CAPITAL STRUCTURE AND DIVIDEND POLICY OF LISTED MANUFACTURING FIRMS IN NIGERIA

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ABSTRACT

Maintaining good capital structure help in stabilizing and improving firms' performance. This study examined effects of capital structure on dividend policy of listed manufacturing companies in Nigeria. The study adopted an ex post facto research design. Total liability, debt to asset ratio and debt to equity ratio were used to represent capital structure while dividend policy was proxied by dividend payout ratio. The study relied on secondary data obtained from the annual reports of 5 listed manufacturing firms for a 5year period (2017 to 2021); while panel least square regression model was used to test the formulated hypothesis. The study found that total liability has negative insignificant impact on dividend payout ratio; debt to asset ratio has positive significant impact on dividend payout ratio; while debt to equity ratio has negative insignificant impact on dividend payout ratio. The study recommends that management of listed manufacturing firms should strive towards having optimum capital structure by increasing their equity level and reducing dependence on debts to avoid being cash strapped and debt ridden.
Keywords: Capital structure, dividend pay-out, total liability, debt to asset ratio, debt to equity ratio

INTRODUCTION

Every investor invests in a company in the hopes of receiving reasonable return on investment. Due to information gap between owners and management of a business, managers tend to assure investors of the security of their investment in the firm and guarantee the effectiveness of their stewardship through payment of dividend (Khan & Qureshi, 2020). Dividends are the primary compensation shareholders receive for investing in a corporation. It is the proportion of residual income attributable to investors as returns on their investment (Sam-Okere & Ologunwa, 2021); and bridges information asymmetry.

A dividend policy must be in place for shareholders to receive a dividend payment. The set of rules and regulations that decide the amount of dividend to be delivered to shareholders is known as dividend policy. While management must compensate shareholders by paying dividends, it must also have sufficient funds to finance its operations ((Ahmed et al., 2021). Dividend policy specify the percentage of earnings to be distributed to shareholders and the percentage to be retained for reinvestment, expansion, and future growth (Sanyaolu, 2020). Given the increased critical role of finance to the overall growth of the company (Gul, 2019), deciding on a dividend is one of the most important decisions in finance. Brealey and Myers (2020, as cited in Thirumagal & Vasantha, 2021) provides that dividend determination is one of the most complex topics in finance.

A company's value can be seen in its ability to pay dividends to investors, even though dividend payment can be limited by stock prices. However, if dividends paid is too small, it implies that the company's stock price is low. Thus, a large dividend increases a company's value (Harjito & Martono, 2020).

In the bid to increase dividend, it is imperative for managers to manager the firm's capital structure very well. This is because capital structure play significant roles in dividend policy; while capital structure and dividend policy determine the financial capacity of the firm. Literature postulates that whenever a firm make financial decision, it has two major choices: dividend policy setting and capital structure engineering.

A capital structure and optimal dividend policy are needed to achieve increased shareholders' wealth (Ullah et al., 2019). This must be strategically implemented as Rehman (2020) posits that organizations use practical approaches to design capital structure and try to align it with a flexible strategy that responds to changing market circumstances, in order to arrive at an effective dividend policy decision.

Most of the past study has been tilted to investigating the impact of financing decision on the dividend policy (Baker & Weigand, 2020). The present study in anticipating of filling that research gap will investigate the impact of capital structure decisions on dividend policy. Furthermore, the main emphasis of the study is on manufacturing company against many past studies that focused on banks and other financial institutions. The need to know the impact on capital structure on the dividend policy of manufacturing companies has make it mandatory to carry out this study.

STATEMENT OF THE PROBLEM

Dividend policy is one of the many factors that affect the performance of firms; and serves as a control mechanism on managerial opportunism. There has been controversy between dividend policy and financial performance of firms; and this has remained unresolved despite the numerous studies that has been conducted on the subject. Lack of transparency and poor corporate governance has made it rather difficult for researchers to determine the effect of dividend policy on financial performance of Nigerian firms.

More so, the position that Nigerian manufacturing companies had hither-to recorded unstable trend in the payment of dividend to their shareholder (Eyigege, 2020), suggests that inconsistencies in dividend payment disrupts the true nature of effect of dividend policy on financial performance of manufacturing firms. Appropriate capital structure is a critical decision for any organization. The decision is important not only because of the need to maximize returns to various organizational constituencies, but also because of the impact it has on firms' ability to deal with competitors.

