APLIKATIF
Journal of Research Trends in Social Sciences and Humanities
DOI: https://doi.org/10.59110/aplikatif.v4i3.454
Vol. 4 No. 3, September 2025, pp. 300-309

The Impact of Candlestick Patterns and Stochastic Oscillator on Investment Interest in PT Akasha Wira Internasional Tbk's Stocks

Siti Amelia Neni Prawira
Universitas Iqra Buru, Namlea, Indonesia
ameliauniqbu@gmail.com

ABSTRACT

The Indonesian capital market has experienced significant growth, marked by increasing retail investor participation—especially during the pandemic. Amid these dynamics, technical analysis has become a popular approach to investment decision-making, as it provides market signals based on historical price data. This study aims to analyze the impact of two technical indicators, Candlestick Charts and Stochastic Oscillator, on stock investment interest, with a case study on PT Akasha Wira Internasional Tbk listed on the Indonesia Stock Exchange. Using a descriptive quantitative approach, data were collected via questionnaires distributed to 50 retail investors and analyzed through multiple linear regression, preceded by validity, reliability, and classical assumption tests. The results indicate that both Candlestick Charts and Stochastic Oscillator have a positive and significant influence on investment interest, both partially and simultaneously. The Candlestick variable yielded a significance value of 0.042, while the Stochastic Oscillator demonstrated a stronger effect with significance < 0.001. Together, these indicators explain 44.7% of the variation in investment interest (*R^2 = 0.447*). These findings suggest that technical indicators can enhance investor confidence and attractiveness in making investment decisions. The study recommends improving retail investor education on technical analysis to promote literacy and rational, analysis-based investment participation.

Keywords: *Candlestick Patterns; Stochastic Oscillator; Investment Interest; Technical Analysis; Capital Market*

INTRODUCTION

The Indonesian capital market has shown significant growth in recent years, particularly in the retail investor segment. A surge in new investors occurred during the COVID-19 pandemic, driven by increased accessibility to financial information through digital platforms and social media (Mardiana et al., 2023; Lubis & Kusuma, 2022). This phenomenon reflects a shift in investment dynamics, with more individuals making direct investment decisions without institutional intermediaries.

The Indonesia Stock Exchange (IDX), together with the Financial Services Authority (OJK), has actively encouraged public participation through programs such

as "Yuk Nabung Saham" (Let's Invest in Stocks), which aims to improve capital market literacy and simplify investment access, including online securities account openings (Harahap & Ajabar, 2022). Despite facing volatile global economic challenges, retail investors remain highly motivated, supported by confidence in the long-term prospects of Indonesia's capital market (Lubis & Kusuma, 2022).

Beyond conventional instruments, the Indonesian capital market also offers diverse investment options such as Exchange-Traded Funds (ETFs) and sukuk (Islamic bonds), which align with Sharia principles, broadening investor inclusivity (Hasanah et al., 2021; Suryosumirat, 2023). Collectively, these developments indicate that Indonesia's capital market growth is not only quantitative but also marked by diversification and participant inclusion.

Amid rising stock investment interest, there is a growing need for analytical approaches that help investors make rational and informed decisions. One widely used method is technical analysis, which relies on historical price and trading volume data to identify market trends (Fadilah et al., 2020; Ferennita et al., 2022; Patriya et al., 2023). Technical analysis enables investors to recognize price movement patterns and anticipate trend reversals, reducing reliance on speculation or intuition alone.

Research suggests that technical analysis improves investment decision-making by providing clearer and more objective market signals (Fitriani et al., 2024; Hadi et al., 2024). Investors who integrate technical analysis into their strategies tend to achieve more stable and measurable performance compared to those relying solely on fundamental analysis or personal intuition (Tobing et al., 2023).

Two widely used technical indicators—Candlestick Charts and Stochastic Oscillator—are favored by both novice and professional investors. Candlestick Charts visually represent stock price movements, displaying opening, closing, high, and low prices over a specific period. Candlestick patterns provide critical signals about potential trend reversals or continuations (Santur, 2022; Wang et al., 2022). Meanwhile, the Stochastic Oscillator measures price momentum by identifying overbought or oversold conditions. Studies demonstrate its effectiveness in spotting potential price reversal points and improving market direction predictions (Ni et al., 2015; Ni et al., 2020). Combining these indicators offers a more comprehensive guide by integrating trend visualization with momentum signals (Deng et al., 2020).

