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RESEARCH ARTICLE

The Impact of Adjustment, Agency, and Political Costs on Cost Stickiness of Publicly-listed Companies in the Philippines from 2009-2019

Angela Bianca N. Catalig, Charles Justin M. Decena, Maria Denise A. Franco,
Ma. Colleen L. Ventura and Joy Lynn R. Legaspi
De La Salle University, Manila, Philippines
angela_catalig@dlsu.edu.ph

Recent research shows that studying the traditional cost behavior within a firm may not be sufficient to fully understand the elements that influence management behavior. Studies have pinpointed a cost-related issue called "cost asymmetry," which has gained the widespread name of "cost stickiness." Researchers have explored factors that cause cost stickiness through three theories: adjustment cost theory, agency theory, and political process theory. This study seeks to determine the sticky cost behavior of three costs, namely cost of goods sold, selling, general and administrative expenses, and total cost of goods sold and selling, general and administrative expenses. It also aims to examine if the adjustment costs, political costs, and agency costs, otherwise referred to as latent variables impact cost stickiness. Publicly-listed firms in the Philippines are assessed from the years 2009 to 2019. Findings show that the stickiness of all three costs without latent variables was significant. No latent variable had a significant effect on cost of goods sold. Only adjustment costs and political costs had a significant impact on both selling, general, and administrative expenses and total costs. However, political costs decreased the cost stickiness of selling, general and administrative expenses but increased the stickiness of the total costs.

Keywords: Cost Stickiness, Agency Costs, Adjustment Cost, Political Cost

JEL Classification: M41

Two cost-behavior patterns are found in many accounting systems (Horngren, Datar, & Foster, 2015): variable costs and fixed costs. Variable costs change in proportion to changes in the related level of activity or volume of output produced while fixed costs remain unchanged within a relevant range for a given time period, regardless of wide changes in the related level of activity or volume of output produced. Researchers acknowledge these two cost behavior patterns as the traditional cost behavior model (Banker & Byzalov, 2014) and that these costs are expected to increase (decrease) in proportion to an increase (decrease) in the cost driver. However, recent studies show that costs do not always move in proportion to the cost driver. This is explained by sticky cost behavior where a 1% increase in cost when there is a 1% increase in sales is greater than the magnitude for the decrease in cost when there is a decrease in sales. Empirical evidence is provided for the determinants of cost stickiness under three different theoretical frameworks: adjustment cost theory, agency cost theory, and political process theory.

The adjustment cost theory is used to study how the changes in a firm's factors of production ultimately affect profit. These would include

changes in the level of inventories (Danziger, 2008), changes in investment or capital (Cooper & Haltiwanger, 2006), and changes in labor (Dacuycuy & Lim, 2014; Leitao, 2011; Wang & Wen, 2012;). Anderson, Banker, and Janakiraman (2003) explained how adjustment costs are consistent with the prevalent concept of sticky cost behavior. As the demand volume declines, the company managers must decide whether to maintain the amount of committed resources or to reduce it. Consequently, the firm incurs fixed-price adjustment costs, quantity-adjustment costs, capital adjustment costs, and labor adjustment costs. These changes are then measured through proxy variables which include asset intensity, employee intensity, equity intensity, capital intensity, and stock intensity (Anderson et al., 2003; Pichetkun & Panmanee, 2012; Subramaniam & Weidenmier, 2003). In addition, Uy (2014) studied the symmetrical behavior of costs as an indicator of a firm's operational flexibility. This is measured through the capability of firms to adjust their costs when there is a corresponding change in activity levels. Operational flexibility would give firms a competitive advantage.

