International Journal of Psychosocial Rehabilitation, Vol. 24, Issue 7, 2020
ISSN: 1475-7192

The Complexity of Competition, Business Strategy and Corporate Tax Aggressiveness in Indonesia

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Manuscript type: Research paper

The research aims: This study aims to investigate how managers' behavior in avoiding taxes if the company implements a certain business strategy and faces different competition intensities. The top management's decision in choosing a business strategy becomes a reference for top managers to carry out corporate management. This condition of environmental uncertainty can also affect the intensity of tax aggressiveness of each company following the business strategy group.

***Design / Methodology / Approach**: This study was conducted using quantitative methods in going public companies listed on the Indonesia Stock Exchange from 2014 to 2018. The sampling method used was purposive non-probability sampling, with several criteria, which are the manufacturing companies listed on the Exchange Indonesian Securities in 2014 to 2018, possess a complete financial report and the required data is widely available, from 2009 to 2018 (for the needs of business strategy variable data). The measure of tax aggressiveness uses the Latent Variable Factor Score through Confirmatory Factor Analysis (CFA). The model used in testing the hypothesis is multiple linear regression models and multiple linear regression models with moderated multiple regression.`*

***Research findings:** In the context of this study, which is in manufacturing companies from 2014 to 2018, if it is compared to analyzer companies, the aggressiveness of defender tax has not been proven to be lower. This can be caused by tax aggressiveness not being proven to be a defender's choice, but that does not mean that the defender is not doing his tax planning. The complexity of the competition enlarges the level of tax avoidance carried out by the prospector compared to the analyzer. Besides, the test results show evidence that the complexity of competition has a positive effect on the level of tax avoidance committed by the defender compared to the analyzer. Furthermore, other results show that the complexity of competition increases the level of tax avoidance carried out by the prospector compared to the defender.*

***Theoretical contribution / Originality**: This study providing empirical evidence that the tax behavior of managers for each business strategy group (defender, prospector and analyzer) can be different. In a business strategy group, managers can differ in their level of tax aggressiveness even though they have a similar type of strategy. In the conditions of high competition complexity, a strategy can change its tax behaviour. It is different if compared to the condition where the company is in a low competition complexity.*

***Practitioner / Policy implication**: Tax aggressiveness is one level in tax avoidance. Defender companies are companies that focus on low costs and avoid risks and proven in the high complexity of competition, defenders avoid higher taxes than analyzers. Although tax aggressiveness is a legal tax avoidance effort, defender managers must pay attention to their level of aggressiveness so as not to create potential sanctions / risks especially if the company faces a condition of high competition complexity.*

***Research limitation / Implication**: This study has a weakness which is using the Herfindahl index measure in measuring the complexity of competition. It is because the only available market share data is only data available on public companies. Therefore, herfindhal index in this study is only able to know the complexity of competition in companies that trade their shares on the IDX in the same industry. This happens because of limited data sources, so far there is no complete data regarding the total market share of all companies in the industry in Indonesia.*

Keywords: *Competition Complexity, Business Strategy, Tax Aggressiveness, Go Public Companies, JEL Classification: M41*

1. Introduction

Revenue in the tax sector is the main focus in Indonesia. This makes the Directorate General of Taxes given a target of increasing tax revenue each year. The agency relationship with a tax-related company is the relationship between the company (the taxpayer) as the principal and the government (the Directorate General of Taxation) as the agent. Principals are taxpayers while agents collect tax from taxpayers. This agency relationship can cause agency problems such as the Director General of Taxes as an agent always trying to maximize state revenue sourced from taxes to make a series of efforts to increase tax revenue. On the other hand, companies as principals generally seek to maximize their wealth after tax in various ways, one of which is to always consider the tax effects that may arise in various business decisions (Scholes and Wolfson, 1992: 127).

Organizations need to adjust to the condition of facing business competition and environmental change. Analyzing organizational adaptation is very complex and developing, and at that time only supported by a limited theoretical framework. Miles and Snow (1978) offer a theoretical framework that presents the company's alternative steps in determining the product-market domain (strategy) and the construct mechanism (structure and process) to embrace the strategy. Miles and Snow (1978) present a theoretical framework that can be used to analyze organizations in an integrated manner, namely the interrelations between strategies, structures and processes within the organization.

Miles and Snow (1978) divide strategies based on the process of organizational adaptation towards the changes in their environment. While the three main typologies of strategy are: defender, prospector, and analyzer. The three strategies are the strategies in overcoming the 3 fundamental problems of the company as a process of organizational adaptation (namely entrepreneurial problems, engineering problems, and administrative problems). After adapting to these problems, the company can survive, along with the development of its business and business environment conditions. The company can face 3 fundamental problems that are new and different from the previous condition. The existence of these new problems allows companies to change their strategy (switching from one type of strategy typology to another type of strategy typology) as their new adaptation process.

Research on business strategies and tax aggressiveness has been carried out by Higgins et al. (2014). The result is that the prospector is proven to avoid higher taxes than the two other strategy groups (defender, and analyzer) and the defender company is proven to do higher tax aggressiveness than the analyzer. Higgins research results are slightly different from the research of Arieftiara et al (2017) which proves that defenders avoid tax with a lower intensity than the analyzer. Furthermore, Arieftiara et al. (2017 and 2019) have expanded the research of Higgins et al. (2014) by considering the contingent fit between business strategy and business competition conditions (conditions of uncertainty in the business environment) then analyzing how it impacts on corporate tax avoidance.

This study investigates how managers' behavior in avoiding taxes if a company implements a certain business strategy and faces different intensities of competition. Previous studies have only revealed that managers in companies that implement strategies that are fit with conditions of high environmental uncertainty will avoid higher taxes compared to other companies. The previous research did not investigate

how corporate tax avoidance behavior implements strategies that do not fit with environmental conditions and does not investigate what if companies face conditions of low environmental uncertainty. This study is expected to contribute in the form of providing empirical evidence that the behavior of tax managers for each strategy group can be different. In a business strategy group, managers can differ in their level of tax aggressiveness even though they use a similar type of strategy. It is assumed this happens because each company faces different competitive complexities.

