APAEA

Eldarassi, A., & Sylwester, K. (2024). Diversification, Governance, and Macroeconomic Volatility in MENA Economies. *Asian Economics Letters*, *5*(1).
https://doi.org/10.46557/001c.88989

Peer-reviewed research

Diversification, Governance, and Macroeconomic Volatility in MENA Economies

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Keywords: Volatility, Diversification, Governance, JEL: F62 O43 O53

https://doi.org/10.46557/001c.88989

Asian Economics Letters

Vol. 5, Issue 1, 2024

This study examines the extent to which higher quality governing institutions substitute for or complement economic diversification to promote macroeconomic stability in Middle Eastern and North African (MENA) countries. In contrast to previous findings, we found that economic concentration reduces volatility. Moreover, stronger effects emerge for countries with good governance. Economic concentration lowers macroeconomic volatility, especially in countries with good governance.

I. Introduction

Many studies have suggested that macroeconomic instability lowers economic growth (Easterly et al., 1993; Guresi, 2018; Imbs, 2007; Martin & Rogers, 2000). Thus, developing strategies to reduce macroeconomic volatility is a worthwhile aim for policymaking. Other studies have indicated that economic diversification lowers volatility (Burns, 1969; Kartalciklar, 2015; Koren & Tenreyro, 2007; McIntyre et al., 2018).[1] This study considers the benefits of diversifying economies by lessening volatility; the benefits of diversification differ based on the quality of governance. Does good governance extensively lower growth rate volatility in a diversified economy? Institutions that lower corruption, promote the rule of law, and reduce political instability can be more effective at lowering volatility in diverse economies because industry-level idiosyncratic shocks cannot directly impact large shares of the economy, implying that other factors – perhaps those associated with governing institutions – are major contributors to volatility. On the other hand, good governance is most beneficial when the economy is less diversified since the potential for macroeconomic volatility is greater (see Ames et al., 2001; Rodrik, 1998).[2]

This study explores how the presence of effective institutions influences how export concentration influences volatility, focusing on a set of Middle East and North African (MENA) countries. MENA countries share similar cultural traits, and many are in close proximity. Although the history of each country has unique characteristics, the combined histories of these countries have more in common compared to other regions such as Latin America and sub-Saharan Africa. However, their reliance on oil separates MENA countries into two groups. While some countries produce prodigious quantities of oil, others have little. The presence or lack of oil is directly related to the degree of an economy's diversification. Therefore, focusing on MENA countries allows for a homogenous sample with varying degrees of diversification. Moore & Walkes (2007) have conducted a closely related study regarding how better macroeconomic policies – but not governing institutions – influence diversification's impact on volatility. With a sample of developing countries, their results differed across regional subsamples, including MENA. They reported that lower inflation and lower government consumption mitigate the impact that concentration has on volatility.

We found that concentration lowers volatility in MENA countries. Moreover, countries with better institutions often experience volatility decrease. Our findings have important implications. First, diversification will not lower economic volatility. Although other reasons to diversify an economy exist, lessening concentration will not lead to smoother economies in the MENA region. However, developing better institutions makes these concentrated economies even less volatile and could therefore provide an important source of economic stability.

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1 However, others find more nuanced results. Examining transition countries, Balavac & Pugh (2016) report that greater diversification may not reduce volatility in countries that are already at medium or higher levels of diversification even though diversifying is beneficial at low levels of diversification.

2 A country is not diversified if a few products dominate its export share. A diversified economy, on the other hand, exists when all product exports are relatively small shares of total exports.

The rest of the paper is organized as follows. Section II presents the data and methodology. Section III shows the results. Section IV provides a conclusion.

II. Data and Empirical Model

A. A note on data

We considered a panel of 10 MENA countries using data from 1995 to 2017. We later considered a broader sample of countries to compare results.[3] The data were from the World Bank's *World Development Indicators*, the World Bank's *World Governance Indicators*, UNCTAD, the International Monetary Fund, and the Arab Monetary Fund.

The key variables include measures of volatility (*Vol*), diversification, and the quality of governance. For volatility, we consider the standard deviation of the GDP per capita growth rate over a three-year window. We considered the measure of export concentration (*Conc)* from UNCTAD, measuring to what extent exports are concentrated among a few products.[4] We regarded this concentration measure as an inverse measure of diversification. The governance indicator (*Gov*) is the average of the six indices of the World Bank's World Governance Indicators: voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption. The model is:

$$\begin{aligned} Vol_{it} = {} & \delta_t + \beta_1 Conc_{it} + \beta_2 Gov_{it} \\ & + \beta_3 \left(Gov_{it} \times Conc_{it}\right) + \beta_4 X_{it} \\ & + \gamma_i + \varepsilon_{it} \end{aligned} \tag{1}$$

for country i and year t. The matrix X_{it} includes several control variables, including the natural logarithm of per capita GDP (*GDP*), the natural logarithm of the trade share (*TRADE*), the inflation rate (*Inflation)*, and the ratio of oil revenues to GDP (*OIL*). *GDP* controls the level of development. Richer economies could be more diversified and benefit from less volatility. The trade share accounts for the potential for external shocks to impact the domestic economy. Thus, the inclusion of the trade share better isolates the effects of diversification on volatility and not trade shocks generally. The inflation rate accounts for monetary policy shocks that could impact volatility. The inclusion of *OIL* ensures that the results are not affected by a single sector, namely a greater reliance on oil. The model also includes country fixed effects denoted by γ_i, time fixed effects denoted by δ_t, and the error term ε_{it}.[5]

The interaction term, $Gov_{it} \times Conc_{it}$, allows the impact of governance on volatility to differ according to the degree of diversification in the economy. A positive β_3 would suggest that strong institutions are less able to lower macroeconomic volatility in concentrated economies. A negative β_3, on the other hand, implies that strong institutions are even more effective at lowering volatility when an economy is less diversified.