The political process theory revolves around the behavior of the managers of firms considering the implementation of government policies and regulations on the redistribution of wealth. While ultimately for economic growth and development, on an individual and corporate level, it is seen as a wasted opportunity. Managers would like to minimize political costs as a way to protect revenues. Size, risk, capital intensity, concentration, and tax are the five political variables used as a proxy. Several studies have provided empirical evidence of such. First, for size, Emadzadeh, Shahrestani, Safanoor, and Shahraki (2012) found that there is a positive relationship between the size of the firm and political costs. Second, for risk, policy risks were defined by Henisz and Zelner (2010) as political costs and specifically, beta represents political risk (Butler & Joaquin, 1998; Maniatis, 2006). Third, for capital intensity, Watts and Zimmerman (1990) found that the more capital intensive the firm, the more it is subject to political costs. Fourth, the concentration ratio is used as a measure of industry performance and it measures the degree of competition in an industry. Pichetkun and Panmanee (2012) investigated how a higher concentration ratio makes management proactively reduce political costs while Ukav (2017) evaluated components of concentration measuring techniques. Lastly, for tax, Belz, Von Hagen, and Steffen (2018) explored the systematically higher effective rates of larger firms. Accordingly, there is a positive relationship between firm size and effective tax rate.

The agency theory analyzes how conflict may arise from the separation of ownership and its control functions. These can be influenced by firm performance, managerial performance, and growth opportunities, among others, depending on different industries and their practices. Under this theory, when the management has control over the firm's operations, the managers have the discretion to make decisions to maximize their utility or prioritize their self-interest over the shareholders' wealth, and this is where agency conflicts arise (Shi, Concepcion, Laguinday, Ong Hian Huy, & Unite, 2020). In order to measure its degree of cost stickiness, proxy variables were employed including asset utilization ratio, discretionary expenditure ratio, free cash flow, Tobin's Q, size, leverage, and return on assets.

Birt, Bilson, Smith, and Whaley (2006) and Dey (2008) employed size as a proxy variable to measure agency cost and found that the management's control of corporate decision may result in higher agency conflicts. For free cash flow, Doukas, Kim, and Pantzalis (2002), and Chen, Lu, and Sougiannis (2012) associated the managements' empire building behavior to provide evidence as to how the agency problem affects a firm's overall cost stickiness. On the other hand, Ang, Cole, and Lin (2000) and McKnight and Weir (2009) conducted a study that shows an inverse relationship between asset utilization ratio and agency costs. Moreover, Florackis (2008) and Pichetkun and Panmanee (2012) utilized the expense ratio to reflect how managerial discretion significantly influences the spending of the company's resources such as salaries, commissions, and travel expenses. Return on assets is a proxy for firm performance as used by Dey (2008) and Pichetkun and Panmanee (2012). In addition, Tobin's Q is employed to represent managerial performance when responding to changes in demand (Subramaniam & Weidenmier, 2003; Pichetkun & Panmanee, 2012). Lastly, Dey (2008) used leverage as a variable to assess

how firms manage their earnings to avoid any adverse effects in relation to their loans.

Several studies have been conducted to identify a firm's cost stickiness to analyze its implication on the decision-making of the management. If companies would want to improve their management to compete in the international market, it is salient to put emphasis on this behavior. However, there seems to be a lack of relevant research in the Philippines. This paper thus aims to contribute to the research on the implications of cost stickiness on publicly-listed firms in the Philippines.

With the limited application of latent variables to examine the reasons for sticky cost behavior, the researchers would like to answer the question: *what is the impact of adjustment costs, agency costs, and political costs on cost stickiness of publicly-listed companies in the Philippines?* To address this, the specific objectives of the study among publicly-listed firms in the Philippines are as follows:

1. To determine the sticky cost behavior of cost of goods sold, selling, general and administrative expenses, and total cost of goods sold and selling, general and administrative expenses;
2. To examine if adjustment costs, political costs, and agency costs have an impact on the stickiness of cost of goods sold;
3. To examine if adjustment costs, political costs, and agency costs have an impact on the stickiness of selling, general and administrative expenses; and
4. To examine if adjustment costs, political costs, and agency costs have an impact on the total cost of goods sold and selling, general and administrative expenses.

Methodology

Research Design

The study utilizes causal or explanatory research design to test the impact of three latent variables which are adjustment costs, agency costs, and political costs on cost stickiness based on the secondary data available in the database of Compustat. Additionally, Thomson Reuters is used to calculate the beta of the firms using 5-year monthly data and the Philippine Stock Exchange Index as the benchmark.