2.Literatur Review

2.1 Competitive complexity

Arieftiara et al (2019) uses the complexity of competition as one of the constituent components of uncertainty, which is the competition uncertainty (as measured using competition complexity), market uncertainty and technological uncertainty. Jaworski and Kohli (1993) and Jermias (2008) argue that competition complexity is a contingent factor that managers must consider in managing a company because any business strategy or decision may be different if the company faces conditions with low or high intensity of competition. An example is when there is no competitions, the company will still get good performance even though it does not follow certain business strategies and does not have a market orientation. It is because consumers do not have many choices and are limited to the products and services produced by the company. Conversely, if the marketing conditions faced by a company are very complex, the company's performance can be disrupted when there are other companies that have a good market orientation compared to other companies. (Jaworski and Kohli, 1993). When competition in the market is very intensive, it means consumers have many alternatives. Therefore, the companies competing in such markets have challenges and must choose good strategies and systems that are in accordance with their internal capabilities, so that consumers will continue to choose products or his services compared to competitors. (Kohli and Jaworski, 1990)

Business strategy

In the theory of strategy, there are two different kinds of strategies which are corporate strategy and business strategy. Business strategy is related to how to compete in the market of products / services that have been decided to be entered (Simons, 2000: 17). Whereas Bourgeois III (1980) and Langfield-Smith (1997) define business strategy as a competitive weapon of the company, which is the strategy of each unit in the organization that focuses on how the organizational unit positions among competitors. Organizations need to adjust to the condition in facing business competition and environmental change. Analyzing organizational adaptation is very complex and developing, and at that time only supported by a limited theoretical framework. Miles and Snow (1978) offer a theoretical framework that presents the company's alternative steps in determining the product-market domain (strategy) and the construct mechanism (structure and process) to embrace the strategy. Miles and Snow (1978) present a theoretical framework that can be used to analyze organizations in an integrated manner, which is the interrelations between strategies, structures and processes within the organization.

Miles and Snow (1978) divide strategies based on the process of organizational adaptation to changes in their environment. While the three main typologies of strategy are: defender, prospector, and analyzer. The three strategies are strategies in overcoming the 3 fundamental problems of the company as a process of organizational adaptation (namely entrepreneurial problems, engineering problems, and administrative problems). After adapting to these problems, the company can survive, along with the development of its

business and business environment conditions, the company can face 3 fundamental problems that are new and different from the previous problem. The existence of these new problems allows companies to change their strategy (switching from one type of strategy typology to another type of strategy typology) as their new adaptation process.

2.3 Tax Aggressiveness

Tax aggressiveness is the level of tax avoidance carried out by companies. General tax avoidance according to Hanlon and Heitzman (2010) is an explicit tax reduction. Dyreng et al. (2008; 2010) defines tax avoidance as all transactions that reduce corporate tax relative to accounting income before tax. The definition does not distinguish between real tax-favored activities (ie avoidance activities devoted to reducing taxes) and targeted tax benefits from lobbying activities.

Taylor and Richardson (2012) define tax avoidance as a method to lower the amount of taxable income done by managers through tax planning with the legal means, gray areas even to illegal means. Darussalam and Septriadi (2009) explain tax avoidance as a transaction scheme aimed at minimizing the tax burden by exploiting the weaknesses (loopholes) of a country's taxation provisions. Companies that have a level or intensity of tax avoidance are higher than other companies, means that the company is doing aggressive tax avoidance or tax aggressive.

Tax planning is an effort of taxpayers to minimize tax owed through a scheme which is clearly regulated in tax legislation and does not cause disputes between taxpayers and tax authorities (Darussalam and Septriadi, 2009). Hanlon and Heitzman (2010) explain that tax planning activities are a set of tax strategy unity, which at one end of the strategy set is a tax legal activity / strategy (ie tax avoidance), while at the other end is illegal tax management, namely tax evasion (tax evasion), non-compliance (non compliance), tax aggressiveness and tax protection (tax sheltering). From this explanation, it can be concluded that tax avoidance is part of tax planning activities. Tax avoidance is one of the strategies in tax planning that is carried out with due regard to the applicable tax rules and regulations.

In Indonesia there are only two taxpayer steps in reducing tax payable or taxes that must be paid, which are through tax avoidance and tax evasion (Santoso and Rahayu, 2013). The definition of tax evasion according to Darussalam and Septriadi (2009) is a scheme of reducing taxes owed by violating tax regulations (illegal) such as by not reporting a portion of sales or reducing costs by fictitious means. In many other countries there are arrangements for tax avoidance schemes which include acceptable tax avoidance and unacceptable tax avoidance. Unacceptable tax avoidance can also be categorized as aggressive tax planning (Dyreng et al., 2008; Frank et al., 2009). In Indonesia there is no law that sets a clear definition of acceptable tax avoidance & unacceptable tax avoidance, so that in real practice there are often different interpretations between taxpayers and tax officials (Darussalam and Septriadi, 2009).

3.Hypotheses Development

3.1 The Effect of Business Strategy on Corporate Tax Aggressiveness

In business strategy theory, Miles and Snow (1978) do not explicitly explain how the tax avoidance behavior of the defender, prospector and analyzer strategies. However, based on the characteristics possessed by each of these strategies, it can have implications for the tax companies that implement them, which are:

a) *Defender*

Miles and Snow (1978) explain that a defender or survival strategy has the behavioral characteristics of closing a portion of the total market in order to create a stable market area. The defender companies try aggressively to prevent competitors from entering their land by focusing on competitive prices or high quality product. Defender not only has a very low intensity of product / market development, but also there is no such activity (Hambrick, 1983). Defenders tend to ignore developments and trends outside their region, defenders grow through narrow market penetration and strengthen the market so that it is difficult for competitors to penetrate. Scholes and Wolfson (1992) state that investments can be referred to as tax favored investments, one of which is if there is a reduction according to permitted taxes such as, research and development costs, advertising or marketing costs, and costs incurred in connection with expanding new markets. From these explanations and in accordance with the characteristics of the defender, the defender does not have a high intensity of tax-favored activities.

b) *Prospector*

The prospector strategy is the opposite of the defender strategy. However both have similarities in terms of consistency in overcoming the three adaptive problems. Miles and Snow (1978) explain that the environment faced by prospectors is more dynamic compared to other types of organizations in the same industry. The main focus of the prospector is how to find and make the most of products, market areas and new opportunities. For this reason, prospectors allocate, develop and maintain their capacity in large numbers for environmental search activities, marketing areas, and new products. This type of organization continues to invest in individuals or teams to look for / create new opportunities and opportunities. Changes in the industry are often caused by innovations from prospectors, and this is what makes prospectors superior to their competitors. Prospector prefers change and uncertainty compared to defender.

Another characteristic of the prospector is high flexibility in the organization's technology and administrative systems. Flexible technology always adapts to new products / services they create. The administrative system also supports the main focus of the prospector, which is a system that is able to disseminate and coordinate organizational resources in various units that are widely distributed and decentralized. This mechanism is referred to as organic, a mechanism that is supported by top management groups dominated by marketers and reliable researchers, capable of making broad and results-oriented planning. In addition, the formalization of products and processes is low, and decentralized, emphasizing high flexibility. All of its characteristics contradict the defender.

Scholes and Wolfson (1992: 85) state that opportunities for legal tax avoidance through effective tax planning are open to tax-favored investment choices, which include a tax-exempt component or the cost of such investments can be a deduction when calculating profits taxable, for example research and development costs, investment in marketing costs, addition of personnel / employees in new markets, investment in technology for new products or markets, etc. Thus according to the concept of Miles and Snow's business strategy (1978) and the concept of tax planning Scholes and Wolfson (1992), the preospector has more opportunities to reduce his tax in a legal manner.

