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Financial Integration and Consumption Smoothing in Nigeria and Egypt: Do Global Uncertainties Matter?

SUMMARY

In this study, we adopt the structural vector auto-regressive (SVAR) model to assess the degree to which global uncertainties affect the relationship between financial integration and consumption smoothing in Egypt and Nigeria using quarterly data from 2010 to 2020. The study hypothesises that global uncertainty shocks will have adverse effects on consumption smoothing in both Nigeria and Egypt. Our main results from the study show that the economic policy uncertainty shock has a more declining effect on consumption smoothing in Egypt than other global uncertainty proxies. On the other hand, global economic condition shocks have a more declining effect on consumption smoothing in Nigeria than other global uncertainty proxies. In addition, financial integration accounted for more variability in consumption smoothing in Egypt than in Nigeria; this may be due to the fact that Egypt is more financially integrated than Nigeria. We therefore make the following recommendations: Nigeria may diversify the economy by promoting growth in other sectors, such as manufacturing, to reduce the impact of external shocks on the economy and provide greater stability for households. Policymakers in Egypt can diversify export markets and reduce reliance on the US market to mitigate the impact of US policy fluctuations on Egypt's economy.

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Keywords: financial integration, consumption smoothing, global uncertainties, economic policy uncertainty, geopolitical risk, global economic conditions, structural VAR

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Finansijska integracija i ujednačavanje potrošnje u Nigeriji i Egiptu: da li globalne nesigurnosti imaju uticaja?

SAŽETAK

U ovom istraživanju koristimo SVAR (*structural vector auto-regressive*) model da ocenimo stepen u kojem globalne neizvesnosti utiču na odnos između finansijske integracije i ujednačavanja potrošnje u Egiptu i Nigeriji, koristeći kvartalne podatke od 2010. do 2020. godine. U studiji je postavljena hipoteza da će šokovi globalne neizvesnosti imati negativne efekte na ujednačavanje potrošnje u obe zemlje. Glavni rezultati istraživanja pokazuju da neizvesnosti ekonomskih politika imaju snažniji negativan efekat na ujednačavanje potrošnje u Egiptu od globalne nesigurnosti. S druge strane, šokovi globalnih ekonomskih uslova imaju snažniji negativan efekat na ujednačavanje potrošnje u Nigeriji nego druge vrste globalne nesigurnosti. Pored toga, finansijska integracija bila je odgovorna za više varijabilnosti u ujednačavanju potrošnje u Egiptu nego u Nigeriji, što može biti zbog činjenice da je Egipat finansijski više integrisan nego Nigerija. Stoga dajemo sledeće preporuke: Nigerija može diverzifikovati ekonomiju promovisanjem rasta u drugim sektorima kao što je proizvodnja, kako bi se smanjio uticaj spoljnih šokova na privredu i pružila veća stabilnost domaćinstvima. Donosioci politika u Egiptu mogu diverzifikovati tržišta izvoza i smanjiti zavisnost od američkog tržišta kako bi ublažili uticaj fluktuacija američke politike na egipatsku ekonomiju.

Ključne reči: Finansijska integracija, ujednačavanje potrošnje, globalne nesigurnosti, ekonomska nesigurnost u politici, geopolitički rizik, globalni ekonomski uslovi, strukturni VAR.

Introduction

Over the past few decades, financial integration has become a critical feature of the global economy. The increasing interconnectedness of financial markets has facilitated cross-border investments and trade flows, leading to potential gains from risk sharing and consumption smoothing. Theoretically, financial integration allows households and firms to diversify their portfolios and access a broader range of financial instruments, reducing the impact of idiosyncratic shocks and enabling smoother consumption patterns across

countries. Financial integration is possible when countries liberate their capital accounts. Capital account liberalisation removes restrictions on the movement of capital across borders.

To be financially integrated, most countries in Africa liberalised their capital accounts in the late 1980s and early 1990s.³ Nigeria's capital account liberalisation started in 1995, when it removed restrictions on portfolio investment. The process of capital account liberalisation started earlier in Egypt in 1991, when it removed restrictions on foreign exchange transactions and established a foreign exchange market, and in 1995, when it removed restrictions on foreign capital flows.

Financial integration can play a crucial role in consumption smoothing in Africa. In Africa, where many households have irregular and unpredictable incomes, financial integration can help households better manage their finances and consumption patterns. More specifically, international financial integration makes it easier for Africans living abroad to send money home to support their families; African governments and corporations can raise funds by issuing bonds and stocks in international capital markets to finance government capital and corporate projects. Thus, household consumption expenditure and the ability of households to smooth consumption are seen as important indicators of economic activities and welfare. According to the World Bank, household final consumption expenditure in SSA in 2019 was about \$1.1 trillion, representing about 60 percent of the region's gross domestic product (GDP).⁴ Trends in final consumption expenditure in Africa's two biggest economies show different realities. While Nigeria's consumption expenditure grew by as much as 57.7 percent in 2001, in Egypt consumption expenditure grew by only 4.1 percent in the same period. Interestingly, within the period under review, household final consumption expenditure experienced more variability in Nigeria than in Egypt, where it was more stable.⁵ The two different consumption outcomes in both countries show that consumption smoothing behaves differently in both countries; thus, we performed the comparative inquiry.

However, consumption smoothing through financial integration can be threatened by global uncertainties. Global uncertainties are events or circumstances that are difficult to predict and may have a significant impact on economies across the world. These uncertainties can include geopolitical

³ Ahmed D. Abdullahi, "International financial integration, investment and economic performance in Sub-Saharan African countries", *Global Economy Journal*, Vol. 11, No. 4, 2011, 1850239, DOI: <https://doi.org/10.2202/1524-5861.1712>.

⁴ World Bank, World Development Indicators, "Final Consumption Expenditure (Annual % growth) - Nigeria, Egypt, Arab Rep.", https://data.worldbank.org/indicator/NE.CON.TOTL.KD.ZG?end=2021&locations=NGEG&name_desc=false&start=1961&view=chart, 04/04/2023.

⁵ Ibid.

risks, economic shocks, financial crises, and other exogenous factors that affect the availability and cost of external financing, alter risk perceptions and preferences, and impair cross-border risk-sharing mechanisms. As such, global uncertainties may disrupt the potential gains from financial integration by introducing additional risks and uncertainties. Uncertainties such as political instability, exchange rate volatility, and global financial crises can affect the availability and cost of credit, making it more difficult for households and firms to access international capital markets. For instance, the uncertainty that arose during the Asian financial crisis in the late 1990s led to a sharp reduction in capital inflows to the region, making it difficult for households and firms to smooth consumption.⁶ Studies have shown that countries with higher levels of financial integration were more vulnerable to the crisis and experienced a sharper decline in consumption than less integrated countries.⁷

Moreover, global uncertainties can also affect the composition of capital inflows, which could have implications for consumption smoothing. For instance, capital inflows may be dominated by short-term speculative capital during periods of global uncertainty, which is more volatile and less reliable than long-term investment capital. Studies have shown that short-term capital flows are associated with higher levels of consumption volatility.⁸ Therefore, global uncertainties could make it difficult for households and firms to smooth their consumption, particularly if capital inflows are dominated by short-term speculative capital.

The link between global uncertainties and consumption smoothing is further highlighted in the recent heightened geopolitical risk (GPR) occasioned by the Russia-Ukraine War, which showed the vulnerability of many African countries to agriculture and food supply from Russia and Ukraine.⁹ Apart from the direct impact on consumption that such global uncertainties can have, various episodes of geopolitical spats among large state and non-state actors have tended to affect the income prospects of economies in Africa, with their attendant effect on consumption smoothing. Yet, the transmission of such global uncertainty shocks is largely unquantified in the existing literature.

⁶ Qiang Zhang & Sung Jin Kang, "Crisis and Consumption Smoothing", *Annals of Economics & Finance*, Vol. 8, No. 1, 2007, 137-154.

⁷ M. Ayhan Kose, Prasad S. Eswar & Marco E. Terrones, "Financial integration and macroeconomic volatility", *IMF Staff papers*, Vol. 50, No. spec, 2003, 119-142.

⁸ Kristin J. Forbes & Francis E Warnock, "Capital flow waves: Surges, stops, flight, and retrenchment", *Journal of International Economics*, Vol. 88, No. 2, 2012, 235-251, DOI: 10.1016/j.jinteco.2012.03.006.