Population

A census of the entire population of the Philippine publicly-listed firms in the Compustat database was conducted. All firms categorized under the Financial Services Industry format, non-financial firms that do not have values for the Compustat item (SALE) which represents the net sales of the company, and firms that have incomplete data for the entire period of the study were excluded. Table 1 depicts the Selection of Data.

Table 1. *Selection of Data*

Firms listed as Industrial Firms by Compustat	197
Firms that have GIC Sector 40	(6)
Inactive Firms	(23)
Firms that do not end in December	(49)
Firm that had no GIC Sector Classification	(1)
Total number of firms	118
Total number of observations	1180

Variables and Measurement of the Study

Table 2 shows the proxy variables and the corresponding measurement.

Data Processing and Analysis

Panel Data Regression

Panel data regression consists of cross-sectional analysis and time-series analysis**.** Cross-sectional analysis focuses on analyzing data from several individual units, such as entities, persons, or industries at a single point in time, while time-series analysis focuses on analyzing data from one individual variable over several periods of time. The panel data analyzed individual units which are the Philippine firms from a time period of 2009 to 2019.

Measurement Models

Confirmatory factor analysis (CFA) was used to confirm the measure model of the three (3) latent variables: adjustment costs, agency costs, and political costs. The measurement model was later verified to ensure that they fit the data using the R program.

Given these assumptions, the following equations were used in examining the relationship between cost stickiness and observed and latent variables. Two different equations for the two panel models were made. The first equation does not contain the latent

Table 2. *Variables and Measurement of the Study*

Variables	Symbol	Measurement
Independent Variables		
Adjustment costs		
• Asset intensity	ASSET_I	Total assets/Total sales
• Employee intensity	EMPLOYEE_I	Number of employees/Total sales
• Stock intensity	STOCK_I	Book value of common stocks/Total sales
• Equity intensity	EQUITY_I	Equity/Total sales
• Capital intensity	CAPITAL_I	Fixed assets/Total sales
Political costs		
• Size	SIZE	Natural log of total assets
• Risk	BETA	Beta of company's stock
• Capital intensity	CAPITAL_I	Fixed assets/Total sales
• Concentration ratio	COMPETE	% of total industry sales made by 2 largest companies in the industry
• Tax ratio	TAX	Tax expense/ Earnings before tax
Agency costs		
• Size	SIZE	Natural log of total assets
• Free cash flow	FCF	(Cash flow from operating activities – common and preferred dividends)/ Total assets
• Asset utilization ratio	ASSET_U	Total sales/Total assets
• Discretionary expense	DIS_EX	SG&A costs/Total sales
• Return on assets	ROA	EBIT/Total assets
• Tobin's Q	TQ	(Market value of common equity + Book value of debt + Book value of preferred stock)/ Total assets
• Leverage ratio	LEV_R	Total debts/Total assets
Dependent variable		
Cost Stickiness	STICKY	Difference between the change in costs for a 1% increase in sales and the change in costs for a 1% decrease in sales

Source: Pichetkun and Panmanee (2012)

variables while the second equation does contain the latent variables.

Structural Model For Cost Stickiness without Latent Variables

$$ln\left[\frac{TC_{i,t}}{TC_{i,t-1}}\right] = \beta_0 + \beta_1 ln\left[\frac{S_{i,t}}{S_{i,t-1}}\right] + \beta_2 Dec\_D_{i,t} * ln\left[\frac{S_{i,t}}{S_{i,t-1}}\right] + \xi i,t \quad (1)$$

Structural Model For Cost Stickiness with Latent Variables

$$ln\left[\frac{TC_{i,t}}{TC_{i,t-1}}\right] = \beta_0 + \beta_1 ln\left[\frac{S_{i,t}}{S_{i,t-1}}\right] + \beta_2 Dec_{D_{i,t}} * ln\left[\frac{S_{i,t}}{S_{i,t-1}}\right] + \beta_3 AJC + \beta_4 AGC_5 PC + \xi i,t \quad (2)$$

Findings

Structural Model without Latent Variables

Based on the diagnostic test provided in Table 3, the model recommended is the random effects model. The