3) *Analyzer*

Analyzer strategy is a strategy that is in the middle between the defender and prospector. Miles and Snow (1978) suggest that if the defender and prospector are opposite each other, the analyzer position is in the middle position. In summary, the analyzer strategy is a strategy that minimizes risk and maximizes opportunities for profit. Analyzer combines the strengths of a defender and prospector into one system.

Similar to the defender and prospector, the focus of the analyzer is how to find new locations and find products to target new customers and maintain existing products and consumers for a long time. The analyzer will only enter new market areas and new products if they have been tested for eligibility. Analyzer transforms new products or market areas to quickly follow or imitate prospector innovations that are considered the most successful and prominent. On the other hand, the analyzer still maintains the existing market and products and is more stable, because it is the source of the majority of analyzer revenue.

The dualism of technology applied by the analyzer is to meet the needs of flexibility and stability. Like prospectors, technological flexibility is needed to support the creation of new products. The technological stability needed includes high standardization, routine and mechanics to support cost efficiency as well as defenders.

The organizational structure and analyzer process support stable and dynamic operations. For this reason the analyzer applies a matrix organizational structure. The functional unit is led by an engineer who understands technicality, while the product manager is placed in the marketing department. This matrix structure is strengthened by intensive planning, maintaining a balance between development and organizational efficiency and stability. The functional supervision mechanism is centralized, but technological supervision is decentralized. From the explanation above, the analyzer is a hybrid strategy that has elements of the other two strategies, which are defender and prospector. The company takes less risk than the prospector, but is less committed to stability like defender. Higgins et al. (2014) succeeded in proving that the defender strategy and prospector strategy avoided taxes more than the analyzer strategy. Analyzer characteristics are in the middle between the defender and prospector. The analyzer is less committed to minimizing costs and risks than defenders who really focus on minimizing costs and maintaining organizational stability. This underlies the notion that the analyzer does less tax avoidance than the defender (Higgins et al., 2014). In addition to cost minimization, the analyzer also focuses on finding opportunities, marketing areas or new products to quickly follow and emulate prospectors who are considered successful in first developing them. Because the intensity of the research and development of the analyzer is not as big as the prospector, the analyzer has limitations in doing tax planning and the level of tax avoidance will not be as big as the prospector (Higgins et al., 2012).

H1a: Prospector companies avoid higher taxes than analyzers.

H1b: Defender companies avoid lower taxes than analyzer companies.

Previous literature that explicitly discusses the influence of corporate strategy on tax avoidance is Higgins et al. (2014), which examines the influence of Miles and Snow's typological strategies, which are prospector, defender and analyzer on corporate tax avoidance behavior. Prospector strategies include higher uncertainty because they prioritize innovation on products, change and produce new products and explore new market locations (Miles and Snow, 1978). Defender characteristics are low cost, minimizing risk pressure and uncertainty, maintaining organizational and operational stability and not aggressively pursuing new opportunities. The potential for fines and can damage reputation due to tax avoidance that is too high makes defenders limit the level of tax avoidance. Higgins et al (2014) found that prospectors avoid taxes more than defenders.

H1c: Prospector companies avoid higher taxes than defender companies.

3.2 The Effects of Competition Complexity on the Corporate Tax Aggressiveness of Each Business Strategy.

Ariefttiara et al. (2019) found that business strategies that are compatible with environmental uncertainty conditions can have an impact on differences in levels of tax avoidance. Furthermore, Arieftiara et al (2019) also found that business competition conditions were proven to affect corporate tax avoidance. When companies face high uncertainty in the business environment, where business competition is increasing, the unpredictable changes of consumer tastes, as well as other turbulent conditions, can make managers increase the intensity of efforts whose ultimate goal is to increase their utility. For example in managing earnings and creating a loose budget (budgetary slack), doing income smoothing (Dunk and Nouri, 2010; Davila and Wouters, 2015; Ghosh and Olsen, 2009).

Several previous studies have investigated that managers have flexibility and discretion and will use different strategies or plans in dealing with environmental uncertainty (Dunk and Nouri, 2010; Davila and Wouters, 2015; Ghosh and Olsen, 2009). Judgment and planning related to corporate tax, including one made by managers as an effort to influence the tax burden that must be borne by the company, especially in complex competition conditions.

In general, taxpayers, especially corporate taxpayers, see tax payment obligations as costs (expenses) because financially, taxes represent the transfer of resources from the business sector to the public / government sector which results in reduced purchasing / spending power (Santoso and Rahayu, 2013: 1). Therefore, managers as the one who manage the corporate taxpayers and have a basic psychological character of humans, will naturally refuse to make tax payments voluntarily so that they try to minimize costs (expenses), including tax payments, to optimize profits (Santoso and Rahayu, 2013: 2). This is in line with the basic assumptions of human nature in agency theory, namely humans generally have self-interest (self-interest); humans have limited thinking power about the future (bounded rationality) and humans tend to avoid risk (risk averse) (Eisenhardt, 1989). On the basis of this theory, if in normal conditions the manager tries to minimize tax payments, then in conditions of high environmental uncertainty the manager is suspected of increasingly increasing attention to the activities of legal tax management through tax avoidance. Associated with the characteristics of each strategy towards tax avoidance behavior, then if the business competition conditions faced by each company are increasingly complex, then:

H2a: The complexity of competition increases the level of tax avoidance carried out by the prospector compared to the analyzer.

H2b: The complexity of competition affects the level of tax avoidance by defenders compared to analyzers.

H2c: The complexity of competition increases the level of tax avoidance carried out by the prospector compared to the defender.

4.Methodology

4.1. Data Collection Techniques and Research Sample Selection

This study uses secondary data sources, which are financial statements and company annual reports. The sampling method is a non-random sampling method and is taken based on criteria, which is manufacturing companies listed on the Indonesia Stock Exchange in 2014 - 2018. The sampling procedure used is purposive sampling with the criteria of having complete financial statements and the required data are widely available from 2009 to 2018 for the needs of business strategy variable data.

4.2. Definition of Variable Operation

4.2.1. Complexity of Competition

The complexity of competition is the level of business competition faced by companies in specific markets, measured by using the Herfindahl Index. In accordance with Jermias (2008), the intensity of competition can be measured using HI as follows: $\mathrm{HI} = \sum_{i=1}^{n}(\text{market share}_i)^2$ where HI is the Herfindahl index, *i* is a company in the industry , and n is the number of companies in the same industry. The higher the HI value indicates the more concentrated the industry so that competition uncertainty is lower. Because of the limited market share data of non-publicly traded companies, this study focuses on the level of competition between only publicly traded companies in the same industry.

4.2.2. Business Strategy

Business strategy is a strategy used by the company to be able to adapt to face the competitive environment. The determination of the strategy used by the sample companies is to use a composite size strategy, consisting of six measures that have been developed by Ittner et al. (1997) and Bentley, et al. (2011). Strategy and measurement variables can be seen in Table 4.1.

