .00 (Selected)			
1	.362	.131	.116	.292417

a. Predictors: (Constant), GovE

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.011	.138		14.525	.000
	GovE	.743	.251	.362	2.961	.004

a. Dependent Variable: Liqd

b. Selecting only cases for which Dtyp = 00

Source: SPSS ver 20 results

The model explained 13.1% which means that there were 86.9% explained by other variables and the calculated coefficient of government effective has a positive on Egyptian banks liquidity risk at 5%.

Table 7-4 the estimation of the effect of macro variables on portfolio risk for Islamic banks utilizing step wise regression model.

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	Dtyp = .00 (Selected)			
1	.735	.540	.506	.315337

Predictors: (Constant), VA, Unemp, GDPGR, MS

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-.453-	4.588		-.099-	.922
VA	9.069	1.383	3.022	6.559	.000
Unemp	-.290-	.078	-1.581-	-3.733-	.000
GDPGR	-.145-	.040	-.438-	-3.664-	.001
MS	2.179	.732	1.116	2.975	.004

a. Dependent Variable: Port

b. Selecting only cases for which Dtyp = .00

Source: SPSS ver 20 results

The model explained 54% which means that there were 46% explained by other variables and the calculated coefficients of ‘voice and accountability’ and money supply have a positive effect, while unemployment rate and growth domestic product growth rate have a negative effect on Egyptian banks portfolio risk at 5%.

Table 7-5 the estimation of the effect of macro variables on leverage risk for Islamic banks utilizing step wise regression model.

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	Dtyp = .00 (Selected)			
1	.692	.479	.460	.339726

Predictors: (Constant), VA, MS

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-14.564-	2.849		-5.113-	.000
2 VA	5.930	.960	1.917	6.179	.000
MS	2.948	.625	1.465	4.720	.000

a. Dependent Variable: Lev

b. Selecting only cases for which Dtyp = .00

Source: SPSS ver 20 results

The model explained 47.9% which means that there were 42.1% explained by other variables and the calculated coefficients of ‘voice and accountability’, money supply, regular quality and rule of law have a positive effect on Egyptian banks leverage risk at 5%.

Table 8-1 the estimation of the effect of macro variables on insolvency risk for conventional banks utilizing step wise regression model.

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	Dtyp = 1.00 (Selected)			
1	.940 <sup>b</sup>	.883	.878	.116955

Predictors: (Constant), VA, Unemp

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	3.861	.680		5.680	.000
VA	6.780	.107	.3036	63.643	.000
Unemp	-.125-	.008	-.914-	-15.497-	.000
MS	.663	.092	.456	7.242	.000
ROL	1.714	.102	.883	16.845	.000
RQ	1.089	.047	.392	22.984	.000

a. Dependent Variable: Insolv

b. Selecting only cases for which Dtyp = 1.00

Source: SPSS ver 20 results

The model explained 88.3% which means that there were 11.7% explained by other variables and the calculated coefficients of ‘voice and accountability’, regular quality, rule of law and money supply have a positive effect while unemployment rate has a negative effect on Egyptian banks insolvency risk at 5%.

Table 8-2 the estimation of the effect of macro variables on credit risk for conventional banks utilizing step wise regression model.

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	Dtyp = 1.00			
1	.927 <sup>b</sup>	.860	.854	.065743

Predictors: (Constant), COC, RQ, GovE, VA

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-4.341-	.161		-26.957-	.000
COC	1.846	.065	.957	28.192	.000
RQ	.926	.044	.648	21.158	.000
GovE	.655	.055	.579	11.992	.000
VA	.608	.092	.529	6.575	.000

a. Dependent Variable: Crd

b. Selecting only cases for which Dtyp = 1.00

Source: SPSS ver 20 results

## Egyptian listed Banks risks under macro variables

The model explained 86% which means that there were 14% explained by other variables and the calculated coefficients of ‘voice and accountability’, regular quality, government effect and control of corruption have a positive effect on Egyptian banks credit risk at 5%.

Table 8-3 the estimation of the effect of macro variables on liquidity risk for conventional banks utilizing step wise regression model.

### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	Dtyp = 1.00 (Selected)			
1	.940	.883	.873	.067788

Predictors: (Constant), INFR, COC, VA, INTM, FRX

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.054	.127		16.200	.000
INFR	-.022-	.002	-.783-	-13.051-	.000
COC	1.342	.116	.630	11.601	.000
VA	-.442-	.107	-.348-	-4.136-	.000
INTM	-.067-	.004	-.636-	-15.907-	.000
FRX	.028	.003	.891	10.006	.000

a. Dependent Variable: Liqd

b. Selecting only cases for which Dtyp = 1.00

Source: SPSS ver 20 results

The model explained 88.3% which means that there were 11.7% explained by other variables and the calculated coefficients of foreign exchange rate and control of corruption have a positive effect while ‘voice and accountability’, inflation rate and interest margin have a negative effect on Egyptian banks liquidity risk at 5%.

Table 8-4 the estimation of the effect of macro variables on portfolio risk for conventional banks utilizing step wise regression model.

### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	Dtyp = 1.00 (Selected)			
1	.941	.886	.879	.144551

Predictors: (Constant), VA, Unemp, GDPGR, ROL, RQ

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	15.438	.991		15.573	.000
VA	8.971	.514	3.236	17.452	.000
Unemp	-.268-	.042	-1.581-	-6.444-	.000
GDPGR	-.059-	.020	-.194-	-3.007-	.004
ROL	2.509	.245	1.041	10.250	.000

RQ	1.843	.257	.534	7.171	.000
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a. Dependent Variable: Port

b. Selecting only cases for which Dtyp = 1.00

Source: SPSS ver 20 results

The model explained 88.6% which means that there were 11.4% explained by other variables and the calculated coefficients of ‘voice and accountability’, regular quality and rule of law have a positive effect while, unemployment rate and growth domestic product growth rate have a negative effect on Egyptian banks portfolio risk at 5%.

Table 8-5 the estimation of the effect of macro variables on leverage risk for conventional banks utilizing step wise regression model.

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	Dtyp = 1.00 (Selected)			
1	.950	.903	.899	.132992

Predictors: (Constant), VA, Unemp, MS, GDPGR, ROL, RQ

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	6.461	1.707		3.785	.000
VA	10.750	.328	3.849	32.807	.000
Unemp	-.384	.019	-2.246	-20.306	.000
MS	1.380	.232	.759	5.954	.000
GDPGR	-.083	.009	-.269	-9.020	.000
ROL	.678	.220	.279	3.083	.004

a. Dependent Variable: Lev

b. Selecting only cases for which Dtyp = 1.00

Source: SPSS ver 20 results

The model explained 90.3% which means that there were 9.7% explained by other variables and the calculated coefficients of ‘voice and accountability’, money supply and rule of law have a positive effect while, unemployment rate and growth domestic product growth rate have a negative effect on Egyptian banks portfolio risk at 5%.

**5- Conclusion:**

In this paper all dependent variables are normally distributed where its standard deviations are less than one and all independent political variables indicating weak changes in those issues. However most economic variables are nonnormal distributed which address changes happened for those variables except money supply reflecting the Egyptian Central Bank actions toward conducting it during research period.

The results showed that macro variables have a significant effect on banks risks as follows:

Table 9: Significant effect of macro variables on bank risks (implications and recommendations)

<b>Bank risks</b>	<b>Significant effect</b>	<b>+/-</b>	<b>implications</b>	<b>recommendations</b>
Insolvency	money supply, 'voice and accountability', regular quality and rule of law	+	Weak changes of political variables indicate continuous negative influence of it, while money supply address Central Bank attempts to reducing high inflation.	The banks need to increase its asset quality, fee income and capital adequacy to reduce the negative influence of macro variables
Credit	control of corruption, regular quality, 'voice and accountability' and government effective	+	Weak changes of political variables indicate continuous negative influence of it.	Banks should concentrate more on strong collaterals to cover any expected non-performing loans, beside increasing the concerns of credit rating of accepted granting loans and the monitoring of loan expenditure.
Liquidity	government effective inflation rate	+ -	This addresses the weak quality of public services, civil service, policy formulation and implementation, and the credibility of a government's commitment to improving or maintaining these aspects during research period. In addition, that high inflation led to increasing deposits withdraw and increasing applying for loans causing the need for increasing levels of cash holdings	Managing centers of cash holdings to avoid any cash deficit at the minimum level of costs.
Portfolio	'Voice and accountability', regular quality and rule of law unemployment	+ -	Weak changes of political variables indicate continuous negative influence of it.	Banks needs more concentration on both credit rating concerns, diversity of loans and investment portfolio, to mitigate the negative



	rate and inflation rate		Rising unemployment and inflation rates leads to insolvency of many customers especially individual ones due to reducing capability of meeting financial obligations	influence of macro variables.
Leverage	‘Voice and accountability’, and money supply unemployment rate and growth domestic product growth rate	+ -	The rise of financial risks due to direct negative influence of those variables leads to more dependency on equity in financing their investments.	Banks may exploit inflation in rising leverage ratios in case of available fields of allocating earning assets with high returns and short pay back periods or rising capital adequacy to absorb increasing risks.

Source: Researcher

In addition results showed differences in the value of coefficient of determinants  $R^2$  between banks from the perspectives of size and type as follows:

Table 10 coefficient of determinants  $R^2$  for different banks categories

Risks	Big Banks	Small Banks	Conventional Banks	Islamic Banks
Insolvency	0.64	0.81	0.88	0.48
Credit	0.61	0.43	0.86	0.28
Liquidity	0.26	0.32	0.88	0.13
Portfolio	0.64	0.79	0.87	0.54
Leverage	0.64	0.78	0.9	0.48

Source: Researcher

Table 10 showed that coefficients of determinants conventional banks are more sensitive in response to macro variables than Islamic ones this may return that they have higher asset quality and liquidity (Saif-Alyousfi, Abdulazeez Y.H., and Saha, Asish, 2021). While Big banks have smaller coefficients of determinants than small one which indicates that they are more resilient under macro variable changes distress than small banks (Bui, Duy-Tung, et. al, 2021), (Kouzez, Marc, 2023) and others

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