Table 3. *Results of the Structural Model of COGS, without Latent Variables*

	Pooled OLS			Random Effects			Fixed Effects		
	Est	**SE**	**P**	**Est**	**SE**	**P**	**Est**	**SE**	**P**
Intercept	0.036	0.048	0.452	0.036	0.048	0.452			
SALES	0.680	0.041	0.000	0.680	0.041	0.000	0.635	0.047	0.000
SALESDEC_D	-0.303	0.077	0.000	-0.303	0.077	0.000	-0.289	0.092	0.002
Fit Statistics									
Residual SS	816.92			816.92			751.56		
R Squared	0.319			0.319			0.286		
F/Chi Stat (df)	113.16	(3, 725)		339.49	(3)		81.50	(3, 611)	
P-Value	0.000			0.000			0.000		

EST = coefficient estimate, SE = standard error, P = p-value (significant if < 0.05).
The Fisher Nullity Test returned a statistic of 0.466 (df = 114, 611), p = 0.9999
Breusch-Pagan LM test statistic = 19.031 (df = 1), p < 0.0001
Hausman test for panel effects statistic = 5.44 (df = 3), p = 0.1422
The above results suggest that the random effects model best explains this relationship

Table 4. *Results of the Structural Model of SG&A expenses, without Latent Variables*

	Pooled OLS			Random Effects			Fixed Effects		
	Est	**SE**	**P**	**Est**	**SE**	**P**	**Est**	**SE**	**P**
Intercept	0.027	0.026	0.311	0.027	0.026	0.311			
SALES	0.352	0.023	0.000	0.352	0.023	0.000	0.314	0.025	0.000
SALESDEC_D	-0.301	0.043	0.000	-0.301	0.043	0.000	-0.301	0.048	0.000
Fit Statistics									
Residual SS	250.24			250.24			206.3		
R Squared	0.256			0.256			0.212		
F/Chi Stat (df)	83.22	(3, 725)		249.66	(3)		54.64	(3, 611)	
P-Value	0.000			0.000			0.000		

EST = coefficient estimate, SE = standard error, P = p-value (significant if < 0.05).
The Fisher Nullity Test returned a statistic of 1.14 (df = 114, 611), p = 0.1677
Breusch-Pagan LM test statistic = 1.39 (df = 1), p = 0.2381
Hausman test for panel effects statistic = 62.56 (df = 3), p < 0.0001
The above results suggest that the pooled OLS model best explains this relationship

results show that the regression model was statistically significant ($F = 339.49$, $p < 0.05$). It found that COGS was sticky ($\beta_2 = -0.303$, $p < 0.05$).

$$ln\left[\frac{TC_{i,t}}{TC_{i,t-1}}\right] = 0.036 + 0.680ln\left[\frac{S_{i,t}}{S_{i,t-1}}\right] - 0.303\, Dec_{D_{i,t}} * ln\left[\frac{S_{i,t}}{S_{i,t-1}}\right] + \xi i,t \quad (3)$$

Table 4 summarizes the panel regression fits based on the model without latent variables using Pooled OLS. The results show that the regression model was statistically significant ($F = 83.22$, $p < 0.05$). It also found that SG&A expenses were sticky ($\beta_2 = -0.301$, $p < 0.05$). These results are consistent with the findings of Anderson et al. (2003), Medeiros and Costa (2004), and Uy (2014). However, these results are contrary to that of Pichetkun and Panmanee's (2012). Similar to

Table 5. *Results of the Structural Model of TC, without Latent Variables*

	Pooled OLS			Random Effects			Fixed Effects		
	Est	**SE**	**P**	**Est**	**SE**	**P**	**Est**	**SE**	**P**
Intercept	0.047	0.026	0.070	0.0469	0.026	0.070			
SALES	0.463	0.022	0.000	0.463	0.022	0.000	0.422	0.025	0.000
SALESDEC_D	-0.297	0.042	0.000	-0.297	0.042	0.000	-0.300	0.048	0.000
Fit Statistics									
Residual SS	241.36			241.36			209.25		
R Squared	0.411			0.411			0.362		
F/Chi Stat (df)	169.2	(3, 727)		507.705	(3)		115.9	(3, 613)	
P-Value	0.000			0.000			0.000		