⁹ Assem Abu Hatab, "Africa's Food Security under the Shadow of the Russia-Ukraine Conflict", *The Strategic Review for Southern Africa*, Vol. 44, No. 1, 2022, 37-46, DOI: <https://doi.org/10.35293/srsa.v44i1.408>.

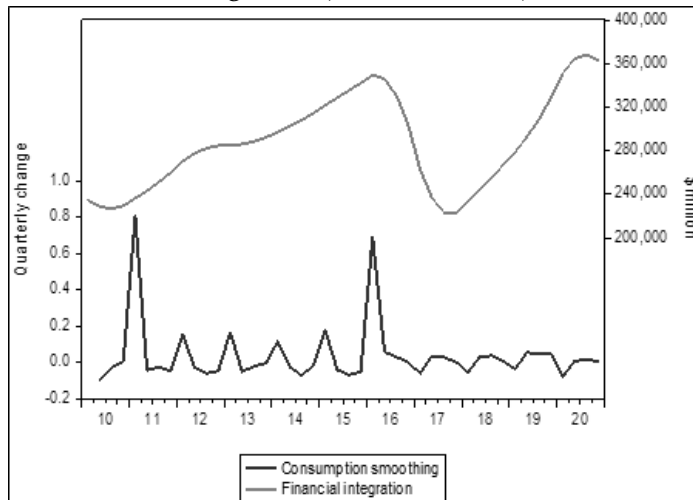
Trends

In Figure 1, it is observed that the trend in consumption smoothing in Egypt from 2010 to 2020 is generally positive but not very smooth. There are a few notable dips and spikes in the trend, such as the one in 2011 Q1 during the Arab Spring uprisings. This suggests that Egypt's ability to smooth consumption is still somewhat fragile, and it can be easily disrupted by shocks.

Despite these dips, the overall trend is positive, and it suggests that Egypt is making progress in its ability to smooth consumption. This is important for long-term economic growth and poverty reduction, as it allows households to better weather economic shocks and maintain their standard of living.

Additionally, the trend in financial integration is also generally positive (except for the decline between 2016 and 2017), suggesting that Egypt is becoming more integrated into the global financial system. This could be the result of the increasing availability of foreign capital, such as portfolio investment, and the increasing deregulation of the Egyptian financial sector, making it easier for Egyptian businesses and individuals to access financial services beyond Egypt.

Figure 1: Egypt: Trends in consumption smoothing and financial integration (2010Q1-2020Q4)



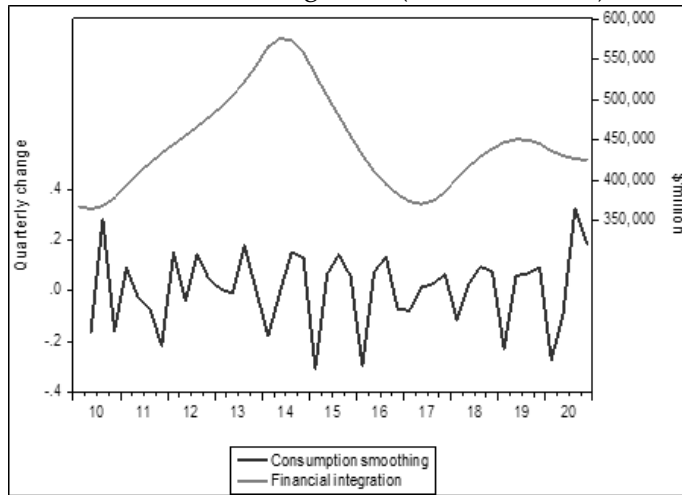
Source: Authors' computation using EViews 10 (2023)

Figure 2 shows the trends in consumption smoothing in Nigeria for the period under review. The graph shows that the level of consumption smoothing in Nigeria has been relatively unstable over the past decade, but it has been increasing in recent years. There are notable dips and spikes in the

trend, one of which occurred around 2015/2016 during the oil price crash, thus showing that consumption in the country has not been smooth over the period.

The level of financial integration in Nigeria rose until Q4 of 2014, when it declined sharply. Even after recovery, it has not attained the pre-2014 level.

Figure 2: Nigeria: Trends in consumption smoothing and financial integration (2010Q1-2020Q4)



Source: Authors' computation using EViews 10 (2023)

Compared to Nigeria, Egypt seems to have a more stable consumption path. One of the explanations for this may be that Egypt has a more stable macroeconomic environment than Nigeria. Egypt has an overall faster financial integration growth trend than Nigeria. This could be the result of more advanced domestic financial institutions that help organisations and individuals seeking to be financially integrated with the rest of the world.

Empirical Literature

Several studies have examined the relationship between consumption smoothing and economic crises, such as a recession.¹⁰ Additionally, smoothing household consumption during currency crises in 24 OECD countries is observed.¹¹ Furthermore, it is found that in the presence of

¹⁰ Ira S. Saltz & Richard J. Cebula, "A Comparison of the Smoothness of Consumption and Investment over the Business Cycle as between Developed and Developing Nations: 1970-79", *Review of World Economic*, Vol. 128, No.4, 1992, 681-694.

¹¹ Pushan Dutt & Vineet Padmanabhan, "Crisis and Consumption Smoothing", *Marketing Science*, Vol. 30, No. 3, 2011, 491-512, DOI: 10.1287/mksc.1100.0630.

income shocks, households in Thailand use savings as a consumption smoothing mechanism, while in Ethiopia, income uncertainty is negatively related to per capita consumption.¹² Additionally, it is shown that general macroeconomic shocks have a significant negative effect on the relationship between household leverage and consumption expenditure in South Korea.¹³ Furthermore, macroeconomic uncertainties induce a negative consumption effect in India.¹⁴ The effect of exchange rate uncertainty on Asian economies is studied with the result of a significant long-run negative effect, while the effect in the short run is negative but less significant.¹⁵ The effect of the global financial crisis (GFC) on consumption is observed within the context of Irish households, and it is found that the consumption smoothing objectives of highly leveraged households in that period (GFC) were disrupted.¹⁶ On the other hand, financial integration measures such as FDI, debt, and equity positively influenced consumption smoothing in Korea during the GFC.¹⁷ The effect of economic policy uncertainty shocks on consumption smoothing in China is positive, thus increasing inflation.¹⁸ Furthermore, the effect of stock market volatility on consumption smoothing has been studied in Korea, with the result of consumption smoothing lagging due to stock market volatility.¹⁹ Other studies have examined the effect of health shocks and pandemic uncertainty on

¹² Aeggarchat Sirisankanan, "Risk, Uncertainty and Consumption-Smoothing Mechanisms: Evidence from Thai Household Socio-Economic Panel Data", *Journal of Southeast Asian Economies*, Vol. 32, No. 1, 2015, 163–179, DOI: 10.1355/ae-li; Yonas Alem & Jonathan Colmer, "Consumption Smoothing and the Welfare Cost of Uncertainty", *Ruhr Economic Papers*, No. 780, 2018, 1–49, DOI: <http://dx.doi.org/10.4419/86788908>.

¹³ Young Il Kim & Min Hwang, "Household Debt and Consumer Spending in Korea: Evidence from Household Data", *KDI Journal of Economic Policy*, Vol. 38, No. 4, 2016, 23–44, DOI: 10.23895/kdijep.2016.38.4.23.

¹⁴ Motilal Bicchil & S. Raja Durai Sethu, "Assessing Macroeconomic Uncertainties for an Emerging Economy", in: *Macroeconomic Stabilization in the Digital Age*, John Beirne & David G. Fernandez (eds.), Asian Development Bank Institute, 2020, 293–328.

¹⁵ Sin-Yu Ho & Iyke Bernard Njindan, "Consumption and Exchange Rate Uncertainty: Evidence from Selected Asian Countries", *The World Economy*, Vol. 43, No. 9, 2020, 2437–2462, DOI: <https://doi.org/10.1111/twec.12900>.

¹⁶ Petra Gerlach-Kristen & Rossana Merola, "Consumption and credit constraints: a model and evidence from Ireland", *Empirical Economics*, Vol. 57, 2019, 475–503, DOI: <https://doi.org/10.1007/s00181-018-1461-4>.

¹⁷ Victor Pontines, "A Provincial View of Consumption Risk Sharing in Korea: Asset Classes as Shock Absorbers", *Journal of The Japanese and International Economies*, Vol. 55, 2020, 101063, DOI: <https://doi.org/10.1016/j.jjie.2020.101063>.

¹⁸ Fenghua Wen, Yilin Xiao, & Haiquan Wu, "The effects of foreign uncertainty shocks on China's macroeconomy: Empirical evidence from a nonlinear ARDL model", *Physica A: Statistical Mechanics and its Applications*, Vol. 532, 2019, DOI: <https://doi.org/10.1016/j.physa.2019.121879>.