Following Ittner et al. (1997) and Bentley et al. (2011), all variables were calculated using a rolling average for the previous 5 years. Taking the results of various previous studies, Higgins et al. (2014) explains that each measure in Table 4.1. aims to describe various elements of different business strategies, namely:

- Intensive prospector in conducting innovation activities so that if the company has a high RDS value, it shows the tendency of the company to be a prospector.
- Defenders focus on efficiency in both the production and distribution processes, so it is expected to have a lower ratio of number of employees per rupiah / dollar of sales (EMPS) compared to other companies.
- Based on Ittner et al. (1997), prospectors are suspected of having greater growth opportunities than other companies. Companies that have a higher GMVA are categorized as a prospector.

Table 4.1. Strategy Variables and its Measurement

No	The size of a variable	Measurement of variables
1.	*Ratio of Research and Development to Sales* (RDS). Measuring the tendency of companies to develop new products	The ratio of research and development expenditure (XRD) divided by sales (SALE), calculated on a rolling average over the previous 5 years.
2.	*Ratio of employee to sales* (EMPS). This ratio measures the company's ability to produce and distribute goods efficiently.	The ratio of the number of employees (EMP) divided by sales (SALE), calculated on a rolling average over the previous 5 years period.
3.	*Geometric mean of market value of assets* (GMVA). Measuring historical growth or investment opportunities)	*Log of market value of assets* (total debt + MVE), calculated on a rolling average over the previous 5 years is then expensed.
4.	*Employee Turnover* (σ (EMP)). Measuring organizational stability of a company.	Standard deviation of the total number of employees (EMP), calculated during the previous rolling 5-year period.
5.	*Marketing to sales* (SGAS). Measuring the company's focus in exploiting new products and services.	The ratio of sales, administrative, and general (SDA) costs, to total sales (SALE), is calculated on a rolling average over the previous 5 years.
6.	*Capital intensity* (CAP). Measuring the company's commitment to technological efficiency.	Capital intensity is calculated by net PPE divided by total assets (PPE / TA), calculated on a rolling average over the previous 5 year period.

Source: Bentley *et al*. (2011).

- Defenders have high employee tenure and promotion of employees within the company, thus defenders have low employee turnover rates.
- Prospector places more emphasis on motivational activities, educating and providing information to consumers, so that the ratio of expenses / marketing costs and sales of prospectors to total sales (SGAS) is higher compared to other companies.
- Defender has a single core technology and emphasizes technology efficiency, so it has a greater capital intensity (CAP) than other companies.

After obtaining the values of each of the variables mentioned above, they are then arranged according to the ratings per industry and per year. Then divided by the quintile, the highest quintile is given a value of 5, the next quintile is given a value of 4, and so on. The lowest quintile will have a value of 1 except for the Capital Intensity (CAP) variable, using the reverse order, worth 5 for the lowest quintile and 1 for the highest quintile. Then the value of each company for the six measures per year is added up, so that the maximum value is 30 (the type of prospector strategy) and the minimum value is 6 (the type of defender strategy).

In accordance to Bentley et al. (2011), a company can be categorized as a defender if the average company rank for the 6 variable sizes is in the lowest quintile (value 1 or 2), so that companies that have a total score in the minimum range of 6 to less than 13 are defender companies . On the contrary, a company is categorized as a prospector if the average company rank for the 6 variable sizes is in the highest quintile (5 or 4 values). Thus, companies that have a total score in the range of more than 23 to a maximum of 30 are prospector companies. If the company has a total score outside the range mentioned above, it will be categorized as an analyzer, which has a total score in the range 13-23.

4.2.3. Corporate Tax Aggressiveness

Corporate Tax Aggressiveness is a manager's activity that causes tax savings or decreases in taxable income relative to accounting income. The right source of information to find out the extent to which companies carry out their tax obligations is through corporate tax returns or Tax Returns, but the SPT is a confidential document and is not available to the public. Due to the limited availability of these data, many tax researchers develop proxies to measure the construct of tax avoidance by using data from financial statements (Simone, 2014). Following Arieftiara et al. (2019) this study uses the TAX_LVS measurement to measure corporate tax aggressiveness. TAX_LVS (Tax Avoidance Latent Variable Score) is the value / score of tax avoidance that is formed from the results of the transformation of 3 tax avoidance indicators commonly used in various previous tax studies through Confirmatory Factor Analysis (CFA).

Book-Tax Difference (BTD), is the difference between pre-tax profit reported in published financial statements (accounting profit) and taxable profit (fiscal profit).

In accordance with Comprix et al. (2011) BTD measurements are:

$$BTD_{it} = BI_{it} - \left(\frac{CTE_{it}}{STR_t}\right) \qquad \textbf{(a)}$$

Where:

BI_{it} = accounting profit before corporate tax *i* in year *t;*

CTE_{it} = current tax burden for company *i* in year *t;*

STR_{it} = *statutory tax rate* (income tax rate according to the income tax law) in year *t;*

(b) Abnormal BTD is the residual value of the total book-tax difference regression towards the accrual component that can cause differences between accounting income and taxable income.

Following Tang and Firth (2011), abnormal BTD is the residue from the following regression models:

$$BTD_{it} = h_0 + h_1 \Delta INV_{it} + h_2 \Delta REV_{it} + h_3 NOL_{it} + h_4 TLU_{it} + \varepsilon_{it} \textbf{(b)}$$

Where:

BTD_{it} = *book-tax difference* for company *i* in year *t*, scaled to total assets

ΔINV_{it} = the change in investment in intangible fixed assets (*gross PPE*) and intangible assets from year from year *t-1* to year *t* in company *i*, scaled to total assets;

ΔREV_{it} = change in income from year *t-1* to year *t* in company *i*, scaled to total assets;

NOL_{it} = Net operating loss value of company *i in* year *t*, scaled to total assets;

TLU_{it} = Value of company tax loss *i* in year *t*, scaled to total assets;

ε_{it} = abnormal/BTD discretion (AbnBTD) for company *i* in year *t*.

(c) Abnormal PermDIFF is the residual value of the regression of the total permanent difference of non-discretionary components that causes a permanent difference between accounting and tax (Frank et al., 2009):

Following Frank et al. (2009), abnormal difference is residual from the following regression models:

$$PERMDIFF_{it} = g_0 + g_1 INTANG_{it} + g_2 UNCON_{it} + g_3 MI_{it} + g_4 \Delta NOL_{it} + g_5 LAGPERM_{it} + \varepsilon_{it} \textbf{(c)}$$

Where:

$PERMDIFF_{it}$ = A permanent difference between accounting and tax, i.e. total book-tax differences (BTD) minus temporary differences in company *i* year *t*,or $[BI_{it} - (CTE_{it}/STR_t)] - (DTE_{it}/STR_t)$, scaled to total assets *t-1*;

BI_{it} = accounting profit before corporate tax *i* in year *t;*

CTE_{it} = current tax burden for company *i* in year *t;*

DTE_{it} = deferred tax expense for company *i* in year *t;*

STR_{it} = *statutory tax rate* (income tax according to the income tax law) in year *t;*

$INTANG_{it}$ = *goodwill* and other intangible assets for company *i* in year *t*, scaled to total assets *t-1 ;*

$UNCON_{it}$ = profit (loss) reported based on the equity method for company *i* in year *t*, scaled to total assets *t-1;*

MI_{it} = non-controlling profit (loss) for company *i* in year *t*, scaled to total assets *t-1;*

ΔNOL_{it} = The change in net operating loss that can be compensated for company *i* in year *t*, scaled to total assets *t-1;*

$LAGPERM_{it}$ = *PERMDIFF* one year earlier for company *i* in year *t*, scaled to total assets *t-1;*

ε_{it} = abnormal / fixed difference discretion (AbnPermDiff) for company *i* in year *t.*

4.3. Development of Research Models and Empirical Testing

In accordance with the research hypothesis, this study uses a multiple linear regression model. This study also uses multiple linear regression models by interacting between independent variables.