EST = coefficient estimate, SE = standard error, P = p-value (significant if < 0.05).
The Fisher Nullity Test returned a statistic of 0.83 (df = 114, 613), p = 0.8978
Breusch-Pagan LM test statistic = 4.07 (df = 1), p = 0.04351
Hausman test for panel effects statistic = 35.86 (df = 3), p < 0.0001
The above results suggest that the random effects model best explains this relationship

Table 6. *Coefficients for the Latent Variables Based on Confirmatory Factor Analysis*

Variable	Estimate	Std. Err
Adjustment Cost (AJ)		
ASSET_I	0.960	0.025
EMPLOYEE_I	-0.004	0.003
STOCK_I	0.992	0.030
EQUITY_I	0.981	0.024
CAPITAL_I	0.420	0.021
Political Cost (PC)		
CAPITAL_I	0.035	0.010
SIZE	0.109	0.029
BETA	0.087	0.023
COMPETE	0.204	0.044
TAX	0.008	0.007
Agency Cost (AC)		
SIZE*	-	-
FCF	0.043	0.008
DIS_EX	0.003	0.003
ASSET_UT	0.022	0.018
ROA	0.017	0.004
TQ	1.096	0.195
LEV_R	0.025	0.012

Variable SIZE could not be included in agency cost due to a problem of non-convergence experienced in the program when added as part of the data.

COGS, a potential reason for the cost sticky behavior is management's hesitance to reduce costs. Additionally, agency costs sourcing from managers' empire building incentives is also a factor to cost stickiness (Chen et al., 2012).

$$ln\left[\frac{TC_{i,t}}{TC_{i,t-1}}\right] = 0.027 + 0.352ln\left[\frac{S_{i,t}}{S_{i,t-1}}\right] - 0.301\ Dec_{D_{i,t}} * ln\left[\frac{S_{i,t}}{S_{i,t-1}}\right] + \xi i,t \quad (4)$$

$$ln\left[\frac{TC_{i,t}}{TC_{i,t-1}}\right] = 0.0469 + 0.463ln\left[\frac{S_{i,t}}{S_{i,t-1}}\right] - 0.297\ Dec_{D_{i,t}} * ln\left[\frac{S_{i,t}}{S_{i,t-1}}\right] + \xi i,t \quad (5)$$

Based on the diagnostic test provided in Table 5, the model recommended is the random effects model. Further, the results show that the regression model was statistically significant (F = 507.70, $p < 0.05$). It has also been found that TC were sticky ($\beta_2 = 0.297$, $p < 0.05$). Together, the results are consistent with prior studies (Subramaniam & Weidenmier, 2003; Calleja, Steliaros, & Thomas, 2006).

Table 6 gives the estimated coefficients and their associated significance tests for the three latent variables: AJ, PC, and AC, based on their corresponding observable variables. The results show that EMPLOYEE_I, TAX, DIS_EX, and ASSET_UT have high p-values. This means that they are statistically insignificant. Removal of the variables will cause a corresponding increase in the fitness of the model but as can be seen in Table 7, the model still has a good fit with the variables being retained. Therefore, the variables were still used in the study.

It should be noted that in the fit summaries presented in Table 7, latent variable PC clearly suffers in terms of construct validity despite impressive fits based on the other statistics. This is explained less by model fit than by model misspecification. This means that for the data collected, PC may either require additional observed variables or their relationship may not follow a simple linear model assumed in traditional CFA.

Table 7 summarizes the fit statistics of the latent variables. Adjustment costs and agency costs show a good fit to the model despite some values falling below the recommended range but show acceptable construct reliability. However, the same could not be said for political costs as it has low construct reliability while having good fit to the model.

For the data gathered, correlations suggest that the variables for PC may have nothing to do with each other and thus, are unlikely to have arisen out of one latent variable. That, or their associations may not be measurable under the linear model constraint. This leads to the model misspecification mentioned earlier.