¹⁹ Qiang Zhang & Sung Jin Kang, "Crisis and Consumption Smoothing".

consumption smoothing.²⁰ However, studies with emphasis on the role of US-specific economic policy uncertainty, global economic conditions, and geopolitical risks on the relationship between financial integration and consumption smoothing in Africa are very scarce. In other words, discussions on the effect of economic policy uncertainty shocks, global economic condition shocks, and geopolitical risk shocks on the relationship between financial integration and consumption smoothing are lacking in the literature, especially for Africa. Hence, our aim in this regard is to contribute to this discussion by investigating the role of these global uncertainties in the relationship between financial integration and consumption smoothing. For this study, we consider the two economies that represent the largest in their various sub-regions in Africa: Nigeria as the largest economy in Africa and sub-Saharan Africa, and Egypt as the largest economy in North Africa. The idea is to present the implication of global uncertainty shocks on these two regions in Africa where economic development, financial integration efforts, and consumption patterns are different (this is evident in Figures 1 and 2, where Egypt demonstrates a more rapid trend towards financial integration and a more consistent pattern of consumption than Nigeria). Additionally, Table 4 highlights that Egypt appears to exhibit a higher level of financial integration with the global economy as a percentage of GDP compared to Nigeria, thus leading to potentially different effects of global uncertainties on the relationship between financial integration and consumption smoothing.

Following a brief review of the literature, the study specifies a testable hypothesis, which is:

H1: Global uncertainty shocks have adverse effects on consumption smoothing in both Nigeria and Egypt.

Methodology

To estimate how global uncertainties influence consumption smoothing through financial integration, a structural vector autoregressive (SVAR) model is employed. The SVAR model is an extension of the VAR model. The VAR model was developed by Sims (1980) and is widely used in the literature to examine the relationship between (or among) macroeconomic variables. The VAR model is expressed as follows:

²⁰ Maria Eugenia Genoni, "Health Shocks and Consumption Smoothing: Evidence from Indonesia", *Economic Development and Cultural Change*, Vol. 60, No. 3, 2012, 475–506, DOI: <https://doi.org/10.1086/664019L>; Shuiting Wu, "Effects of pandemics-related uncertainty on household consumption: evidence from the cross-country data", *Frontiers in Public Health*, Vol. 8, 2020, 615344, DOI: <https://doi.org/10.3389/fpubh.2020.615344>.

$$y_t = \vartheta + \sum_{j=1}^p B_j y_{t-j} + \varepsilon_t; t=1,2,\dots,T \quad (1)$$

In its reduced form the VAR model in equation (1) becomes:

$$y_t = \vartheta + B(L)y_t + \varepsilon_t \quad (2)$$

Where y_t represents a vector of endogenous variables, ϑ is a vector of intercepts, B 's are matrices of the model coefficient, and ε_t is a vector of disturbance terms. The VAR is a lag operator. The VAR specification has the following advantages: the first is that all variables in the model are endogenous; the second is that endogenous variables are not arranged in any particular form; and lastly, the model is useful for forecasting²¹. One of the major drawbacks is that the estimated coefficients of the VAR equation have no economic interpretation given its multiple lags, a challenge that is solved by using the impulse response function (IRF) and the forecast error variance decomposition (FEVD) methods. While the IRF has weak power to capture shocks outside the model, the FEVD is known to be sensitive to variable ordering. Hence, the introduction of structural shocks into the system through structural VAR (SVAR). Therefore, the difference between the SVAR and the VAR is that in the SVAR, variables are arranged to fit the recursive nature of the system in their order of exogeneity.²² We employed the SVAR to examine the response of consumption smoothing to global uncertainties. The Equation (2) is hence respecified in the structural form to be:

$$A_0 y_t = \vartheta + B(L)y_t + B\varepsilon_{ng,t} \text{ (SVAR for Nigeria)} \quad (3)$$

And

$$A_0 y_t = \vartheta + B(L)y_t + B\varepsilon_{egy,t} \text{ (SVAR for Egypt)} \quad (4)$$

In the analysis, geopolitical risks, financial integration, wealth, per capita income, and consumption smoothing are the variables in the specification. Hence, the three structural shocks are global uncertainty shocks (from geopolitical risk, economic policy uncertainty, and global economic condition ε_{gu}), financial integration shocks ε_{fi} , wealth shocks ε_{wth} , per capita income shocks ε_{pci} and consumption smoothing shocks ε_{cons} .

²¹ Abdulkabir N. Adedeji, Funmilola F. Ahmed & Adam U. Shehu, "Examining the dynamic effect of COVID-19 pandemic on dwindling oil prices using structural vector autoregressive model", *Energy*, Vol. 230, 2021, 120813, DOI: <https://doi.org/10.1016/j.energy.2021.120813>.

²² The recursive system in their order of exogeneity is motivated by the observation of various global uncertainties (for example the global financial crisis and the COVID-19 pandemic) which have an immediate impact on financial integration. Additionally, Mendoza, *et al* (2007) had noted that for financial integration to be welfare enhancing, it had to have a positive effect on the financial development of the domestic economy.

The SVAR model can be identified with the knowledge of A_0 . There are twenty-five elements in the matrix A_0 . The variance-covariance matrix of residuals provides ten equations (that is, $\frac{n^2-n}{2} = \frac{5^2-5}{2} = 10$). With ten equations and twenty-five unknowns, at least ten restrictions will be imposed (Galadima and Aminu, 2019). The restrictions are inferred by the use of Cholesky ordering in a recursive way that ensures that shocks are orthogonalized. It is expected that shocks to global uncertainties (geopolitical risk, global economic conditions, and economic policy uncertainty) will affect financial integration, followed by wealth, per capita income, and finally, consumption smoothing. In this light, the ordering of the variables in this study became: *GPR, FI, WTH, PCI*, and *CONS* (for the geopolitical risk equation), *GECON, FI, WTH, PCI*, and *CONS* (for the global economic condition equation), and *EPU, FI, WTH, PCI*, and *CONS* (for the economic policy uncertainty equation).

Structural Break test

In this study, we controlled for the effect of a structural break in each time series for the two countries considered using equation (11)^{23,24}

$$x_t = \alpha + \sum_{j=1}^N l_j D_{jt} + \varepsilon_t \quad (11)$$

Data Measurement and Preliminary Analysis

This study uses quarterly data from 2010 Q1 to 2020 Q4. The data sources, description, and units of measurement are contained in Table 1.

Table 1: Variable Description

S/N	Variable Abbreviation	Description	Unit of Measurement	Source
1	cons	Consumption smoothing	\$' Thousand	For Nigeria: Central Bank of Nigeria. Retrieved from: https://www.cbn.gov.ng/documents/Statbulletin.asp For Egypt: Central Bank of Egypt. Retrieved from: https://www.cbe.org.eg/_layouts/15/WopiFrame.aspx?sourcedoc={EBD2E5F1-B85D-497A-946E-D240E5066E61}&file=GDP_expenditure_constant%20prices_Quarterly.xlsx&action=default

²³ Afees A. Salisu & Kingsley Obiora, "COVID-19 pandemic and the crude oil market risk: hedging options with non-energy financial innovations", *Financial Innovation*, Vol. 7, No. 1, 2021, 1-19, DOI: <https://doi.org/10.1186/s40854-021-00253-1>.

²⁴ Pierre Perron, "L'estimation de modèles avec changements structurels multiples", *L'Actualité économique*, Vol. 96, No. 4, 2020, 789-837, DOI: <https://doi.org/10.7202/602236ar>.