4.3.1. The Model of the Effect of each Business Strategy on Tax Aggressiveness

Hypotheses 1a, b and c of this study aim to prove that each business strategy adopted by the company has an impact on tax aggressiveness.

Based on Higgins et al. (2014) and Arieftiara et al. (2019), then testing hypotheses 1a and 1b uses the following model:

$$TAXAGGR_{it} = \alpha_0 + \alpha_1 PROS_{it} + \alpha_2 DEF_{it} + \alpha_3 COMP_{it} + \alpha_4 LEV_{it} + \alpha_5 PPE_{it} + \alpha_6 INVINT_{it} + \alpha_7 IA_{it} + \alpha_8 ROA_{it} + \alpha_9 SIZE_{it} + \alpha_{10} AGE_{it} + e_{it} \quad \textbf{(1)}$$

Where:

$TAXAGGR_{it}$ = Corporate tax avoidance is measured by using TAX_LVS, or the value of the latent variable from the transformation of 3 measurable tax avoidance indicators, which are Book-Tax Difference (the difference between earnings differences before tax and taxable profits), Abnormal PermDIFF (residual value) from the permanent component of BTD), Abnormal BTD (residual value of total book-tax differences).

$PROS_{it}$ = The company's business strategy value is 1 if PROSPECTOR, and 0 if others.

DEF_{it} = The company's business strategy value is 1 if DEFENDER, and 0 if others.

$COMP_{it}$ = Competition Complexity is measured by using the Herfindahls Index.

LEVit = Total debt interest bearing divided by total assets of company *i* in year *t;*

PPE_{it} = Total fixed assets divided by total assets;

INVINTit = Inventory intensity, ratio of total inventory to total assets;

IAit = Intangible Asset Intensity, which is the ratio of intangible assets to total assets of company *i* in year *t;*

SIZEit = Company size, which is the natural logarithm of total assets;

ROAit = Company profitability, which is the ratio of accounting profit before tax plus interest expense after tax to total assets.

AGE_{it} = The length of time the company was operating (in years) as a proxy for company experience.

To prove hypothesis 1c which is the effect of the prospector strategy on tax avoidance compared to defenders using Model 2. It was prepared based on Higgins et al. (2014) and Arieftiara et al. (2019):

$$TAXAGGR_{it} = \beta_0 + \beta_1 PROS_{it} + \beta_2 ANZ_{it} + \beta_3 COMP_{it} + \beta_4 LEV_{it} + \beta_5 PPE_{it} + \beta_6 INVINT_{it} + \beta_7 IA_{it} + \beta_8 ROA_{it} + \beta_9 SIZE_{it} + \beta_{10} AGE_{it} + e_{it} \quad \textbf{(2)}$$

ANZ_{it} : The value of company's business strategy is 1 if ANALYZER, and 0 if others.

The other variable captions are the same as Model (1) above.

4.3.2. Model of Effect of Competition Complexity on Corporate Tax Aggressiveness based on Adopted Business Strategies

Hypotheses 2a, 2b and 2c of this study aim to investigate how the influence of the competition complexity faced by the companies on tax aggressiveness based on the type of strategy adopted. Following Arieftiara (2019) for these following hypotheses 2a and 2b:

$$TAXAGGR_{it} = \gamma_0 + \gamma_1 PROS_{it} + \gamma_2 DEF_{it} + \gamma_3 COMP_{it} + \gamma_4 PROS * COMP_{it} + \gamma_5 DEF * COMP_{it} + \gamma_6 LEV_{it} + \gamma_7 PPE_{it} + \gamma_8 INVINT_{it} + \gamma_9 IA_{it} + \gamma_{10} ROA_{it} + \gamma_{11} SIZE_{it} + \gamma_{12} AGE_{it} + e_{it} \quad \textbf{(3)}$$

Where:

$PROS * COMP_{it}$ = Interaction between prospector strategies and the complexity of competition.

$DEF * COMP_{it}$ = Interaction between defender strategy and competition complexity.

The other variable captions are the same as Model (1) above.

To prove hypothesis 2c is the impact of competition complexity on prospector tax aggressiveness compared to defender uses the following Model 4.

$$TAXAGGR_{it} = \delta_0 + \delta_1 PROS_{it} + \delta_2 ANZ_{it} + \delta_3 COMP_{it} + \delta_4 PROS * COMP_{it} + \delta_5 ANZ * COMP_{it} + \delta_6 LEV_{it} + \delta_7 PPE_{it} + \delta_8 INVINT_{it} + \delta_9 IA_{it} + \delta_{10} ROA_{it} + \delta_{11} SIZE_{it} + \delta_{12} AGE_{it} + e_{it} \quad \textbf{(4)}$$

Where:

$ANZ * COMP_{it}$ = Interaction between analyzer strategy and competition complexity.

The variable description is the same as Model (1) above.

4.4. Data analysis

4.4.1. Testing Data Quality and Classical Assumptions

This study uses Ordinary Least Square (OLS) data analysis techniques for panel data. Before conducting a regression test, it is necessary to first determine whether the model used is the best model for measuring the effect of independent variables on the dependent variable. In order to obtain the Best Linear Unlock Estimator (BLUE) model, then the data normality test and the classical assumption test are carried out first on the research data before it is processed. A good multiple linear regression model must meet the classical assumptions which is the normally distributed data, no multicollinearity, no heterokedasticity, and no autocorrelation.

The following tests the classic assumptions applied in this study:

1.Normality

2. Multicollinearity.

3. Heterokedastisitas

In addition to the above tests and in accordance with the structure of the research data which is a panel data, it is necessary to conduct the Hausman test and the Breusch-Pagan Lagrangian multiplier test to determine the exact regression model structure of the three panel data structure models, namely the structure of the common / pooled model, the structure of the effect model fixed or random effect model structures (Adkins and Hill, 2008: 357).

4.4.2. Hypothesis testing

The previous section has explained the Model used for Hypothesis testing. If the significance level is less than 1%, 5% or 10%, then the following are the acceptance criteria for each hypothesis:

1.The H1a acceptance criterion is α_1> 0, where the prospector avoids the highest tax compared to the analyzer.