Given this context, the research problem arises from the need to examine how technical indicators—specifically Candlestick Charts and Stochastic Oscillator—influence retail investors' stock investment interest. This study focuses on determining whether these indicators, either partially or simultaneously, significantly affect investment decisions in consumer goods sector stocks listed on the Indonesia Stock Exchange, particularly PT Akasha Wira Internasional Tbk.

METHOD

Research Type and Design

This study employs a descriptive quantitative approach to analyze the influence of Candlestick Chart and Stochastic Oscillator indicators on stock investment interest in PT Akasha Wira Internasional Tbk (ADES). The quantitative approach was chosen because it allows for statistical testing of relationships between variables, thereby producing objective findings that can be generalized within certain limits. The research

object is the stock of PT Akasha Wira Internasional Tbk, which belongs to the consumer goods sector on the Indonesia Stock Exchange. This stock was selected based on the consideration that the consumer sector tends to be stable, yet still experiences price fluctuations that can be analyzed technically. The research subjects are retail investors who understand the basics of technical analysis and have experience or interest in ADES stock.

The population in this study consists of all retail investors who are currently or have previously been active in stock investments on the Indonesia Stock Exchange. Since it was not possible to reach the entire population, a non-probability sampling technique with a purposive sampling approach was used. The research sample comprises 50 respondents selected based on specific criteria, namely understanding the technical indicators used in the study and being willing to complete the questionnaire thoroughly.

Data Collection Technique

The data in this study is primary and was collected directly from respondents through online questionnaire distribution. The questionnaire was structured based on technical indicators and investment perceptions, using a five-point Likert scale. This scale measures respondents' level of agreement with each statement, ranging from strongly disagree (1) to strongly agree (5).

The questionnaire is divided into three main parts: statements related to the use of Candlestick Chart, statements about the utilization of Stochastic Oscillator, and statements regarding investment interest. For the Candlestick Chart, respondents were asked to assess their perception of this indicator's ability to identify price movement patterns and provide buy or sell signals. For the Stochastic Oscillator indicator, questions were directed at perceptions of the indicator's effectiveness in reading market momentum. Meanwhile, the investment interest section contained statements describing interest, investment intention, and the influence of technical indicators on the decision to buy ADES stock.

The instruments used were first tested for validity and reliability. The validity test was conducted to determine the extent to which the statement items were able to measure the intended concepts, while the reliability test aimed to ensure the consistency of respondents' answers. The validity test was performed using Pearson Product Moment correlation, while the reliability test used Cronbach's Alpha formula.

Data Analysis Technique

After data collection, the next stage was data analysis conducted in stages. First, classical assumption tests were performed to meet the requirements for using linear regression. The normality test was conducted to see whether the data distribution approached normal. Next, the multicollinearity test was used to ensure there was no high correlation between independent variables, while the heteroskedasticity test aimed to identify any inconsistency in residual variance that could affect the estimation results.

After the classical assumptions were met, multiple linear regression analysis was performed to determine the influence of Candlestick Chart and Stochastic Oscillator on investment interest, both partially and simultaneously. A regression equation was formulated to predict investment interest values based on the values of both technical indicators. The regression results were then tested using a t-test to determine the

significance of each independent variable's influence individually, and an F-test to determine the significance of their simultaneous influence.

As a complement, the coefficient of determination (R^2) analysis was used to see how much the combination of Candlestick Chart and Stochastic Oscillator could explain variations in respondents' investment interest. Thus, this entire series of analyses was designed to answer the research questions systematically and scientifically.

RESULT

Descriptive Statistics of Research Variables

Descriptive statistics were used to provide an overview of the data distribution for each research variable, namely Candlestick Chart, Stochastic Oscillator, and Investment Interest. Based on data processing from 50 respondents, all of whom were active stock investors or potential investors, the average values for each variable fell into the "good" category.

Table 1. Descriptive Statistics of Research Variables

Variabel	N	Mean	Category
Candlestick Chart (X_1)	50	4,03	Good
Stochastic Oscillator (X_2)	50	4,04	Good
Minat Investasi (Y)	50	4,09	Good

The average value for the Candlestick Chart variable was 4.03, indicating that respondents tended to give positive assessments regarding the use of candlesticks in reading stock price movement patterns. The Stochastic Oscillator had a slightly higher average of 4.04, showing that respondents sufficiently understood or trusted this indicator in reading market momentum. Meanwhile, the average investment interest score of 4.09 suggests that, in general, respondents had high interest in stock investments, which was likely also driven by their understanding of these two technical indicators.