S/N	Variable Abbreviation	Description	Unit of Measurement	Source
2	pci	Per capita gross domestic product (gdp)	\$' Thousand Temporally disaggregated into the quarterly form	PennWorld Tables (PWT)/World Development Indicators (WDI)
Global uncertainties				
3.	gpr	Geopolitical risks	Index Converted to quarterly frequency by summing up observations in each month of the quarter.	https://www.policyuncertainty.com/global_monthly.html
	gecon	Global Economic Condition	Index Converted to quarterly frequency by summing up observations in each month of the quarter.	https://drive.google.com/uc?export=download&id=1-xGp5-PvgjoAcDQuw09nq4Kgoj16hqsu
	epu	Economic Policy Uncertainty	Index Converted to quarterly frequency by summing up observations in each month of the quarter.	Baker, Bloom and Davis (2016) https://www.policyuncertainty.com/
4	fi	Financial integration	% of GDP Temporally disaggregated into the quarterly form	Lane and Milesi-Feretti (2018) https://www.brookings.edu/research/the-external-wealth-of-nations-database/
5	wth	Stock returns	Percentage Converted to quarterly frequency by summing up observations in each month of the quarter.	NGX All share index (for Nigeria) https://www.investing.com/indices/nigeria-indices EGX 30 index (for Egypt) https://www.investing.com/indices/egypt-indices

Note: Quarterly data on consumption is in the local currency. They were converted to dollars using the local currency to the dollar exchange rate. Data on exchange rate is obtained at <https://data.imf.org/>

Source: Authors' compilation (2023)

Preliminary Analysis

Unit Root Tests: Test for Stationarity

The unit root test for time series is used to test for the stationarity of the series used in the study. The study adopts the Augmented Dickey-Fuller (ADF) and Philip-Perron (PP) unit roots for this purpose. The null hypothesis for these tests is that the series under consideration has a unit root. The result is presented in Table 2.

Table 2: Unit Root Test Result

Unit Root Test Results (Egypt)								
Augmented Dickey-Fuller (ADF)			Philip-Perron (PP)			Conclusion	Break Dates	
LEVEL			LEVEL					
	Constant	Constant and Trend	None	Constant	Constant and Trend	None		
cons	-6.9580***	-7.0078***	-6.6695***	-7.6778***	-9.4068***	-6.6867***	Stationary	2011Q1
pci	-3.5443**	-3.6454**	-1.1492	-2.8530**	-2.9295**	-1.4872	Stationary	2013Q1
sr	-5.4651***	-5.3959***	-5.4888***	-5.5543***	-5.4900***	-5.5797***	Stationary	2016Q4
fi	-6.5954***	-6.7174***	-6.4791***	-6.5710	-6.8356***	-6.4791***	Stationary	2018Q2
gpr	-10.8644***	-10.7312***	-10.9833***	-26.9504***	-26.8305***	-19.1477***	Stationary	2013Q3
epu	-9.6218***	-9.5688***	-9.6900***	-9.6218***	-21.2344***	-11.8932***	Stationary	2014Q2
gecon	-8.2611***	-8.1512***	-8.3556***	-8.2611***	-10.0071***	-10.7366***	Stationary	2020Q1
Unit Root Test Results (Nigeria)								
cons	-8.3771***	-8.2664***	-3.5708***	-10.5640***	-10.0071***	-10.7366***	Stationary	2013Q3
pci	-3.0570**	-0.8838	-2.8280***	-2.9140**	-2.7602	-2.6538***	Stationary	2015Q1
sr	-3.7123***	-3.5561**	-3.7425***	-3.7554***	-3.6028**	-3.7852***	Stationary	2020Q3
fi	-4.4892***	-4.4323***	-4.5166***	-4.4664***	-4.4065***	-4.5000***	Stationary	2016Q1
gpr	-10.8644***	-10.7312***	-10.9833***	-26.9504***	-26.8305***	-19.1477***	Stationary	2013Q3
epu	-9.6218***	-9.5688***	-9.6900***	-9.6218***	-21.2344***	-11.8932***	Stationary	2014Q2
gecon	-8.2611***	-8.1512***	-8.3556***	-8.2611***	-10.0071***	-10.7366***	Stationary	2020Q1

Note: “*”, “**” and “***” represent probability values are 10%, 5% and 1% respectively.

Source: Authors' computation using EViews 10 (2023)

Structural Break Test

It is observed that the structural break for global uncertainties occurred around the second quarter of 2014 and the third quarter of 2013 (for economic policy uncertainty and geopolitical risk). The geopolitical risk in 2013 may not be unconnected with the heightened tension following the alleged use

of Sarin gas in the Syrian war. The economic policy uncertainty of 2014 Q2 may not be unconnected with the debt ceiling crisis in the United States that started in January 2013 and ended in October 2013 and the passing of the “Continuing Appropriations Act” in 2014²⁵. The global economic condition shock of 2020 Q1 may not be unconnected to the shock to the global economy occasioned by the COVID-19 pandemic. Consumption per capita and per capita income structural breaks for Nigeria and Egypt occurred at a time when, as earlier stated, countries around Africa were experiencing very rapid economic progress. The stock return, which stood as a proxy for wealth, had a break date for Egypt that coincided with the 2016 stock market crash in Egypt following the floating of the local currency. For Nigeria, the break date of 2020 Q3 for stock returns may have coincided with the rapid bounceback of the stock market from the effects of the COVID-19 pandemic.

Lag length Selection Criteria

Table 3 presents the results of the lag selection criteria. From the results, the preferred model is the one with an optimal lag of 2 for the two countries selected for the study.

Table 3: Lag Length Criteria

Nigeria						
Criterion						
Lag	LogL	LR	FPE	AIC	SC	HQ
0	542.8529	NA	1.44e-18	-26.89265	-26.68154	-26.81632
1	631.6954	151.0322	5.98e-20	-30.08477	-28.81811*	-29.62679
2	675.6843	63.78394*	2.46e-20*	-31.03422	-28.71201	-30.19458*
3	703.7327	33.65801	2.49e-20	-31.18663*	-27.80888	-29.96534
Egypt						
0	558.6576	NA	6.53e-19	-27.68288	-27.47177	-27.60655
1	656.0767	165.6126	1.77e-20	-31.30384	-30.03718	-30.84585
2	718.8774	91.06105*	2.84e-21*	-33.19387*	-30.87166*	-32.35423*
3	739.7963	25.10268	4.10e-21	-32.98982	-29.61206	-31.76853

Note: Optimal lag length is 2, based on most of the decision criteria. The decision criteria include LogL= Log likelihood, LR = Likelihood ratio, FPE = final prediction error, AIC = Akaike information criterion, SC = Schwarz information criterion, HQ = Hanna-Quinn information criterion

Source: Authors’ computation using EViews 10 (2023)

²⁵ James V. Saturno & Jessica Tollestrup, “Continuing Resolutions: Overview of Components and Recent Practices”, Congressional Research Service, Library of Congress, <https://budgetcounsel.files.wordpress.com/2016/11/r42647.pdf>, 04/04/2023.

Results

Descriptive statistics

In the summary statistics presented in Table 4, it is observed that per capita consumption in Egypt is on average higher than in Nigeria. While per capita consumption in Egypt stood at an average of \$2,922.9, in Nigeria, the average per capita consumption value stood at \$1,965.6. A close examination of the consumption and income summary statistics for Egypt indicated that about eighty percent of income was consumed in Egypt within the period under review. On the other hand, a close look at the summary statistics for Nigeria showed that about seventy-eight percent of income is consumed in the country within the period under review. This showed that while Egypt may earn more per capita, Nigeria spends less per capita. Furthermore, given this proportion of income consumed in both Egypt and Nigeria, it is likely that the consumption smoothing objective may be difficult to meet if it has to be done by earned income.

Within the period under review, all three global uncertainty indicators (EPU, GPR, and GECON) were observed to have high values, both in the average, maximum, and minimum values. This goes to show that there were a sizeable number of global uncertainty occurrences during the period under review.

It is interesting to find that in terms of wealth, for which stock returns stand as a proxy, judging by the maximum stock return of about 40 percent per quarter in Egypt and about 32 percent in Nigeria, it can be concluded that the Egyptian stock market yields greater returns than the Nigerian stock market. However, it is pertinent to note how close the mean stock return values are for the two countries.

Additionally, in both measures of financial integration, Egypt seemed to be more financially integrated than Nigeria, across the mean, median, maximum, and minimum values of the series.

Finally, only the global uncertainty measures were found to be normally distributed; the other series for both countries did not exhibit normality.