2. For H1b is α_2 <0, then the defender avoids lower taxes compared to the analyzer, assuming the influence of other variables is constant.

3.The H_{1c} acceptance criteria are: H_{1c}: β_1>0, which is at high environmental uncertainties, tax avoidance of companies that tend to choose prospectors is higher compared to companies that tend to choose defenders.

4.The acceptance criteria for H2a is γ_4> 0 which is the complexity of competition increases the tax aggressiveness of prospector companies compared to the analyzer, assuming the influence of other variables is constant.

5.For the H2b hypothesis, it is accepted if γ_5 <0, which is the complexity of competition reduces the tax aggressiveness of the company compared to the analyzer, assuming the influence of other variables is constant.

6.The acceptance criteria for H2c is δ_4> 0, which is the complexity of competition increases the tax aggressiveness of prospector companies compared to the analyzer, assuming the influence of other variables is constant.

7.Prediction results for the control variables are: the coefficient LEV, PPE, INVINT, and ROA are significantly positive. While the results of the coefficients IA, SIZE, AGE are significant negative.

5.Result and Discussion

5.1. Sample Overview

This study uses a sample of manufacturing companies listed on the Indonesia Stock Exchange (IDX) in year of 2014 - 2018 (5 years). The number of manufacturing companies listed on the IDX during the year of 2014-2018 was 815 firm-years. The following is the sampling procedure used in this study:

Table 5.1. Sample Selection Procedure

No.	Information	Year					Total
		2014	2015	2016	2017	2018	
1.	Total Listed Companies in the manufacturing sector of Indonesian Stock Exchange	141	146	147	146	166	746
2.	Minus the number of observations that do not provide complete data	(11)	(11)	(12)	(11)	(21)	(66)
Total sample (company-year)		**130**	**135**	**135**	**135**	**145**	**680**

5.2. Descriptive Statistical Analysis

A brief description of the characteristics of all research variables can be seen in the descriptive statistics presented in Table 5.2. For all outlier data, treatment has been carried out, which is the winsorizing technique.

Table 5.2. Descriptive statistics

Variabel	Mean	Min.	Max.	Standard Deviation	Skewness
TAX_LVS	0.0309	0.0283	0.0574	0.0075	2.8426
COMP	0.4345	0.0427	0.8737	0.1691	0.2122
LEV	0.2528	0	0.9370	0.1998	0.6644
PPE	0.4177	0	0.9973	0.2793	0.4155
INVINT	0.1965	0	0.8347	0.1564	1.1367
IA	0.0482	0	0.4332	0.1052	2.6410
SIZE	27.1155	9.7240	32.3431	2.5691	-1.4387

ROA	0.0531	-0.4625	0.5494	0.1339	0.1014
AGE	32.2180	8	106	15.0948	1.8330

	Frequency	
PROS	24,7%	168
DEF	17%	118
ANZ	58%	394
N	100%	680

TAX_LVS: value of latent variables from the transformation of 3 measurable tax avoidance indicators, namely Book-Tax Difference (difference between earnings before tax and taxable income), Abnormal PermDIFF (residual value of permanent components of BTD), Abnormal BTD (residual value of residuals from total book-tax differences); PROS: The company's business strategy, worth 1 if PROSPECTOR, and 0 if others; DEF: The company's business strategy, is 1 if DEFENDER, and 0 if others; ANZ: The company's business strategy, 1 if ANALYZER, and 0 if others. COMP: Competition Complexity, measured using the Herfindahls Index; LEV: Total debt interest bearing divided by total assets of company i in year t; PPE: Total fixed assets divided by total assets; INVINT: Inventory intensity, ratio of total inventory to total assets; IA: Intangible Asset Intensity, which is the ratio of intangible assets to total assets of the company i in year t; SIZE: The size of the company is the natural logarithm of total assets; ROA: Firm profitability, namely the ratio of accounting profit before tax plus interest expense after tax on total assets .AGE: The length of time the company was operating (in years) as a proxy for company experience.

From Table 5.2 it can be seen that the number of manufacturing companies that adopt the business strategy of prospector, defender and analyzer are 168, 118, and 394 or 24.7%, 17% and 58%. The distribution of this strategy is in accordance with the distribution strategy according to Gani and Jermias (2006), Rachmawati (2015), and Arieftiara et al (2019), where the majority of companies in Indonesia adopt a defender strategy.

5.3. Classic Assumption Test Results

From the testing of the following classic assumptions, the result are:

1. Normality

The normality test for all research variables shows that the skewness value is in the range of +/- 2 (see Table 5.2). This can indicate that all research variables have a normal distribution.

2. Multicollinearity

Multicollinearity testing is conducted to ensure that there is no correlation in each independent variable. Table 5.3 below is the result of Multicollinearity testing.

Table 5.3. Multicollinearity Test Results

Variable	VIF
PROS	3.92
DEF	3.67
ANZ	2.97
COMP	1.92
ROA	1.28

AGE	1.22
SIZE	1.17
LEV	1.16
PPE	1.06
IA	1.05
INVINT	1.03
Mean VIF	1.75

Source: Data processed

From Table 5.3. It can be interpreted that all research variables are free from multicollinearity because they have a VIF value of <10.

1.Heteroscedasticity

Heteroscedasticity test results showed that both Models 1, 2, 3 and 4 experienced heteroscedasticity problems. From the results of the Breusch-Pagan / Cook-Weisberg test, for heteroscedasticity, it showed a significance level of 0,000 or <p value (5%). Thus, to overcome the problem of heteroscedasticity, the estimation of the regression model that has a constant error variant (robust) is used in all models (Adkins and Hill, 2008: 194)

In addition to the above tests and in accordance with the structure of the research data, which is the panel data, it is necessary to carry out the Hausman test and the Breusch-Pagan Lagrangian multiplier test to determine the exact regression model structure of the three panel data model structures, which is the structure of the common / pooled model, the structure of the effect model fixed or random effect model structures (Adkins and Hill, 2008: 357).

5.4. Hypothesis Test Results

5.4. Hypothesis Test Results

The testing of the hypothesis of this study is using 4 models, which are Model 1 that is used to test Hypotheses 1a and 1b. Then model 2 that is used to test Hypothesis 1c. Furthermore, Model 3 is used to test Hypotheses 2a and 2b. Then model 4 is used to test Hypothesis 2c. A summary of the results of the regression model tests (Models 1 and 2) can be seen in Table 5.4 below:

Table 5.4. Summary of the Effect of Test Results for Each Type of Business Strategy on Tax Avoidance.

