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Pooled or Treated as Variants: Data on Hedging Features and Sustainable Growth

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Abstract: This data article contains information on the various hedging techniques adopted by firms, measured by the firms' ability to manage transactional exposures, translational exposures and economic exposures; and how their hedging disposition influences their sustainability within a dynamic business environment. The article also contains information on the basic demographic characteristics of the firm as perceived by the respondents therein. These demographics are gender, employee size, literacy level, profit size, and firm age. The dataset is collated from 351 firms, having one respondent per firm. We managed the data by building a moment structure, extracting the factor loadings, assessing the reliabilities and symmetry, and showing underlying relationships. The dataset is hosted by Harvard's Data-verse (https://doi.org/10.7910/DVN/ANGD8N).

Keywords: Hedging; Sustainability; Survey; Export-Import; AMOS.

1. Specifications Table

Subject area	*Business Management and Organisational Ecology*
More specific subject area	*Economic Business Environment*
Type of data	*Table, Cross-sectional Dataset*
How data was acquired	*Researcher-made Questionnaire (Survey)*
Data format	*Raw, validated and analyzed*
Experimental factors	*Senior staff of manufacturing firms. The firms being those that engage in exports (161) and those who do not necessarily do (190).*
Experimental features	*Hedging appears to be the most essential tool businesses need in a fast-changing global market, whether nationally or internationally, especially those in shock-prone (developing) economies.*
Data source location	*South-East, Nigeria*
Data accessibility	*The dataset could be found at Harvard's Data-verse: https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/ANGD8N*

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2. Introduction

The survey effort that culminated in developing this paper was managed by the Faculty Research Group of the Faculty of Business Administration (Researchers for Contemporary Issues in the Business Circle - RCIBC) and the Department of Management, both at the University of Nigeria, and supported by the Department of Business Management of Ebonyi State University. A research instrument was designed to elicit responses from firm owner-managers to assess the extent to which firms in South-East Nigeria have managed risks posed by fluctuations in the foreign exchange market, events that have put enormous strain on the Nigerian Economy leading to the worst exchange rate situation in the country, now dubbed "The Naira Crisis" (Okojie, 2023). The aim here was to provide data on how export-oriented firms manage fluctuations in foreign exchange markets side by side with their ages and size whilst looking at their survival levels. The survey was set out to cover 384 firms, conveniently selected, and using the snowball method to find actual export-oriented firms but within the period (January to June) only 373 firms were studied. However, only 161 export-oriented firms and 190 local-leaning firms were collated and analyzed as they responded to more than 50% of the questionnaire items. The respondents here are either the most senior staff, owner or one of the most senior staff. The data collated showed responses in the gender of the respondents, number of employees per firm, literacy level of respondents, age range of the firm, opinion on how the firm manages transactions, translation and economic risks caused by foreign exchange fluctuations, and firm survival.

3. Value of the Data

- This data can be used to provide empirical insights to hedging techniques, without getting overtly mathematically complex.
- The dataset bridges the gap that, for a fact, there are very rare or inexistent data provision efforts on hedging (Foreign Exchange Risk Management). The data set further provides a validation effort to justify the subsequent use of a well-structured and standardized research instrument.
- Multiple efforts have brought to bear the fact that age and size could be determinants of a firm's sustainability (Esteve-Perez, Pieri & Rodriguez, 2018), but means of providing analytic-prone data on these are not known. This dataset bridges this analytic gap.
- This data can be used to push for further collaboration and linkages in providing comparative insights between a developed and a developing economy.
- The data also appears to show how both internationally leaning firms face similar problems as local firms.

4. Data

The dataset was premised upon understanding whether the hedging techniques of export-oriented firms differ from local firms, whilst also highlighting important underlying relationships that may predict the nature of such hedging techniques measures (Andreas & Niklas, 2023). Although the concept of hedging is well known (Andreas & Niklas, 2023), it has also been mystified by complex financial computation, making its contextualization and use difficult for businesses that may need them. The data on hedging focused on the three strands of managing transactional, translational and economic exposures (Hill, 2011). Also contained in the data-set are respondents' informed perceptions, which are by extension, those of the firms, on its employee size, firm age, profit size, and literacy level; serving as possible extraneous variables intervening between hedging and firm sustainability. Questionnaire items were raised to also measure the sustainability tendency of the firms and are as seen in the dataset. The survey that culminated in this dataset was managed by the Researchers for Contemporary Issues in the Business Circle (RCIBC) -

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the sole research group of the Faculty of Business Administration, University of Nigeria. The questionnaire collated and analyzed were 161 (45.87%) for firms that were export-oriented, and 190 (54.13%) for local firms that were analysed, being enough with limited missing values (Ward & Meade, 2023). We focused on industrial clusters but also visited firms that were not in the said clusters. To attest for the validity and reliability of the data set (Steenkamp & Maydeu-Olivares, 2022), we conducted a factor analysis, and had four extractions as seen in Table 1 below:

Table 1: Factor loadings of study variables. Source: SPSS (v.20) Output

	Component			
	1	2	3	4
We've once noticed that our books did not balance as planned because of an FX fluctuation	.935			
In other to stick to our financial plan irrespective of FX fluctuations, we enter agreements with our clients.	.923			
We project correctly so our records are mostly correct irrespective of FX fluctuations	.912			
So as not to be affected by FX fluctuations, we either make payments earlier of later.	.680			
We've been able to stay this long because of an effective FX management system		.930		
We run other businesses because of the possibility of an FX crisis		.901		
Whenever a business refuses to be flexible with FX deals, we cut such business ties/relationship		.786		
Projections for FX fluctuations are not effective and we do not need them here		.761		
My Bank/Bureau De Change helps me out during FX fluctuations in transactions			.910	
We have a system to handle FX fluctuation during transactions			.835	
We usually enter agreements with our clients to get the best deals during FX transactions			.810	
At times we pay ahead of time because of FX fluctuations			.772	
We have opened a new outlet/ have the intention to do so				.922
Banks are often ready to loan us funds				.903
Other people are ready to invest in this firm if we are ready to accept them				.870

The factor loadings showed that all the expectation questionnaire items loaded accordingly (Dawn, Ayalla, Sergio, Sangkil, & Paul, 2022), and was also supported by the moment structures, still on an exploratory factor analysis basis (Steenkamp & Maydeu-Olivares, 2022), as the questionnaire items used here were not directly adopted from another study. The moment structure is as seen in figure 1 below:

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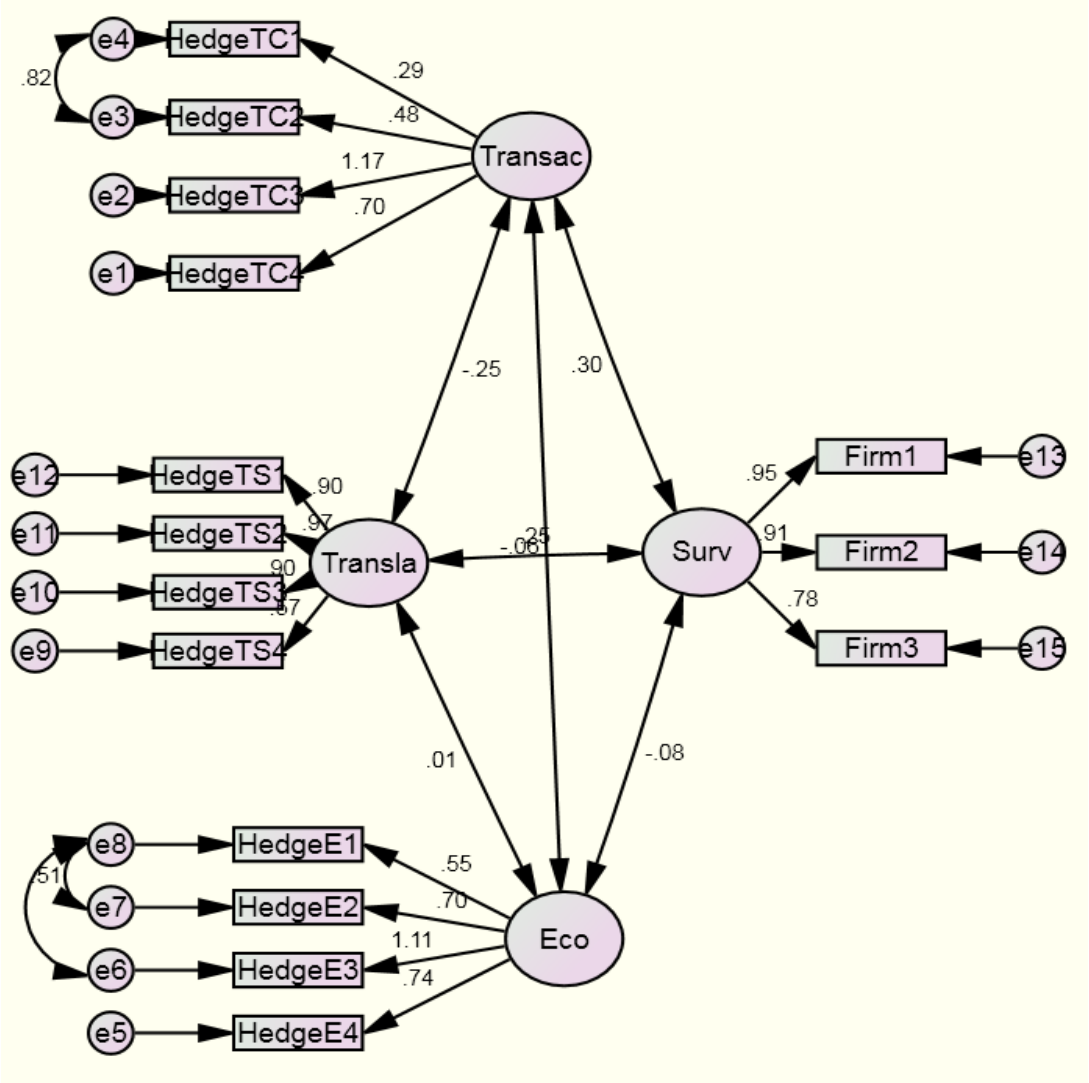
Figure 1: Moment structure for factor loadings