Table 4: Summary Statistics

	CONS	EPU	FI	GECON	GPR	PCI	SR
Egypt							
Mean	2922.896	119.9172	6.188530	-0.039400	113.9951	3651.611	1.119600
Median	2933.795	92.53195	3.706858	0.014121	99.33000	3573.366	-0.580015
Maximum	3228.782	503.0123	13.04169	0.455144	380.6000	4035.108	40.08927
Minimum	2607.89	48.45344	-0.610231	-1.359053	41.89000	3467.472	-24.15885
Std. Dev.	155.8366	81.95238	4.880650	0.329541	67.31230	203.1959	12.12757

	CONS	EPU	FI	GECON	GPR	PCI	SR
Egypt							
Skewness	-0.39195	2.922634	0.184379	-2.116602	1.736293	0.754886	0.503444
Kurtosis	2.505115	13.01598	1.283252	8.849502	7.005022	2.077634	4.276588
Jarque-Bera	1.575565	240.9560	5.652541	93.41156	50.34415	5.608225	4.736274
Probability	0.454852	0.000000	0.059233	0.000000	0.000000	0.060560	0.093655
Observations	44	43	43	43	43	43	43
Nigeria							
Mean	1965.603	119.9172	4.123841	-0.039400	113.9951	2535.675	0.910743
Median	1924.552	92.53195	3.659709	0.014121	99.33000	2519.799	0.849622
Maximum	2230.417	503.0123	7.356201	0.455144	380.6000	2709.833	31.99989
Minimum	1798.367	48.45344	1.343989	-1.359053	41.89000	2376.117	-15.65385
Std. Dev.	125.7847	81.95238	1.759027	0.329541	67.31230	95.33026	10.44884
Skewness	0.621538	2.922634	0.293797	-2.116602	1.736293	0.314016	0.558090
Kurtosis	2.096315	13.01598	1.757606	8.849502	7.005022	2.241777	3.308837
Jarque-Bera	4.330124	240.9560	3.462819	93.41156	50.34415	1.736709	2.403049
Probability	0.114743	0.000000	0.177035	0.000000	0.000000	0.419642	0.300735
Observations	44	43	43	43	43	43	43

Source: Authors' computation using EViews 10 (2023)

To test the research hypothesis, the study employed impulse response and variance decomposition. In evaluating the impulse response, the study took note of the two dotted lines that represented the 5% asymptotic error bands. The line between the error bands represented the impulse function.

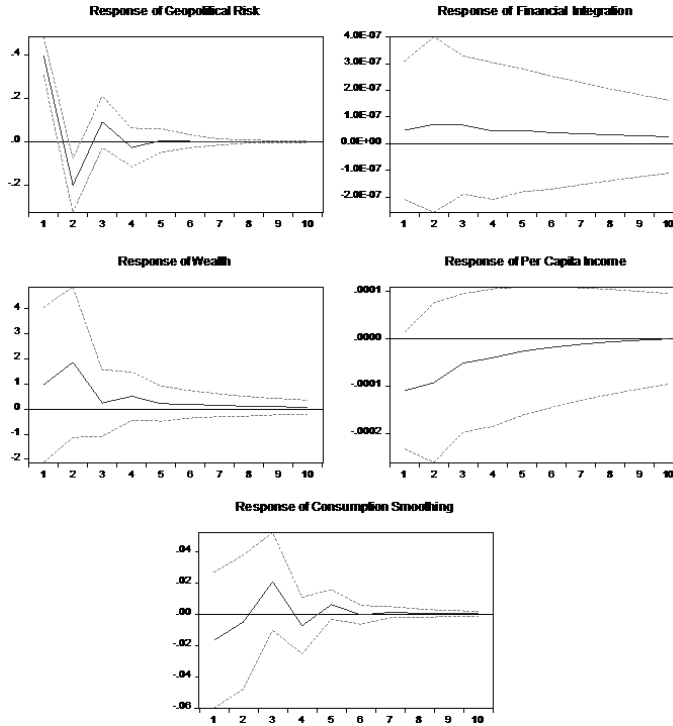
Impulse Response for Nigeria

Impulse Response of Consumption Smoothing to the Geopolitical Risk (GPR) Shock through its effects on income and financial integration

Results in Figure 3 showed that consumption smoothing responded positively until the third quarter to structural one standard deviation shock to geopolitical risk. The effect of the geopolitical risk shock on consumption smoothing faded from the sixth quarter; thus, despite the geopolitical risk shock, consumption smoothing is achieved in Nigeria. On the other hand, due to a structural one standard deviation shock to geopolitical risk, financial integration responded with a slight increase but remained steady and did not return to its equilibrium path throughout the forecast horizon. Wealth also responded with an initial positive rise to structural one standard

deviation shock to geopolitical risk. The effect of the shock started fading away from the sixth quarter, but not completely, within the forecast horizon. Per capita income remained in the negative region following the structural one standard deviation shock to geopolitical risk, after which the effect faded in the ninth quarter.

Figure 3: Response to structural one standard deviation innovations (± 2 standard errors) Impulse Response to the Geopolitical Risk Shock: SVAR



Source: Authors' computation using EViews 10 (2023)

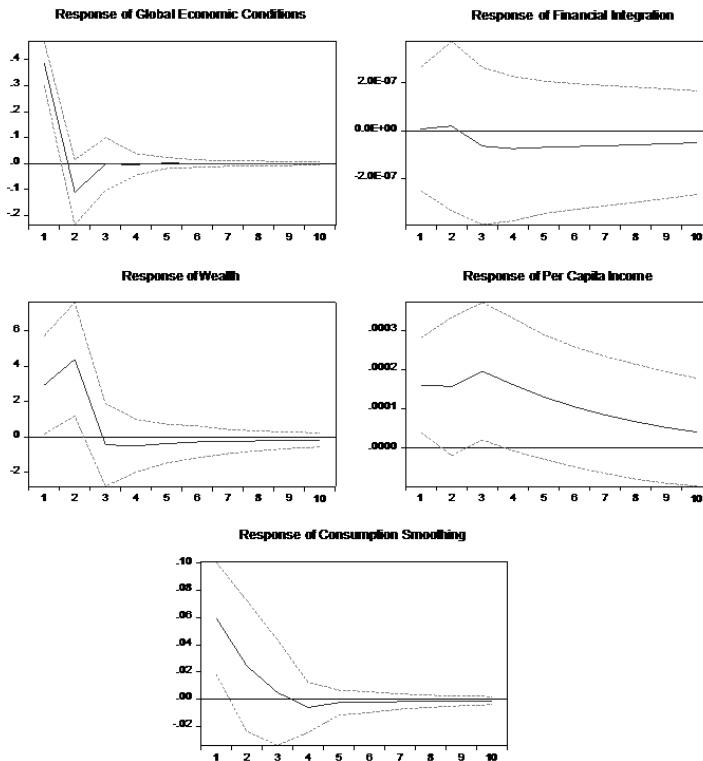
Impulse Response of Consumption Smoothing to the Global Economic Condition (GECON) Shock through its effects on income and financial integration

The result presented in Figure 4 showed that following a structural one standard deviation shock to the global economic conditions, consumption smoothing fell steadily until it became negative just before the fourth quarter, after which recovery was barely reached until the tenth quarter; hence, despite the prolonged decline in consumption smoothing, it stabilised over time. On the other hand, financial integration responded positively to a structural one standard deviation shock to the global economic conditions,

but only until the second quarter, before it became negative and did not recover throughout the forecast horizon. On the other hand, wealth responded with a positive and immediate rise until the second quarter, after which it fell and became negative in the third quarter without recovering back to its initial equilibrium. Finally, apart from the initial positive response of per capita income to a structural one standard deviation shock to the global economic condition (up to the third quarter), for the majority of the forecast horizon, per capita income responded negatively to the global economic condition shock.

Following the position of the two dotted lines representing the 5% asymptotic error bands, it is observed that the effect of a shock to the global economic condition on consumption smoothing, wealth, and per capita income was statistically significant. For consumption smoothing and wealth, the significance of the shock lasted until the second quarter, while it lasted a little above the first quarter for per capita income.