The results from the diagnostic test indicate that for Table 8, the random effects model is the recommended model. The model is statistically significant ($F = 340.85$, $p < 0.05$). AJ, PC, and AC were all found to not affect cost stickiness ($\beta_3 = -0.007$, $p < 0.05$, $\beta_4 = 0.070$, $p = 0.283$, $\beta_5 = 0.040$, $p = 0.418$).

A reason that could explain the latent variable's insignificant effect is that publicly-listed firms in the Philippines are able to adjust their costs according to the changes in their activity levels. This implies that these firms have operational flexibility (Uy, 2014).

The findings of the study are not aligned with previous research of Jensen and Meckling (1976), Chen et al. (2012), and Pichetkun and Panmanee (2012) where managerial empire building behavior was cited as a factor contributing to the agency problem. Additionally, it does not support the agency theory

Table 7. *Fit Statistics for Confirmatory Factor Analysis on the Latent Variables*

	Chi-Square			GFI	RMSEA	CFI	Validity
	Stat	DF	P-Value				
Adjustment Cost	50.82	5	0.000	0.977	0.101	0.987	0.813
Political Cost	11.075	5	0.050	0.996	0.032	0.902	0.105
Agency Cost	8.205	9	0.514	0.997	0.000	0.999	0.594

1. Validity = Construct Validity measure from Fornell and Larcker (1981)

Table 8. *Results of the Structural Model of COGS, with Latent Variables*

	Pooled OLS			Random Effects			Fixed Effects		
	Est	**SE**	**P**	**Est**	**SE**	**P**	**Est**	**SE**	**P**
Intercept	0.043	0.050	0.394	0.043	0.050	0.394			
SALES	0.679	0.042	0.000	0.679	0.042	0.000	0.652	0.048	0.000
SALESDEC_D	-0.311	0.078	0.000	-0.311	0.078	0.000	-0.310	0.092	0.001
Adjustment Cost	-0.007	0.079	0.930	-0.007	0.079	0.930	-0.380	0.157	0.016
Political Cost	0.070	0.065	0.283	0.070	0.065	0.283	-0.295	0.217	0.174
Agency Cost	0.040	0.049	0.418	0.040	0.049	0.418	0.059	0.113	0.604
Fit Statistics									
Residual SS	814.79			814.79			741.26		
R Squared	0.3207			0.3207			0.29559		
F/Chi (df)	56.8086	(6, 722)		340.852	(6)		42.523	(6, 608)	
P-Value	0.000			0.000			0.000		

EST = coefficient estimate, SE = standard error, P = p-value (significant if < 0.05).
The Fisher Nullity Test returned a statistic of 0.52907 (df = 114, 608), p = 0.9999
Breusch-Pagan LM test statistic = 20.395 (df = 1), p < 0.0001
Hausman test for panel effects statistic = 15.584 (df = 6), p = 0.01617
The above results suggest that the random effects model best explains this relationship

Table 9. *Results of the Structural Model of SG&A Expenses, with Latent Variables*

	Pooled OLS			Random Effects			Fixed Effects		
	Est	**SE**	**P**	**Est**	**SE**	**P**	**Est**	**SE**	**P**
Intercept	0.009	0.028	0.751	0.009	0.028	0.751			
SALES	0.361	0.023	0.000	0.361	0.023	0.000	0.322	0.025	0.000
SALESDEC_D	-0.314	0.043	0.000	-0.314	0.043	0.000	-0.304	0.048	0.000
Adjustment Cost	-0.120	0.044	0.006	-0.120	0.044	0.006	-0.226	0.082	0.006
Political Cost	0.083	0.036	0.022	0.083	0.036	0.022	0.097	0.113	0.393
Agency Cost	0.021	0.027	0.440	0.021	0.027	0.440	0.102	0.059	0.085
Fit Statistics									
Residual SS	246.97			246.97			202.9		
R Squared	0.2659			0.2659			0.2245		
F/Chi (df)	43.58	(6, 722)		261.47	(6)		29.3394	(6, 608)	
P-Value	0.000			0.000			0.000		

EST = coefficient estimate, SE = standard error, P = p-value (significant if < 0.05).
The Fisher Nullity Test returned a statistic of 1.1584 (df = 114, 608), p = 0.1428
Breusch-Pagan LM test statistic = 1.32 (df = 1), p = 0.251
Hausman test for panel effects statistic = 67.86 (df = 6), p < 0.0001
The above results suggest that the pooled OLS model best explains this relationship

which states that agency problems arise when managers maximize their personal utility.