Model 1:

$$TAXAGGR_{it} = \alpha_0 + \alpha_1 PROS_{it} + \alpha_2 DEF_{it} + \alpha_3 COMP_{it} + \alpha_4 LEV_{it} + \alpha_5 PPE_{it} + \alpha_6 INVINT_{it} + \alpha_7 IA_{it} + \alpha_8 ROA_{it} + \alpha_9 SIZE_{it} + \alpha_{10} AGE_{it} + e_{it}$$

Model 2:

$$TAXAGGR_{it} = \beta_0 + \beta_1 PROS_{it} + \beta_2 ANZ_{it} + \beta_3 COMP_{it} + \beta_4 LEV_{it} + \beta_5 PPE_{it} + \beta_6 INVINT_{it} + \beta_7 IA_{it} + \beta_8 ROA_{it} + \beta_9 SIZE_{it} + \beta_{10} AGE_{it} + e_{it}$$

	Model 1 TAXAGGR			**Model 2 TAXAGGR**	
Variable	**Expected sign**	**Coef.**	**Sig.**	**Expected sign**	**Coef.**	**Sig.**
PROS	**H1a: +**	0.01198	0.001***	**H1c: +**	0.01752	0.001***

DEF	**H 1b: -**	0.00588	0.147			
ANZ				+/-	-0.00564	0.064*
COMP	+	0.02594	0.000***	+	0.02594	0.000***
LEV	+	-0.00114	0.137	+	-0.00114	0.137
PPE	-	0.00152	0.029**	-	0.00152	0.029**
INVINT	-	-0.00132	0.198	-	-0.00132	0.198
IA	+/-	-0.00292	0.091*	+/-	-0.00292	0.091*
ROA		0.00116	0.246		0.00116	0.246
SIZE	+	0.00033	0.000***	+	0.00033	0.000***
AGE	-	0.00002	0.438	-	0.00002	0.438
Konstanta	+/-	0.00829	0.002***	+/-	0.00829	0.002***
Model			Common	**Model**		Common
Hettest			Robust	**Hettest**		Robust
R-Sq			46.94%	**R-Sq**		46.94%
Prob. F(stat)			0.000	**Prob. F(stat)**		0.000
N			680	**N**		680

Information:

TAXAGGR: Corporate tax avoidance is measured by using TAX_LVS / Tax Avoidance-Latent Variable Score (transformation of BTD, AbnBTD, and AbnPermdiff through Confirmatory Factor Analysis (CFA)); PROS: The company's business strategy, worth 1 if PROSPECTOR, and 0 if others; DEF: The company's business strategy, is 1 if DEFENDER, and 0 if others; ANZ: The company's business strategy, 1 if ANALYZER, and 0 if others. COMP: Competition Complexity, measured using the Herfindahls Index; LEV: Total debt interest bearing divided by total assets of company i in year t; PPE: Total fixed assets divided by total assets; INVINT: Inventory intensity, ratio of total inventory to total assets; IA: Intangible assets, which is the ratio of intangible assets to total assets of company i in year t; SIZE: Firm size is the natural logarithm of total assets; ROA: Company profitability, which is the ratio of accounting profit before tax plus interest expense after tax to total assets. AGE: The length of time the company was operating (in years) as a proxy for company experience.

*** Significant at the 1% level; ** Significant at the 5% level; * Significant at the 10% level.

Source: Data Processed

From the results of testing Models 1 and 2 obtained the results that Hypotheses 1a and 1c were accepted, while hypothesis 1b was rejected. In Model 1, the result of the PROS coefficient is positive, that is 0.01198 and the probability value of t is 0.001 so that <of p value, thus it is significant at 1%. These results indicate that H1a was accepted, or the prospector company did higher tax avoidance than the analyzer company. However, the results of the Model 1 test show that the DEF coefficient is 0.0058 with a p value of 0.147 so that the> p value, thus H1b is rejected, or it is not proven that the defender company performs a lower tax avoidance compared to the analyzer.

In Model 2, the result of the PROS coefficient is positive, that is 0.01752 and the probability value of PROS is 0.001 so that <of p value, thus is significant at 1%. This result means that H1c is accepted, or that prospector companies avoid higher taxes than defender companies.

The test results for the control variable show that the IA and SIZE variables are consistent as predicted that IA has a significant negative coefficient while SIZE has a positive and significant coefficient. This result means that companies with high levels of intagible assets are proven to be more aggressive in tax evasion than other companies. In addition, larger companies are proven to be more tax aggressive than other companies.

The next tests were conducted on Models 3 and 4 to test whether the complexity of business competition had an impact on increasing the level of tax avoidance carried out by each type of business strategy. A summary of the results of testing Models 3 and 4 can be seen in Table 5.5.

From Table 5.5 the results show that the PROS * COMP coefficient is positive, that is 0.20311 and significant at the 1% level. This result means H2a is accepted, or it is proven that the complexity of competition increases the level of tax avoidance carried out by the prospector compared to the analyzer.

The test results show that the coefficient of DEF * COMP is positive, which is 0.15455 and significant at the 1% level. This result means that H2b is accepted, or it is proven that the complexity of competition increases the level of tax avoidance committed by the defender compared to the analyzer.

Table 5.5. Summary of Test Results on the Effects of Competition Complexity on Corporate Tax Aggressiveness based on Adopted Business Strategies

Model 3:

$$TAXAGGR_{it} = \gamma_0 + \gamma_1 PROS_{it} + \gamma_2 DEF_{it} + \gamma_3 COMP_{it} + \gamma_4 PROS * COMP_{it} + \gamma_5 DEF * COMP_{it} + \gamma_6 LEV_{it} + \gamma_7 PPE_{it} + \gamma_8 INVINT_{it} + \gamma_9 IA_{it} + \gamma_{10} ROA_{it} + \gamma_{11} SIZE_{it} + \gamma_{12} AGE_{it} + e_{it}$$

Model 4:

$$TAXAGGR_{it} = \delta_0 + \delta_1 PROS_{it} + \delta_2 ANZ_{it} + \delta_3 COMP_{it} + \delta_4 PROS * COMP_{it} + \delta_5 ANZ * COMP_{it} + \delta_6 LEV_{it} + \delta_7 PPE_{it} + \delta_8 INVINT_{it} + \delta_9 IA_{it} + \delta_{10} ROA_{it} + \delta_{11} SIZE_{it} + \delta_{12} AGE_{it} + e_{it}$$

		Model 3 TAXAGGR			**Model 4 TAXAGGR**	
Variable	**Expected sign**	**Coef.**	**Sig.**	**Expected sign**	**Coef.**	**Sig.**
PROS	+	-0.08320	0.000***	+	-0,06934	0.000***
DEF	-	-0.07357	0.000***			0.000***
ANZ				+/-	-0,03567	0.002***
COMP	+	-0.03979	0.000***	+	0,04233	0.000***
PROS* COMP	**H2a:** +	0.20311	0.000***	**H2c:** +	0,10491	0.000***
DEF*COMP	**H2b:** +/-	0.15455	0.000***			