In Nigeria, several studies have focused on the relationship between dividend policy and share price of firms without considering profitability. The macroeconomic reforms over the years have the objective of repositioning the Nigerian business environment to attract investors and maximize shareholders wealth. This poses a problem which examination of effect of dividend policy can be helpful in tackling. However, few studies have been conducted on nexus between capital structure and dividend policy of quoted manufacturing companies.

Though there are concentration of studies on either the capital structure or dividend policy, with only a few directing their tentacles to the relationship between the two on quoted manufacturing companies in a developing country like Nigeria. It is on this note that this study opts to investigate the impact of capital structure on dividend policy in quoted manufacturing firms in Nigeria, using Dividend Pay-out Ratio (DPR) to represent dividend policy.

Thus, the aim of the study is to examine effects of capital structure on dividend policy of quoted manufacturing companies in Nigeria. The specific objectives are to examine the effect of:

1) Total Liability (TL) on DPR of quoted manufacturing companies in Nigeria.
2) Debt-to-Equity Ratio (DER) on DPR of quoted manufacturing companies in Nigeria.
3) Debt to Asset Ratio (DAR) on DPR of quoted manufacturing companies in Nigeria.

LITERATURE REVIEW

Concept of Capital Structure
Firms (new or established) require finances to fund their operations (Chechet & Olayiwola, 2014). Capital structure is the mix of debt and equity they use to finance their assets and long-term and short-term operations. Kennon (2021) and Song (2019) refer to capital structure as the percentage of capital (money) at work in a business by type, equity capital or debt capital. Alfred (2020) says that capital structure implies the proportion of debt and equity in the total capital structure of the company. Capital structure is one of the most essential decisions made by financial management.

In this study however, the definition of Amah and Ken-Nwachukwu (2016), that capital structure is the way a corporation finances its assets through some combination of equity, debt, or hybrid securities is adopted. Capital structure is used synonymously with financial leverage or financing mix (Borad, 2021). The primary motivation of management of firms to determine an optimal capital structure is to maximize shareholders' wealth.

Many judgments, including dividend policy, project finance, issuance of long-term securities, mergers and acquisition financing, etc. in the field of corporate finance are based on capital structure decision (Ibrahim, 2017). Ahmed et al. (2020) opine that capital structure is significant not only because of the need to maximize shareholder value, but also because of the requirement to continue operating in the near future (Ahmed et al., 2020). One of the goals of corporate finance is to keep cost of capital low, while increasing shareholders' wealth. Optimal blend of debt and equity capital helps to control cost of capital. Optimal capital structure is found at the point where cost of capital is lowest.

Concept of Dividend Policy
Dividend policy cannot be defined in isolation of dividend. Scholars have define dividend as payments made by a company to its shareholders from its profits (after taxes) on a regular basis as a reward for their investments. These payments are made in accordance with the company's dividend policy. In other words, a company's dividend policy determines its payout ratio (dividends) and its retention ratio (retained earnings). Dividends is paid to shareholders as return on their investment; while retained earnings is ploughed back into the company as a source of finance.

Thus, dividend policy refers to rules regarding the ratio of dividend payout or percentage of earnings paid to stockholders in the form of dividends (Reference for Business, 2021; Hashemijoo et al., 2012). Nwude (2019) defines dividend policy as the guiding principle for determining the portion of a company's net profit after taxes to be paid out to shareholders as dividend during a financial year.

By implication, dividend policy is important, as it tells a firm when and how to make payment and the extent of payment to be made. Dividend policy can be measured in different ways, including dividend payout ratio. Dividend payout ratio is the ratio of ordinary dividends to retained earnings (Akinsulire, 2014). It indicates the amount of net profits distributed as dividends to shareholders. High payout ratio indicates a liberal profit distribution policy, while low payout ratio indicates a conservative profit distribution policy (Alfred, 2017). However, in the share valuation framework, Simon (2019) argue that a share's value depends on the dividend paid to shareholders. The higher the dividend payout ratio, the more the stock becomes valuable to shareholders (Nishat & Irfan, 2015).