III. Results

Columns 1 and 2 of Table 1 provide the results for MENA countries. Column 1 does not include the interaction term. The coefficients of both *Gov* and *Conc* are small. However, the results in column 2 show stronger associations when the interaction term is included. Economic concentration is associated with less volatility and even more so in countries with better governance. This result seems surprising, given the voluminous literature that reports a positive association between economic concentration and volatility. The unconditional correlation between the two is positive, though low at 0.10. The negative coefficient probably stems from the fixed effect model, where the within-country association between concentration and volatility produces the positive coefficient. A fall in concentration – thus, greater diversification – within a short period of time could arise from an economic downturn that disproportionately impacts the major industry, thereby increasing diversification and volatility.

To put these coefficient estimates into context, consider two countries, one where *Gov* = -1 and the other where *Gov* = 0.4.[6] For the "good governance" country (*Gov* = 0.4), a one standard deviation increase in *Conc* is associated with a decrease in volatility by 186% of a standard deviation. The same change in concentration for countries with lower quality governance is associated with a fall in volatility by only 50% of a standard deviation, which is a sizable but noticeably smaller change than the effect in a country with good governance. In a nutshell, the effect of increasing concentration's impact on volatility strengthens as countries exhibit good governance.

Columns 3 and 4 repeat the regressions for columns 1 and 2 but for a greater sample of countries. The coefficients have many of the signs their counterparts in columns 1 and 2 have but will exhibit weaker results. Governance and sectoral concentration do not seem as important globally for economic volatility as in MENA countries.

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3 MENA countries: Algeria, Bahrain, Egypt, Jordan, Lebanon, Morocco, Oman, Saudi Arabia, Sudan, and Tunisia. Other countries: Albania, Argentina, Bangladesh, Benin, Bhutan, Bolivia, Botswana, Brazil, Brunei, Burkina, Burundi, Cambodia, Chile, Colombia, Comoros, Costa Rica, Dominican, Ecuador, Gabon, Guatemala, India, Indonesia, Iran, Kenya, Madagascar, Malaysia, Mali, Mauritius, Mozambique, Namibia, Nepal, Niger, Nigeria, Pakistan, Panama, Paraguay, Peru, Philippines, Salvador, Senegal, Sierra Leone, South Africa, Sri Lanka, Tanzania, Togo, Turkey, Uganda, Uruguay, and Vietnam.

4 Results are robust to using UNCTAD's diversification index measure.

5 We performed Fisher panel unit root tests for the variables in the model. We strongly rejected the null of a unit root for the key variables in the paper: *Vol*, *Conc*, and *Gov,* which is why we employ the fixed effects model instead of other methodologies such as cointegration. Although we could not always reject the null for the other controls, failure to reject the null does not imply the null is true.

6 The range for MENA countries is -1.67 to 0.47, so this is a sizable difference.

Table 1. Results

	MENA Countries		All Countries	
	(1)	(2)	(3)	(4)
Gov	-0.936	1.547**	-1.059	-1.443
	(1.515)	(1.894)	(1.021)	(1.483)
Conc	-2.603	-10.598***	-1.221	-0.745
	(2.925)	(2.521)	(1.237)	(1.749)
*Gov*Conc*		-7.131***		0.976
		(1.737)		(2.361)
GDP	-0.375	0.668	-1.500	-1.430
	(1.804)	(1.189)	(1.229)	(1.084)
Trade	-0.269	-0.472	1.518	1.493
	(1.082)	(0.678)	(1.035)	(1.014)
Inflation	0.055**	0.061**	0.006	0.005
	(0.022)	(0.019)	(0.015)	(0.015)
Oil	0.052	0.066**	0.013	0.016
	(0.034)	(0.028)	(0.048)	(0.047)
Within R^2	0.245	0.387	0.159	0.159
# countries	10	10	49	49
# obs	60	60	294	294

This table reports results when regressing volatility against the right-hand side variables in Equation (1), both with and without the *Gov*Conc* interaction term. The first two columns provide results for MENA countries and the last two columns show analogous results for a broader sample of countries. All regressions contain country and year fixed effects. Standard errors in parentheses. *, **, *** denotes significance at the 10%, 5%, and 1% levels.

IV. Conclusion

In conclusion, there is no evidence that increasing economic concentration within MENA countries will increase macroeconomic volatility. In fact, MENA countries with better governing institutions experience sizable decreases in volatility even if they rely on a narrower set of exports. After examining a three-year window, we do not blithely assert that diversification has no long-term benefits for increasing stability. However, such efforts could be counterproductive in the short run, so proposals that unquestionably call for greater diversification should be carefully considered before they are enacted. A sample of non-MENA countries, on the other hand, does not produce similar results; thus, these conclusions cannot be generalized.

Acknowledgement

We thank reviewers and editors of the journal for their helpful suggestions.

Submitted: May 05, 2021 AEDT, Accepted: April 15, 2023 AEDT

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