Figure 4: Response to structural one standard deviation innovations (± 2 standard errors) Impulse Response Response to the Global Economic Conditions Shock: SVAR



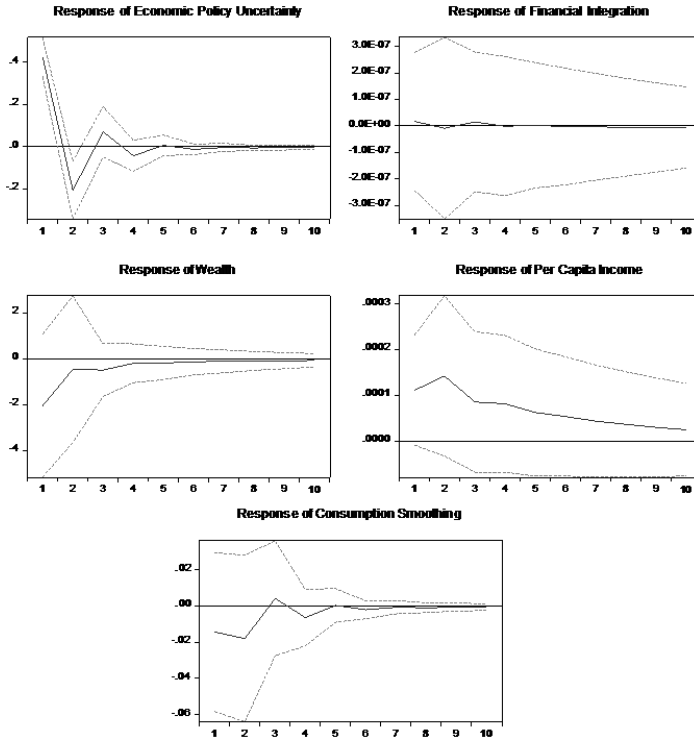
Source: Authors' computation (2023), using EViews 10

*Impulse Response of Consumption Smoothing
to the Economic Policy Uncertainty (EPU)
Shock through its effects on income and financial integration*

In Figure 5, the response of consumption smoothing to a structural one standard deviation shock to economic policy uncertainty is negative. It increased after the second quarter and briefly became positive in the third quarter of the same year before falling back to the negative region and dying off in the seventh quarter, still within the year of experiencing the shock. Hence, while the shock to economic policy uncertainty led to a decline in consumption smoothing, it stabilised over time. Financial integration fell following a structural one standard deviation shock to economic policy uncertainty and continued to be cyclical until the fourth quarter of the same year, when it faded, but lost its equilibrium position in the middle of the seventh quarter and did not recover. On the other hand, wealth rose to a structural one standard deviation shock to economic policy uncertainty. However, such a rise was in the negative region and remained so until it faded out after nine quarters. Per capita income had an initial rise following a structural one standard deviation shock to economic policy uncertainty before falling consistently. However, it must be emphasised that the per capita income response to economic policy uncertainty remained positive throughout the forecast horizon.

It is observed that the effect of shock on US-specific economic policy uncertainty did not exert any statistically significant effect on the variables considered, judging by the position of the two dotted lines representing the 5% asymptotic error bands.

Figure 5: Response to structural one standard deviation innovations (± 2 standard errors) Impulse Response to the Economic Policy Uncertainty Shock: SVAR



Source: Authors' computation using EViews 10 (2023)

Variance Decomposition for Nigeria

In Table 5, we compare the proportion of variations in consumption smoothing that is accounted for by the various uncertainty shocks.

A close examination of the table reveals that:

1. Wealth accounts for the variations in consumption smoothing more than geopolitical risk. Wealth accounts for about 13.9 percent of variations in consumption smoothing in the tenth quarter, while geopolitical risk accounts for just about 3.4 percent.
2. Global economic uncertainties accounted for more variation in consumption smoothing than other variables. While it accounts for about 17.4 percent of changes in consumption smoothing from the fourth to the tenth quarter, wealth, which comes closely, accounts for approximately 9 percent of variations in consumption smoothing from the second to the tenth quarter.

3. Wealth is also a larger determinant of consumption smoothing than economic policy uncertainty. While wealth accounts for about 12 percent of variations in consumption smoothing from the second quarter to the tenth quarter, economic policy uncertainty accounts for about 2 percent.

Table 5: Variance Decomposition of consumption smoothing for Nigeria

Contribution of Geopolitical Risk Shock consumption smoothing						
Forecast Horizon (h)	S.E.	Geopolitical risk	Financial integration	Wealth	Per capita income	Consumption smoothing
h_1	0.141545	1.377747	0.011986	5.027940	0.376399	93.20593
h_2	0.153908	1.268041	0.145211	14.09925	0.459263	84.02823
h_3	0.155512	3.063510	0.185632	13.85272	0.537803	82.36033
h_4	0.155815	3.266661	0.220750	13.81672	0.595280	82.10058
h_5	0.156092	3.413760	0.246310	13.78587	0.671261	81.88280
h_6	0.156198	3.409719	0.264515	13.82563	0.716047	81.78409
h_7	0.156275	3.412438	0.270132	13.85329	0.755252	81.70889
h_8	0.156333	3.411723	0.271610	13.88653	0.782223	81.64791
h_9	0.156373	3.410702	0.271493	13.90888	0.801957	81.60696
h_{10}	0.156402	3.410200	0.271860	13.92544	0.815962	81.57654
Cholesky Ordering: Geopolitical Risk, Financial Integration, Wealth, Per Capita Income, Consumption Smoothing						
Contribution of Global Economic Condition Shock to consumption smoothing						
Forecast Horizon (h)	S.E.	Global economic uncertainty	Financial integration	Wealth	Per capita income	Consumption smoothing
h_1	0.139966	18.19639	0.223045	0.085055	0.200734	81.29477
h_2	0.155292	17.27292	0.327087	8.884847	0.290085	73.22506
h_3	0.155604	17.30149	0.410936	8.998044	0.353774	72.93576
h_4	0.155855	17.39468	0.449854	9.036808	0.407088	72.71157
h_5	0.155957	17.39726	0.464835	9.077129	0.442489	72.61828
h_6	0.156016	17.40463	0.468989	9.093230	0.469497	72.56366
h_7	0.156056	17.40835	0.469666	9.106773	0.489061	72.52616
h_8	0.156085	17.41165	0.469496	9.115776	0.503274	72.49980
h_9	0.156105	17.41372	0.469836	9.121919	0.513459	72.48106
h_{10}	0.156120	17.41496	0.471165	9.125867	0.520702	72.46731
Cholesky Ordering: Global Economic Conditions, Financial Integration, Wealth, Per Capita Income, Consumption Smoothing						

Contribution of Economic Policy Uncertainty Shock to consumption smoothing						
Forecast Horizon (h)	S.E.	Economic policy uncertainty	Financial integration	Wealth	Per capita income	Consumption smoothing
h_1	0.142563	1.005668	0.040455	2.953941	3.249838	92.75010
h_2	0.155856	2.171431	0.104674	12.08516	3.179047	82.45969
h_3	0.156249	2.236210	0.133355	12.20363	3.180968	82.24583
h_4	0.156509	2.393696	0.182298	12.16454	3.268496	81.99097
h_5	0.156601	2.391315	0.214556	12.17949	3.319787	81.89485
h_6	0.156716	2.404813	0.234634	12.22207	3.362739	81.77575
h_7	0.156789	2.404123	0.241989	12.26111	3.392742	81.70004
h_8	0.156846	2.406092	0.243995	12.29465	3.414128	81.64113
h_9	0.156883	2.406505	0.243997	12.31810	3.428983	81.60242
h_{10}	0.156909	2.407151	0.244142	12.33438	3.439162	81.57517
Cholesky Ordering: Economic Policy Uncertainty, Financial Integration, Wealth, Per Capita Income, Consumption Smoothing						

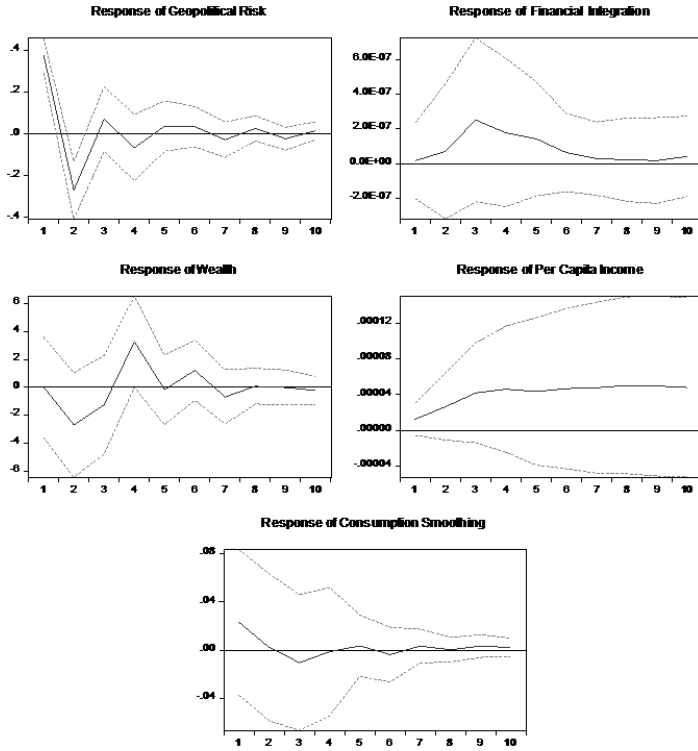
Source: Authors' computation using EViews 10 (2023)

Impulse Response for Egypt

Impulse Response of Consumption Smoothing to the Geopolitical Risk (GPR) Shock through its effects on income and financial integration

In Figure 6, it is observed that the response of consumption smoothing to a structural one-standard deviation shock to geopolitical risk is cyclical. There is stability around the seventh quarter following the shock within the same year, as the response faded in the tenth quarter. This indicates that despite some periods of sustained decline in consumption smoothing due to shocks to geopolitical risk, consumption smoothing stabilised over time. It is observed that financial integration responded positively to a structural one standard deviation shock to geopolitical risk up to three quarters. It remained positive for the rest of the forecast horizon but declined and faded off subsequently. Also, wealth responded to structural one standard deviation shock to geopolitical risk like that of consumption smoothing: cyclically. Finally, per capita income responded positively to a structural one standard deviation shock to geopolitical risk and remained so throughout the forecast horizon.