Theoretical Framework
This study is premised on transaction cost and dividend irrelevance theories.
Transaction cost theory: Companies incur costs in distributing dividends while investors may incur costs in collecting and reinvesting these payments. Moreover, both companies and investors may incur costs when, due to paying dividends, the company must raise external finance in order to meet investment needs. Indeed, the transaction costs incurred in having to resort to external financing is the cost of dividend model (Samuel & Edward, 2011). In contrast, however, it may be argued that dividend is beneficial as they save transaction costs associated with selling stocks. Either way, if there are additional transaction costs associated with paying or not paying dividends, then dividend policy should impact earnings expectations, hence share price and firm value (Obafemi et al., 2021).

Dividend irrelevance theory: propounded by Modigliani and Miller in 1961, dividend irrelevance theory argue that pay-out decision is irrelevant because it neither creates nor destroys value for shareholders (Ronny, 2001). If investment decision is held constant, higher dividends result in lower capital gains, leaving total wealth of shareholders unchanged. Because investors do not need dividends to convert their shares into cash, they will not pay higher prices for firms with higher dividend pay-out. In other words, pay-out policy will have no impact on value of firms. The theory holds that firm's value is dependent on income produced from its assets rather than from income distribution between dividends and retained earnings. It showed that investors can affect return on their shares regardless of share's dividend. For example, if an investor expects low dividend pay-out, they could buy more shares from the dividends received above their expectation.

Empirical Review
Ahmed et al. (2020) examined capital structure and dividend policy of listed companies in Nigeria. An ex-post facto research design was used because secondary data were extracted from annual report and account of the companies for a period of eight years (2012-2019), robust GLS regression analysis was used to analyze the data. The findings revealed that debt to equity ratio has a negative significant relationship with dividend payout ratio; and debt to asset ratio has a negative significant effect on dividend payout ratio. The study also reported that firm size, and age have positive significant relationship with dividend payout ratio; while Return on Assets (ROA) has positive insignificant relationship with dividend payout ratio. The study conclude that debt serve as a monitoring mechanism to absentee owners, hence its influence on capital structure of business organization cannot be underestimated because of tax advantages.

Badara et al., (2017) examined impact of capital structure on dividend pay-out ratio in Unilever Nigerian Plc. Secondary data sourced from the annual financial report of firm was used in the study; while multiple regression technique was used to examine the impact of capital structure on dividend pay-out ratio. The ordinary least square (OLS) method was used based on its BLUE (best, linear, unbiased, estimator) properties. The study found positive insignificant impact of capital structure on dividend pay-out ratio.

Rahman et al. (2016) examined how capital structure influence dividend policy of banking sector firms. Panel data analysis was used examine the relations between capital structure and dividend payments of banks. The annual data of 31 banks listed in the charter of the state-owned bank of Pakistan that continuously paying dividends for a nine-year period from 2008 to 2016 was used in the analysis. The results showed that capital structure positively influence dividend payment. The study also found that institutional lending by banks to meet short-term needs negatively affects dividends; while, earnings per share and size significantly influence dividend payment.

Kimani (2016) investigated the relationship between capital structure and dividend policy of firms in Nairobi. The study used secondary data covering 2011 to 2015. To determine whether there is a relationship between company selected factors and dividend pay-out ratio, a regression analysis (ordinary least square and a multivariate analysis) was conducted. The results indicate that some company selected factors have

impact on companies' dividend pay-out ratios and that differences exists among firms in their dividend payment ratios. Larger companies have higher dividend pay-out ratios than smaller one. The study also observed that negative significant impact of capital structure on dividend pay-out ratio.

METHODOLOGY

This study adopts an ex-post factor research design. This is because the study seeks to investigate impact of capital structure on value of listed manufacturing firm in Nigeria. The importance of ex-post facto research is that it is a realistic approach to solving business and social science problems which involves gathering records of past events (Agbadudu, 2002). Data for the study was obtained from secondary sources. The audited annual reports and accounts of listed manufacturing companies in Nigeria provided the data. Audited financial reports are used because they have been screened by recognized audit firms and information on the variables of interest were readily available; and also because they contain verification of experts.