ANZ*COMP					-0,06531	0.000***
LEV	+	-0.00063	0.216	+	-0,00112	0.095*
PPE	-	0.00064	0.161	-	0,00053	0.219
INVINT	-	-0.00118	0.193	-	-0,00079	0.282
IA	+/-	-0.00196	0,150	+/-	-0,00020	0.153
ROA	+	0.00030	0.416*	+	0,00036	0.401
SIZE	+	0.00014	0.091*	+	0,00016	0.116
AGE	-	0.00001	0.233	-	0,00005	0.342
Konstanta	+/-	0.04223	0.000***	+/-	0,03504	0.000***
Model			Common	**Model**		Common
Hettest			Robust	**Hettest**		Robust
R-Sq			65.69%	**R-Sq**		63.42%
Prob. F(stat)			0.000	**Prob. F(stat)**		0.000
N			680	**N**		680

Information:

TAXAGGR: Corporate tax avoidance is measured by using TAX_LVS / Tax Avoidance-Latent Variable Score (transformation of BTD, AbnBTD, and AbnPermdiff through Confirmatory Factor Analysis (CFA)); PROS: The value of company's business strategy is 1 if PROSPECTOR, and 0 if others; DEF: The company's business strategy, is 1 if DEFENDER, and 0 if others; ANZ: The company's business strategy, 1 if ANALYZER, and 0 if others. COMP: Competition Complexity, measured using the Herfindahls Index; LEV: Total debt interest bearing divided by total assets of company i in year t; PPE: Total fixed assets divided by total assets; INVINT: Inventory intensity, ratio of total inventory to total assets; IA: Intangible assets, which is the ratio of intangible assets to total assets of company i in year t; SIZE: Firm size is the natural logarithm of total assets; ROA: Company profitability, which is the ratio of accounting profit before tax plus interest expense after tax to total assets. AGE: The length of time the company was operating (in years) as a proxy for company experience

*** Significant at the 1% level; ** Significant at the 5% level; * Significant at the 10% level.

Source: Data Processed

The test results of Model 4 obtained the result that the coefficient of PROS * COMP was 0.10491 and significant at the level of 1%. This result means H2c is accepted, or it is proven that the complexity of competition increases the level of tax avoidance carried out by the prospector compared to the defender.

The test results for the control variable showed that the ROA and SIZE variables were consistent as predicted, both of which had significant positive coefficients. This result means that companies with a high level of profitability are proven to be more aggressive in tax avoidance than other companies. In addition, larger companies are proven to be more tax aggressive than other companies.

5.5. Discussion

5.5.1. The Effect of Business Strategy on Corporate Tax Aggressiveness

The results indicated that there were differences in the level of tax aggressiveness between business strategies. The test results show that the prospector's strategy of tax aggressiveness is higher than that of the

defender and analyzer. These results are in accordance with the study of Higgins et al (2014); Arieftiara et al. (2019); Miles and Snow (1978), the prospector strategy that has high innovation characteristics, prefers rapid changes, so that they are more tolerant of risk compared to the other two typologies. These characteristics support the prospector to avoid taxes more than the other two strategies (defender and analyzer). The test results indicate that there is no evidence that supports the defender to aggressively avoid lower tax evasion compared to the analyzer. Defender is a company that focuses on competitive prices and low costs. It does not pursue market growth and development but maintains the stability of the segments and markets / domains that it already has. Generally, it has a strong domain that is not easily penetrated by competitors (Miles and Snow, 1978), this characteristic is the basis that tax aggressiveness is not a defender's strategic choice in maintaining its competitive position. This is reinforced by the explanation of Arieftiara et al (2019) that the defender is proven to have a lower level of tax avoidance compared to the analyzer (in the context of all companies listed on the Indonesia Stock Exchange 2009-2012). In the context of this research that is in manufacturing companies in the period 2014 - 2018, compared to analyzer companies, the aggressiveness of defender tax has not been proven to be lower. This can be caused by tax aggressiveness not being proven to be a defender's choice, but that does not mean that the defender is not doing his tax planning. Judging from the positive coefficient of the variable defender in Model 1, the defender performs a tax avoidance but because it is not significant, the avoidance level is not aggressive, so when compared to the analyzer there is no difference. in order to avoid risk, explain that a defender or survival strategy (Miles and Snow, 1978).

5.5.2. The Effect of Competition Complexity on Corporate Tax Aggressiveness based on Adopted Business Strategies

The test results indicate evidence that the complexity of competition increases the level of tax avoidance carried out by the prospector compared to the analyzer. In addition, the test results show evidence that the competition complexity has a positive effect on the level of tax avoidance committed by the defender compared to the analyzer. Furthermore, other results signify that the complexity of competition increases the level of tax avoidance carried out by the prospector compared to the defender. This result is consistent with Armstrong et al. (2012) which proves that the more complex the competition of an industry, the greater the opportunity for tax planning. Tax avoidance is one of the strategies and planning undertaken by managers in dealing with environmental uncertainty as well as managers carry out profit planning and strategy, budget planning and other planning in relation to company management (Dunk and Nouri, 1998; Davila and Wouters, 2005; Ghosh and Olsen, 2009). This result also supports the explanation by Santoso and Rahayu (2013) that managers as managers of corporate taxpayers will try to meet the expectations of shareholders to maximize after-tax profits by reducing tax costs.

Managers as the people who manage the company have an interest in maintaining the company's performance by taking strategic actions. Managers can change their strategic actions if they face complex competitive conditions. When faced with conditions of high competition complexity, managers use discretion and judgment to make various decisions and strategic steps including tax planning. The results of the study consistently support Eisenhardt (1989); Dunk and Nouri (1998); Davila and Wouters (2005); Ghosh and Olsen (2009); and Armstrong et al. (2012); Santoso and Rahayu (2013); Arieftiara et al. (2019), namely in conditions of high competition complexity, managers increase the level of corporate tax avoidance, the more

complex the level of competition the higher the chance for companies to avoid tax avoidance. In conditions of high competition complexity, managers take strategic action, especially in tax aggressiveness adjusted to the typology of business strategies adopted by the company. Prospector company managers utilise the strengths and characteristics of the company by increasing the intensity of tax avoidance compared to the defender and analyzer companies when the company is in high competition complexity. Likewise defender companies in order to strengthen their competitive position, managers utilize the strengths and characteristics of defenders, which is to focus on low costs by increasing tax aggressiveness compared to analyzers, especially when companies are facing conditions of high competition complexity.

6.Conclusion

This study aims to examine whether business strategies affect tax aggressiveness and whether the complexity of competition affects the behavior of tax aggressiveness based on business strategy groups. This research was conducted at manufacturing companies listed on the Indonesia Stock Exchange from year 2014 to 2018. The total final sample of the company in this study was 680 firm years.

By using multiple linear regression models, this study found evidence that certain types of business strategies can affect tax aggressiveness. This study successfully proved that the prospector's strategy of tax aggressiveness was higher than that of the defender and analyzer. However, this study cannot document that defenders carry out higher / lower tax aggressiveness than analyzers.

Furthermore, this study has succeeded in documenting that in conditions of high competition complexity, prospector strategy manager increase the intensity of tax avoidance aggressiveness compared to companies that implement a defender or analyzer strategy. This study is able to prove that in conditions of high competition complexity, defender strategy managers increase the intensity of tax avoidance aggressiveness compared to companies that implement analyzer strategies.

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