Figure 6: Response to structural one standard deviation innovations (± 2 standard errors) Impulse Response to the Geopolitical Risk Shock: SVAR



Source: Authors' computation using EViews 10 (2023)

Impulse Response of Consumption Smoothing to the Global Economic Condition (GECON) Shock through its effects on income and financial integration

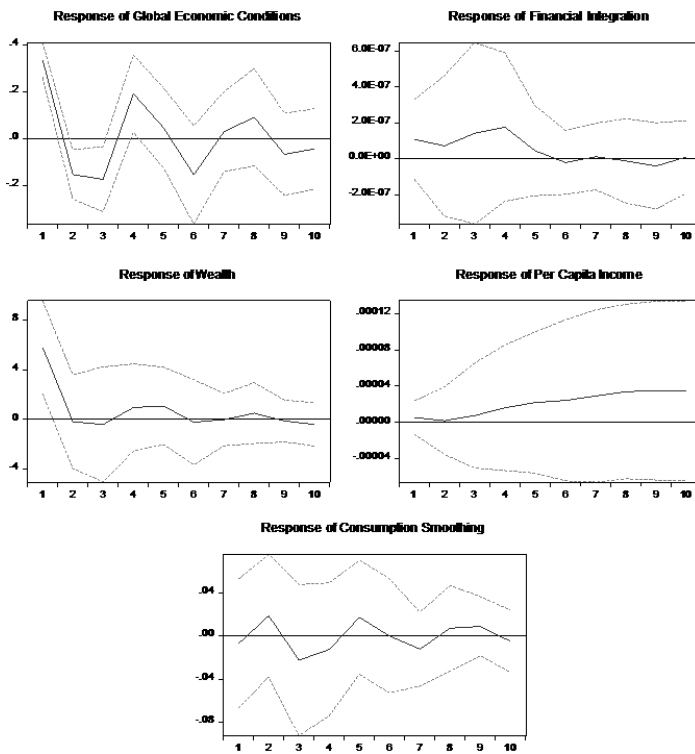
The study presented the result of the impulse responses to the global economic condition shock in Figure 7.

Following a structural one standard deviation shock to the global economic conditions, consumption smoothing responded with cyclical movements. Consumption smoothing did not settle on its equilibrium path throughout the forecast horizon. This showed that, following the shock to the global economic condition, consumption is not smoothed in Egypt. On the other hand, financial integration remained positive for six quarters following a shock to global economic conditions; thereafter, it remained negative and fizzled out after ten quarters. Wealth declined following a negative shock to the global economic conditions but stayed positive until the second quarter of the same year following the shock and remained

cyclical throughout the forecast horizon. Per capita income initially fell with a structural one standard deviation shock to the global economic conditions, but recovered after the second quarter and remained positive till the tenth quarter.

Wealth responded most significantly to the structural one standard deviation shock to global economic conditions. The significant effect did not last into the second quarter.

Figure 7: Response to structural one standard deviation innovations (± 2 standard errors) Impulse Response Response to the Global Economic Conditions Shock: SVAR



Source: Authors' computation using EViews 10 (2023)

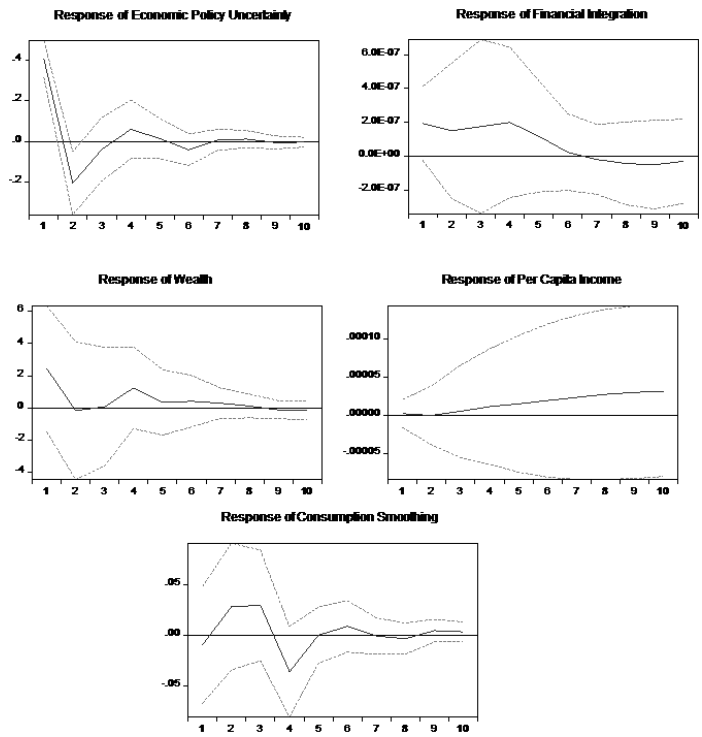
Impulse Response of Consumption Smoothing to the Economic Policy Uncertainty (EPU) Shock through its effects on income and financial integration

The response of consumption smoothing to structural one standard deviation shock to economic policy uncertainty, presented in Figure 8, is similar to that found in geopolitical risk and global economic conditions

shocks. Consumption smoothing increased and remained positive until the fourth quarter, within the same year following the shock. It sustained a stable equilibrium between the ninth and tenth quarters; hence, consumption smoothing was achieved despite a sustained period of economic policy uncertainty shock. Financial integration responded positively to a structural one standard deviation shock to economic policy uncertainty, but it declined and remained negative from the seventh quarter. Wealth experienced an immediate decline following a structural one standard deviation shock to economic policy uncertainty but remained positive until the second and third quarters, when it became negative but recovered and remained positive until the ninth quarter. On the other hand, per capita income barely responded to the economic policy uncertainty shock until the third quarter, when it rose and remained positive until the tenth quarter.

None of the variables responded significantly to the structural one standard deviation shock to the economic policy uncertainty shock except economic policy uncertainty itself.

Figure 8: Response to structural one standard deviation innovations (± 2 standard errors) Impulse Response to the Economic Policy Uncertainty Shock: SVAR



Source: Authors' computation using EViews 10 (2023)

Variance decomposition for Egypt

In Table 6, we compare the proportion of variations in consumption smoothing that is accounted for by the various uncertainty shocks.

A close examination of the table reveals that:

1. Financial integration accounts for more variations in consumption smoothing than geopolitical risk. Financial integration accounts for more than 5 percent of the variations in consumption smoothing from the fifth to the tenth quarter, while geopolitical risk accounts for approximately 2 percent from the third to the tenth quarter. While wealth explains about 2 percent of the variation in consumption smoothing from the third quarter, per capita income explains just about 0.69 percent by the tenth quarter.
2. In the same vein, financial integration explains more variations in consumption smoothing than the global economic condition, but just marginally (and for most, compared to wealth and per capita income). The same can be said about the variations in consumption smoothing explained by per capita income and wealth.
3. On the other hand, economic policy uncertainty accounts for most of the variations in consumption smoothing. The result showed that about 7.7 percent of the variations in consumption smoothing is accounted for by economic policy uncertainty, from the fourth quarter to the tenth quarter. This is followed by financial integration, wealth, and per capita income.