The population of the study comprise quoted manufacturing companies in Nigeria. The Nigerian Exchange Group (NGX Group) provides that there are 71 quoted manufacturing companies as at December 2021. 5 quoted manufacturing companies were purposively chosen based on their record of consistently paying dividends during the period of the study; they are listed in NGX Group, they have available data with consistent annual audit report over the years. In addition, three firms have complete annual report and have maintained their corporate identity within the period under study (2017 to 2021). The companies are Unilever Nigeria Plc., Nestle Nigeria, Dangote Sugar Plc., Flour Mill Plc. and Cadbury Nig. Plc.

Measurement of Variable
The dependent variable (dividend policy) is proxied by dividend pay-out ratio (DPR). DPR is the ratio of dividend per share to earnings per share (Bragg, 2012). The independent variable (capital structure) is proxied by leverage. The solvency ratio used measure leverage are debt to asset ratio (DAR), debt to equity (DER) and total liability (TL) (Bragg, 2012). DAR is used to measure an organization leverage (Ekwueme & Atu, 2018). It is calculated as TL divided by shareholder assets. DER is used to measure an organization leverage (Ekwueme & Atu, 2018); and computed as TL divided by shareholder assets. TL is the combined debts a firm owes (Ekwueme & Atu, 2018). It is computed as short term debt + long term debt + other liabilities.

Data Analysis Techniques
The ordinary least square (OLS) regression method was used to examine the statistical significance of impact of the explanatory variable on the outcome variable. Regression analysis favoured because it allows for comparison of differences between a set of observed frequencies of a sample and corresponding set of expected frequencies in order to draw conclusion. Regression analysis helps to explain how the typical value of a dependent variable changes when any one of the independent variables is varied, while other independent variables are held fixed. OLS regression was conducted to determine the impacts of DAR, DER and TL on DPR.

Model Specification
Model specification is a mathematical expression used to measure economic relationship between variables. It is based on available literature and theories as they help in specifying the relationship between the variables. The model for this study is based on functional relationships between DPR as a measure of dividend policy and capital structure variables. The model is specified below:

$Y = \beta_{0it} + \beta_1 X_{1\,it} + \beta_2 X_{2\,it} + \beta_3 X_{3\,it} + \mu$ (1)

$DPR = \beta_0 it + + \beta_1 TLit + \beta_2 DARit + \beta_3 DERit + \mu$ (2)

DPR_{it} = Dividend Pay-out Ratio for company i in year t
TL_{it} = Total Liability for company i in year t

DAR_{it} = Debt to Asset Ratio for firm i in year t
DER_{it} = Debt to Equity Ratio for firm i in year t.
β = coefficients of the explanatory variables
μ = error term.

DATA PRESENTATION AND ANALYSIS

Table 1: Descriptive Analysis on TL, DPR, DER and DAR

	TL	DPR	DER	DAR
Mean	33966116	0.514400	1.360408	0.502584
Median	15235703	0.301000	1.142300	0.518500
Maximum	2.17E+08	1.521000	5.269000	0.840500
Minimum	60006.00	0.085000	0.331200	0.249000
Std. Dev.	54112239	0.427115	1.239157	0.147739
Skewness	2.152127	0.959089	2.491021	0.488683
Kurtosis	7.162310	2.597597	8.387729	3.224539
Jarque-Bera	34.35762	4.001393	56.09205	1.047564
Sum	1.53E+08	234658.0	91365.00	0.582348
Probability	0.000000	0.135241	0.000000	0.592276
Observations	25	25	25	25

Source: Strata output of data analysis on capital structure and dividend policy (2023).

In Table 1, the mean values of all the variables as shown ranges from minimum of 0.502584 for DAR to a maximum of 33966116 for TL. The average dividend policy as proxied DPR for quoted manufacturing firms during the study period is about 0.5144 with standard deviation of 0.427115. This implies that there is a moderate variation among the values of DPR across studied population during the period.

In respect to DER, its average value shows 1.360408 with a standard deviation of 1.239157. This shows that there is large variation in DER across the sampled listed manufacturing companies. Hence, the highly deviated size may have significant impact on dividend policy. Also, regarding DAR. Its average value shows 0.50258 4with a standard deviation of 0.147739. This implies that there is low variation in the DAR values due to its standard deviation. This implies little change on the dividend policy of the manufacturing company.