A closer look shows that the data loadings were strong and therefore technically valid as measures of a composite scale. As for the reliability of the data, the James Gaskin Excel Macro was used to compute and extract the Composite Reliabilities (CR), Average Variance Extracted (AVE), and Maximum Shared Variance (MSV) as shown in table 2 below:

Table 2: Composite reliability table. Source: James Gaskin Excel Macro

	CR	AVE	MSV	Transla	Transac	Surv	Eco
Transla	0.910	0.724	0.065	**0.851**			
Transac	0.789	0.539	0.091	-0.254	**0.734**		
Surv	0.911	0.775	0.091	0.252	0.301	**0.880**	
Eco	0.870	0.641	0.006	0.009	-0.063	-0.077	**0.801**

These values show that the data set are reliable (CR at 0.910, 0.789, 0.911, and 0.870) for translation exposure management, transaction exposure management, sustainability levels, and economic exposure management, respectively. In addition, data set conforms to both the convergent and discriminant validity

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having all AVEs above 0.5, AVE>MSV, whilst also having the square roots of all AVEs above the construct inter-item correlation (Dawn, Ayalla, Sergio, Sangkil, & Paul, 2022).

5. Experimental Design, Materials, and Methods

The data being considered was to understand hedging practices amongst firms and its underlying relationships, whilst also establishing whether the data trend for local-leaning firms was different from export-oriented firms. Before deciding on the method to adopt in checking for these, we tried to establish the most basic assumption of symmetry (normality) (MohammedShakil & Viral, 2023), which failed ($p<0.05$ implies asymmetry), as shown in table 3 below:

Table 3: Test of Normality. Source: SPSS (v.20)

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
HedgeTC	.204	341	.000	.927	341	.000
HedgeTS	.316	341	.000	.759	341	.000
HedgeE	.251	341	.000	.906	341	.000
Firm	.317	341	.000	.789	341	.000
Gender of Respondents	.439	341	.000	.580	341	.000
Number of Employees per firm	.421	341	.000	.591	341	.000
Literacy levels of Respondents	.403	341	.000	.702	341	.000
Profitability Range	.427	341	.000	.621	341	.000
AgeFirm	.388	341	.000	.681	341	.000

a. Lilliefors Significance Correction

With the result above, only non-parametric tools were used, Mann-Whitney's U for difference and Spearman's Rho correlation for relationship.

Table 4: Check for difference using Mann-Whitney's U test. Source: SPSS (v.20)

	HedgeTC	**HedgeTS**	**HedgeE**	**Firm**
Mann-Whitney U	14831.000	15154.500	15128.500	15270.500
Wilcoxon W	32976.000	33299.500	28169.500	33415.500
Z	-.500	-.167	-.184	-.028
Asymp. Sig. (2-tailed)	.617	.868	.854	.978

a. Grouping Variable: CatgFirm

With the $p>0.05$ for all the measures, there is no statistically significant difference in the hedging practice amongst local- or international-leaning firms.

Table 5: Spearman's correlation. Source: SPSS (v. 20)

		1	2	3	4	5	6	7	8	9
	Gender of Respondents(1)	1.000								
	Number of Employees per firm(2)	.133*	1.000							
	Literacy levels of Respondents(3)	.147**	.159**	1.000						
	Profitability Range(4)	.387**	.183**	.476**	1.000					
Spearman's	AgeFirm(5)	.144**	-.037	.288**	.258**	1.000				

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rho										
	HedgeTC(6)	.169**	-.127*	-.114*	-.041	.165**	1.000			
	HedgeTS(7)	-.184**	.076	-.137*	-.046	-.020	-.088	1.000		
	HedgeE(8)	-.087	.158**	-.129*	.101	.253**	-.057	.045	1.000	
	Firm(9)	-.297**	.200**	.167**	.128*	.261**	.048	.204**	.175**	1.000

With the focus on firm features-hedging and firm sustainability, the result here shows underlying relationships between all the firm characteristics and sustainability of the firm. While for hedging, both translational and economic exposures are statistically significant, but transactional exposure is not; at r= 0.048.

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