Table 6: Variance Decomposition of consumption smoothing for Egypt

Contribution of Geopolitical Risk Shock to consumption smoothing						
Forecast Horizon (h)	S.E.	Geopolitical risk	Financial integration	Wealth	Per capita income	Consumption smoothing
h_1	0.194150	1.423269	3.580511	1.389563	0.066607	93.54005
h_2	0.195809	1.414673	3.791790	1.369419	0.144365	93.27975
h_3	0.199908	1.614461	4.539162	2.072084	0.141392	91.63290
h_4	0.200417	1.609184	4.948718	2.065387	0.167983	91.20873
h_5	0.200837	1.637003	5.209965	2.072908	0.251657	90.82847
h_6	0.200992	1.665391	5.214361	2.083936	0.329700	90.70661
h_7	0.201153	1.693378	5.214418	2.092064	0.437797	90.56234
h_8	0.201343	1.690906	5.261275	2.101395	0.534678	90.41175
h_9	0.201647	1.715939	5.367732	2.144467	0.613758	90.15810
h_10	0.201889	1.725689	5.442970	2.167061	0.687286	89.97700
Cholesky Ordering: Geopolitical Risk, Financial Integration, Wealth, Per Capita Income, Consumption Smoothing						

Contribution of Global Economic Conditions (GECON) shocks to consumption smoothing						
Forecast Horizon (h)	S.E.	Global economic conditions	Financial integration	Wealth	Per capita income	Consumption smoothing
h_1	0.192095	0.140526	2.121431	0.483890	0.635623	96.61853
h_2	0.194814	1.050948	2.718044	0.580175	0.655728	94.99510
h_3	0.198946	2.284850	3.254092	0.901071	0.629096	92.93089
h_4	0.199989	2.654136	3.605308	0.922645	0.644008	92.17390
h_5	0.201000	3.363043	3.763647	0.917695	0.706658	91.24896
h_6	0.201174	3.357311	3.790230	0.937485	0.807892	91.10708
h_7	0.201690	3.714752	3.785685	0.933827	0.896403	90.66933
h_8	0.202008	3.828731	3.852628	0.947409	0.987627	90.38361
h_9	0.202584	3.998702	3.922506	1.004790	1.086638	89.98736
h_10	0.202899	4.049625	4.003011	1.028376	1.172220	89.74677
Cholesky Ordering: Global Economic Conditions, Financial Integration, Wealth, Per Capita Income, Consumption Smoothing						
Contribution of Economic Policy Uncertainty (EPU) shocks to consumption smoothing						
Forecast Horizon (h)	S.E.	Economic policy uncertainty	Financial integration	Wealth	Per capita income	Consumption smoothing
h_1	0.184824	0.276989	3.230098	0.951122	0.504701	95.03709
h_2	0.188505	2.472051	3.534748	0.942767	0.615449	92.43498
h_3	0.194645	4.576280	4.325346	2.682769	0.590466	87.82514
h_4	0.199003	7.717619	4.698517	2.601052	0.620265	84.36255
h_5	0.200203	7.625434	4.892456	2.754476	0.688788	84.03885
h_6	0.200763	7.761617	4.881675	2.743332	0.764758	83.84862
h_7	0.200845	7.758464	4.881216	2.744252	0.812856	83.80321
h_8	0.201108	7.770698	4.931173	2.790439	0.875845	83.63184
h_9	0.201462	7.789408	5.024176	2.822144	0.979713	83.38456
h_10	0.201692	7.794630	5.113506	2.826287	1.068740	83.19684
Cholesky Ordering: Economic Policy Uncertainty, Financial Integration, Wealth, Per Capita Income, Consumption Smoothing						

Source: Authors' computation using EViews 10 (2023)

From both the results of impulse responses and variance decomposition, the hypothesis specified for this study, which states that global uncertainty shocks have adverse effects on consumption smoothing in both Nigeria and Egypt, is accepted.

Discussion of Research Finding

It is observed that in the impulse response function for Nigeria, consumption smoothing in the interim declines following the global uncertainty shocks. Thus, despite the initial fluctuations in consumption in the short run following the global uncertainty shocks, households in Nigeria were able to maintain a stable consumption path eventually. Part of the reason why consumption smoothing recovers in Nigeria following a global uncertainty shock is because the country often looks inward during periods of crisis. Empirical investigations related to this are hard to find; however, another study that examined the effect of shock to stock returns (the proxy for wealth in this study) on consumption in South Africa found that households were able to smooth food consumption over their lifetime because consumption did not respond to stock return shock²⁶. The study, however, failed to account for the role of global uncertainties in this relationship, which this present study has done. The study has been able to establish that households' response to shocks to wealth, through financial integration is represented by jumps and falls up to about the fifth quarter before it stabilises.

The variance decomposition result shows that wealth and global economic uncertainties are responsible for most of the variations in consumption smoothing in Nigeria. It is possible for global uncertainty to make the imports of consumer and producer items more expensive as supply chains are affected, thus reducing consumption; it is also possible that global uncertainties make the demand for domestic output rise, thus helping to smooth consumption. On the other hand, given that natural resource wealth is a major factor in the Nigerian economy, it is no wonder that it exerts a significant influence on consumption smoothing. This is in line with the findings of another study,²⁷ where natural resources (in the form of per capita oil revenue) significantly influence long-run household consumption.

The impulse response function for Egypt, on the other hand, showed that the effect of global uncertainties takes time to wear out and, in some instances, did not wear out within the forecast horizon. This may be attributed to the country's high degree of economic interconnectedness with the global economy. Egypt's economy relies on external factors such as foreign investment, trade, and tourism, making it vulnerable to global

²⁶ Simo-Kengne, Beatrice D., and Joel Hinaunye Eit, "Consumption Response to Stock Prices Shocks in South Africa: Does Life Cycle Hypothesis Hold?" *Advanced Science Letters*, vol. 23, no. 9, 2017, 8623-8627.

²⁷ Eric Kehinde Ogunleye, "Natural resource abundance in Nigeria: From dependence to development", *Resources Policy*, Vol. 33, No. 3, 2008, 168-174, DOI: <https://doi.org/10.1016/j.resourpol.2008.03.002>.

economic fluctuations. When global uncertainty arises, it can disrupt these channels and have lasting effects on the Egyptian economy.

The variance decomposition result for Egypt showed that of the three global uncertainty measures, US-specific economic policy uncertainty shock had the most effect on consumption smoothing. US-specific economic policy uncertainty can impact consumption smoothing due to the close economic ties between the two countries. Egypt relies on foreign investments, trade, and aid from the United States, which can be influenced by changes in US economic policies. If there is uncertainty regarding US policies, such as trade restrictions or changes in aid programmes, it can create a ripple effect on Egypt's economy. This uncertainty can affect business confidence, investment decisions, and overall economic stability, leading to fluctuations in income levels, employment, and consumer spending. As a result, households may face difficulties maintaining stable consumption patterns as their incomes and economic prospects become uncertain.

In general, Nigeria suffered more significantly from exposure to global uncertainty shocks than Egypt. Worthy of note is the fact that consumption smoothing recovered over time following its initial decline due to the global uncertainty shocks for both Egypt and Nigeria.

Conclusion and Policy Implication

It is recognised that the effect of financial integration on consumption smoothing can become vulnerable to global uncertainties. Thus, the dynamic effect of financial integration on consumption smoothing as a result of global uncertainties (geopolitical risk, global economic conditions, and economic policy uncertainty) is estimated and compared between Nigeria and Egypt. The result of the impulse response function showed that, unlike Egypt, the effect of geopolitical risk, global economic condition, and economic policy uncertainty on consumption smoothing wears out more quickly in Nigeria in the long run. On the other hand, the variance decomposition for Nigeria showed that wealth and global economic conditions explained more changes in consumption smoothing than other variables (including financial integration). Meanwhile, in Egypt, changes in consumption smoothing are explained more by financial integration and economic policy uncertainty.

Finally, shocks to global economic uncertainties were important determinants of consumption smoothing in Africa. Compared to Egypt, Nigeria suffered more in the short run from global uncertainties, especially a decline in consumption smoothing. Financial integration in Egypt had more effect on consumption smoothing than on Nigeria. It has become important for countries in Africa to factor in the effects of external shocks on consumption smoothing. While very little can be done by way of preventing these shocks, countries can strengthen their self-reliance to be

able to withstand such shocks. Furthermore, building resilience to shocks is important, but policies around this will vary depending on the extent of exposure to such shocks that countries have. Given that Nigeria's consumption smoothing objectives could be more susceptible to the effects of global uncertainties (especially shocks to global economic conditions) than in Egypt, Nigeria may diversify the economy by promoting the growth of other sectors such as agriculture, manufacturing, and services that can help to reduce the impact of external shocks on the economy and provide greater stability for households. On the other hand, given the greater susceptibility of consumption smoothing in Egypt to US-specific economic policy uncertainty shocks, policymakers can diversify export markets and reduce reliance on the US market by expanding trade relationships with other countries and regions. This can help mitigate the impact of US policy fluctuations on Egypt's economy, especially its consumption smoothing objectives.

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