The skewness of a normal distribution is zero and a positive skewness indicates that the distribution has a long right tail (positive), and a negative skewness indicates that the distribution has a long-left tail (negative). From the table 2 above, all the variable's TL (+2.152127), DPR (+0.959089), DAR (+2.491021) and DER (+0.488683) has a long right tail. If the kurtosis exceeds 3, the distribution is peaked (leptokurtic) relative to the normal; if the kurtosis is less than 3, the distribution is flat (platykurtic) relative to the normal. From the tables above, the variables TL (7.162310), DAR (8.387729) and DER (3.224539) have a kurtosis greater than 3 hence they are peaked while DPR (2.597597) is less than 3 and it is flat.

Under the null hypothesis of a normal distribution, the Jarque-Bera statistic is distributed as with x2 degrees of freedom. The reported Probability is the probability that a Jarque-Bera statistic exceeds (in absolute value) the observed value under the null hypothesis, a small probability less than 0.05 value leads to the rejection of the null hypothesis of a normal distribution. All variables TL (7.162310), DAR (8.387729) and DER (3.224539) have their *p-values* less great 0.05, hence the null hypothesis is accepted that the variables are not normally distributed.

Table 2: Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Dividend Pay-out Ratio	.222	25	.003	.841	25	.001
Total Liability	.284	25	.000	.652	25	.000
Debt to Asset Ratio	.130	25	.200*	.935	25	.113
Debt to Equity Ratio	.321	25	.000	.625	25	.000

* This is a lower bound of the true significance.
Source: Strata output of data analysis on capital structure and dividend policy (2023).

In Table 2, the significant values under Shapiro-Wilk column show that dividend pay-out, TL, DER are all significant which implies that the data are not normally distributed. Therefore, OLS method was used for the analysis.

Table 3: Result of Hausman Specification Test

Variable	Fixed	Random	Var (Diff.)	Prob.
TL	-0.000000	-0.000000	0.000000	0.9142
DAR	0.816334	1.196710	1.761168	0.7744
DER	-0.031108	-0.073322	0.019436	0.7620

Source: Strata output of data analysis on capital structure and dividend policy (2023).

Hausman Specification Test
Hausman specification test shows the extent to which statistical models correspond to the data under study. This regression analysis tests for endogeneity. It is also called Durbin-Wu-Hausman test. It is helpful in determining whether a model will ultimately be effective in calculating probability values which basically, is the bottom line for statistical significance. In panel data analysis (the analysis of data over time), the Hausman specification test can help to choose between fixed effects models and random effects models. The null hypothesis is that the preferred model is random effects; the alternate hypothesis is that the model is fixed effects. To choose between the fixed effect model and the random effect model in analyzing panel data, the Hausman specification test was carried out. Result of the test revealed that, there was no substantial difference between the estimators using either the fixed or random effect model. Furthermore, the result showed a probability value of 0.9839 or 98.39 percent and a chi square statistic of 0.159299 meaning that the result was not significant. Hence, the null hypothesis was accepted (Table 2). This means that a random effect model was appropriate for the analysis of the study data.

Table 4: Regression Result

Model	Beta	T	Sig.
(Constant)	0.213878	0.218886	0.8297
TL	-1.42E-09	-0.364102	0.7209
DAR	. 0.816334	0.292908	0.0005
DER	-0.031108	-0.105029	0.9177
F-stat		4.867354	
p-value f-stat			0.004906
R	0.734554		
R-squared	0.694323		
Adj. R-squared	0.551674		
Durbin-Watson			

Source: Strata output of data analysis on capital structure and dividend policy (2023).

Table 4 shows that the coefficient of the independent variable is negatively shown as a unit increase in TL and DER and positively shown as a unit increase in DAR. This implies that a unit increase in TL and DER

will cause a decrease in DPR by 1.42E-09 and 0.031108 respectively. Also, a unit increase in DAR would cause an increase in DPR.

Table 3 further shows the findings from the panel data regression analysis using random effect model for the selected manufacturing companies as indicated by coefficient of determination (R^2=0.694), which refers to a goodness of fit measure for linear regression models and indicates the percentage of variance in the dependent variable that the independent variables explain collectively. As a measure of the overall fitness of the model, the R^2 indicated that the model explains about 69.4% of variation in value of the dependent variable; and that about 30.6% of variations in dividend policy of the sampled manufacturing firms is accounted for, by other factors. This result was complimented by the adjusted R^2 of 55%, which was the proportion of total variance that could be explained by the model.