This would imply that the decisions of managers who manifest empire building behavior could have little to no impact on the degree of cost stickiness of COGS in relation to agency cost.

$$ln\left[\frac{TC_{i,t}}{TC_{i,t-1}}\right] = 0.043 + 0.679ln\left[\frac{S_{i,t}}{S_{i,t-1}}\right] - 0.319\, Dec_{D_{i,t}} * ln\left[\frac{S_{i,t}}{S_{i,t-1}}\right] + \xi i, \quad (6)$$

Based on the results of the diagnostic test from Table 9, the recommended model is the pooled OLS model. The model is statistically significant (F = 43.58, $p < 0.05$). The latent variables, AJ and PC, were found to have an effect on the cost stickiness of SG&A expenses (β_3 = -0.120, $p < 0.05$, β_4 = 0.083, $p < 0.05$). However, for AC, it does not have an effect on cost stickiness (β_5 = 0.021, $p > 0.05$).

The results support the findings of Anderson et al. (2003), Subramaniam and Weidenmier (2003), and Medeiros and Costa (2004). This also supports the aforementioned adjustment cost theory. Additionally, when there is a rise in sales of publicly-listed firms in the Philippines from 2009 to 2019, the magnitude of the increase in SG&A expenses for AJ is greater than the magnitude of the decrease in SG&A expenses when there is a decline in sales. The results for PC are contrary to the political process theory.

$$ln\left[\frac{TC_{i,t}}{TC_{i,t-1}}\right] = 0.009 + 0.361ln\left[\frac{S_{i,t}}{S_{i,t-1}}\right] - 0.314\, Dec_{D_{i,t}} * ln\left[\frac{S_{i,t}}{S_{i,t-1}}\right] - 0.120AJC + 0.083\, PC + \xi i,t \quad (7)$$

The recommended model shown in Table 10 is the random effects model. The model was found to be statistically significant (F = 527.74, $p < 0.05$). AJ and PC were found to affect cost stickiness (β_3 = -0.088, $p < 0.05$, β_4 = -0.167, $p < 0.05$). However, AC was found to not affect cost stickiness (β_5 = -0.019, p = 0.550).

The findings under the unobservable variable AJ support the findings of existing literature (; Banker, Ciftci, & Mashruwala, 2008; Pichetkun & Panmanee, 2012; Subramaniam & Weidenmier, 2003). This also supports the adjustment cost

Table 10. *Results of the Structural Model of TC, with Latent Variables*

	Pooled OLS			Random Effects			Fixed Effects		
	Est	**SE**	**P**	**Est**	**SE**	**P**	**Est**	**SE**	**P**
Intercept	-0.397	0.161	0.009	-0.421	0.161	0.009			
SALES	0.473	0.023	0.000	0.473	0.023	0.000	0.436	0.025	0.000
SALESDEC_D	-0.319	0.042	0.000	-0.319	0.042	0.000	-0.301	0.047	0.000
Adjustment Cost	-0.088	0.039	0.026	-0.088	0.039	0.026	-0.357	0.079	0.000
Political Cost	-0.167	0.059	0.004	-0.167	0.059	0.004	-0.155	0.204	0.450
Agency Cost	-0.019	0.031	0.550	-0.019	0.031	0.550	0.046	0.063	0.466
Fit Statistics									
Residual SS	237.1			237.1			202.14		
R Squared	0.4216			0.4216			0.3836		
F/Chi (df)	687.96	(6, 724)		527.74	(6)		63.27	(6, 610)	
P-Value	0.000			0.000			0.000		

EST = coefficient estimate, SE = standard error, P = p-value (significant if < 0.05).
The Fisher Nullity Test returned a statistic of 0.93(df = 114, 610), p = 0.6911 Breusch-Pagan LM test statistic = 4.65 (df = 1), p = 0.03106
Hausman test for panel effects statistic = 53.49 (df = 6), p = 0.000
The above results suggest that the random effects model best explains this relationship

theory stating that when there is a decrease in sales, managers are hesitant to decrease resources. Consistently, the findings show the insignificance of AC, with a p-value of 0.550, to the cost stickiness of TC.

Discussion

Sticky Cost Behavior

The findings suggest that COGS, SG&A expenses, and TC are all sticky. This implies that businesses are incurring higher costs in times of lower revenue. Managers should look into these costs and determine whether these are sticky or not. Sticky costs are sometimes essential for a business as a short-term cost trade-off for a long-term gain by avoiding higher costs, such as adjustment costs, when sales return to regular levels.

Adjustment Costs

The findings under adjustment costs show that AJ is one of the drivers for a firm's cost stickiness. Adjustment costs influence the behavior of managers to maintain company resources whether there is an increase or decrease in sales. This implies that adjustment costs, in times of declining sales, play a factor in a firm's high expenses. However, it is important to take note that the results show that the effect of adjustment costs is significant in SG&A expenses and TC only.

Agency Costs

The results show that agency costs do not have any effect on the cost stickiness of the firms. This implies that Philippine firms potentially have good internal controls or incentives in place that are effective in mitigating the effects of the agency problem. Alternatively, this could imply that the agency costs are not significant enough to affect the costs of the company and to manifest cost stickiness. Therefore, when sales rise or fall, the managers' decisions in response to the changes in demand are unlikely to lead to asymmetry in cost behavior.

Political Costs

The results of political costs are mixed. Under the political process theory, political costs are expected to increase cost stickiness as managers strive to reduce political costs as they rise. Nonetheless, the results for each type of cost analyzed do not completely conform with this theory. Political costs are actually insignificant to COGS, yet significant to SG&A expenses and TC. For the latter two, political costs reduce and increase stickiness, respectively.

Conclusion

This study set out to determine the impact of adjustment costs, agency costs, and political costs on the cost stickiness of publicly-listed companies in the Philippines. To determine the impact of adjustment costs, agency costs, and political costs on cost stickiness, it is first determined if COGS, SG&A expenses, or TC is sticky. In this case, the study found that all three costs are sticky.

Each of the latent variables was also tested for cost stickiness. For agency costs, it has no significant effects on COGS, SG&A expenses, and TC. For adjustment costs, it has no significant effects on SG&A expenses and TC but no significant effects on COGS. Both SG&A expenses and TC's stickiness are positively affected by adjustment costs leading to increased cost stickiness. For political costs, it has significant effects on SG&A expenses and TC but has no significant effects on COGS. However, political costs were found to reduce the cost stickiness of SG&A expenses, while it increases the cost stickiness of TC. Comparing the effects of political costs to adjustment costs, it was found that adjustment costs have a greater impact on the cost stickiness of SG&A when compared to political costs. Meanwhile, political costs have a greater impact on the cost stickiness of TC.

In the model without latent variables, COGS, SG&A, and TC were sticky for the ABJ model. However, when tested in the model with latent variables, none of the latent variables have a significant impact on the cost behavior of COGS among the three costs.

With regard to the cost behavior of SG&A, AJ and PC were determined to have a significant impact. However, AJ affected the degree of cost stickiness in a negative direction while PC affected the degree of cost stickiness in a positive direction. This means that it increases and decreases cost stickiness, respectively. Meanwhile, AC was found to not be significant for SG&A.

Similarly, for the cost behavior of TC, AJ and PC were identified to have a significant effect. Both AJ and PC affected the degree of cost stickiness in a negative

direction, which means that these increase cost stickiness. Meanwhile, AC was not significant for TC.

Ultimately, it is crucial to assess the cost stickiness of a firm because the different costs are contingent on the behavior of the management. Managers may use the underlying implication of the latent variables of cost behavior to manage the profitability of the company. By understanding sticky cost behavior, managers are empowered to make sound decisions concerning policy implementation and their operations.

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