Also, the analysis returned a Durbin-Watson statistic value of 2.093614. Durbin-Watson statistic is used to detect the presence of autocorrelation in the residuals from a statistical regression analysis. The Durbin-Watson statistic determines whether there is autocorrelation in the residuals of a time series regression. The statistic ranges from 0 to 4. A Durbin-Watson number between 0 and 2.5 indicates positive autocorrelation and 2.5 to 4 indicates negative correlation. A value of 2.09 indicates no auto correlation in the sample. Thus, the result (2.093614) showed that the independent variables were positively auto correlated.

Similarly, findings from the Fishers ratio (that is, the F-statistic) which is a proof of the validity of the estimated model presented a p-value of (0.004906) less than 0.05; this invariably clearly suggested that simultaneously, the explanatory variables (firm age, firm size, sales growth, liquidity, and leverage) were significantly associated with the dependent variable (DPR).

DISCUSSION OF FINDINGS

This study examined the effect of capital structure on dividend policy by testing the effect of TL, DAR and DER. The findings revealed that debt has a negative impact on dividend policy of the manufacturing companies. These findings are consistent with the reports of Marlina and Danica (2019) and Megawati (2021, 2019) that capital structure has no significant effect on DPR.

The findings also support the findings of Nwaolisa and Chijindu (2016) that capital structure has negative effect on dividend of oil and gas firms in Nigeria; and the proposition of the trade-off theory that capital structure and firm profitability are negatively correlated. Indebtedness of companies negatively influence their dividend pay-out. This view is consistent with the fact manufacturing companies obtain huge loans from commercial banks to fund their operations. This no doubt affect their financial performance and dividend pay-out ratio.

Our findings can also be explained by economic (forces of demand and supply, international market, etc.) and political (insecurity) factors that affect operational activities of manufacturing firm and contributes to poor earnings. Our findings also partly support the report of Khoiro et al. (2019) that capital structure has significant impact on higher dividend, even though low capital structure has no influence on dividend policy.

Our findings are however at variance with that of Arikekpar (2020) that debt ratio has positive relationship with performance of organization; and that of Hardjopranoto (2006) that leverage policy does not influence dividend policy because firms decide their dividend policy based on investors' preferences. In the real sense, a firm may decide to satisfy the shareholders temporarily but could not change the long-term effect of debt on the company.

CONCLUSION AND RECOMMENDATIONS

Capital structure decision is vital to the success of a company. Equity and debts are main sources of finance for a company. The choice of the right proportion of debt and equity in capital structure increases companies' dividend policy. Debt allow companies to do things that they would not be able to do otherwise, but also increase overall risk of the company, depending on whether it leverage on asset or equity. This study therefore concludes that listed manufacturing firms in Nigeria cannot achieve better performance of dividend policy as well as maximize shareholders' wealth without paying proper attention to the management of various components of its capital structure.

By associating the empirical findings of the study with the theoretical framework, the study concludes that liability makes predispose firms to unfavorable dividend policy because increase in debt raises cost of capital and results in inverse effect on dividend policy; that DAR could salvage the firm to have profitable dividend policy which can encourage good dividend payout ratio; and that DER impede dividend policy of firms, as low dividend payout may be as a result of ineffective management of cost of capital.

Based on the findings and the conclusions reached, the study recommends that management of listed manufacturing companies should strive towards having optimum capital structure by increasing their equity level and reducing dependence on debts to avoid being cash strapped and debt ridden; and that manufacturing companies with good asset should use more debt compared to equity in financing their profitable investment opportunities up to the extent that it improves organization's worth.

SUGGESTION FOR FURTHER STUDIES

This study has examined the impact of capital structure on dividend policy. The study focused on listed manufacturing firms and used panel data spanning 5 years (2017 to 2021). While the findings are satisfactory and insightful, we suggests further research addressing a longer period and a broader selection of capital structure indicators and dividend policy measures to expose new issues. We also suggest that this study should be extended by all manufacturing. Furthermore, future research may include more variables like earning per share, gearing and taxation to measure capital structure.

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