Although not explicitly stated, the high average values across all variables implicitly indicate that the majority of respondents in this study were individuals with higher education backgrounds and of productive age, who generally possessed basic understanding of technical analysis concepts and capital market potential.

Research Instrument Quality Test

Before conducting further analysis, an important preliminary stage in this research was to ensure that the questionnaire instrument met the validity and reliability criteria. These two tests aimed to guarantee that the measurement tool truly represented the theoretical constructs of each variable and produced consistent data.

The validity test was conducted using Pearson Product Moment correlation between each statement item and the total variable score. The instrument was declared valid if the calculated r-value was greater than the table r-value. With 50 respondents, the table r-value at a 5% significance level was 0.279. Based on the test results, all 12 statement items in the questionnaire showed calculated r-values greater than the table r-value, so all items could be declared valid and suitable for use in the analysis.

Next, to test the internal consistency of each construct, a reliability test was conducted using Cronbach's alpha coefficient. The instrument was considered reliable if the α value exceeded 0.6. The test results shown in Table 4.9 indicate that the

Candlestick Chart variable had a Cronbach's alpha value of 0.723, the Stochastic Oscillator variable 0.617, and the Investment Interest variable 0.774. All these values exceeded the required minimum threshold, so it can be concluded that all constructs in this research instrument had adequate reliability levels.

Tabel 2. Results of Research Instrument Reliability Test

No	Research Variable	*Cronbach's alpha* (α)	Description
1	Chandelistick Chart (X1)	0,723	Reliable
2	Stochstick Oscillator (X2)	0,617	Reliable
3	Minat Investasi (Y)	0,774	Reliable

Classical Assumption Testing

The normality test was conducted to examine whether the residuals of the regression model were normally distributed. This testing was performed using two visual methods: residual histogram and Normal Probability Plot (P-P Plot). Based on Figure 4.1 below, the histogram shows a residual distribution that tends to form a pattern approximating a normal curve. Additionally, the P-P Plot displays points that follow the diagonal line, indicating that the residual data is normally distributed.

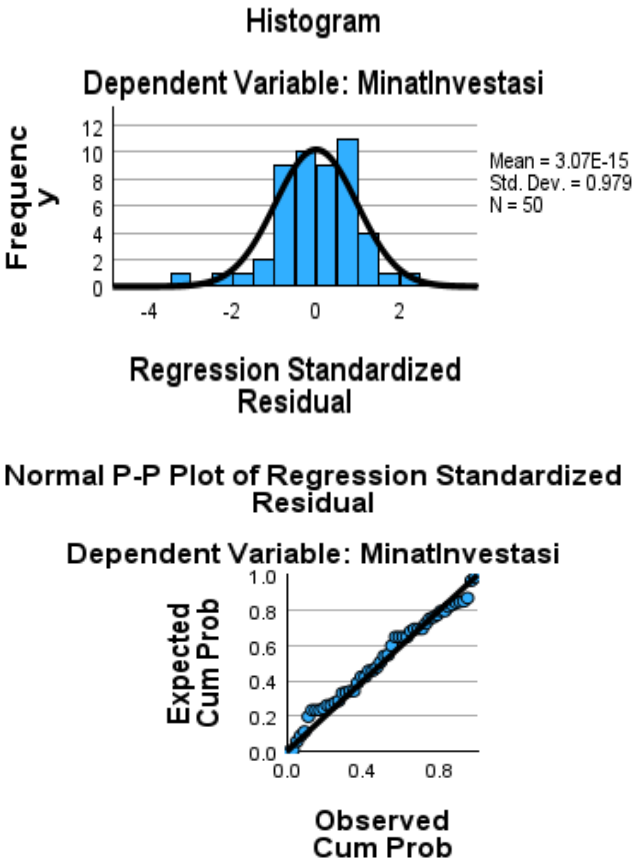

Figure 1. Histogram and Normal P-P Plot of Residual Normality Test

Figure 1 shows the results of residual normality testing through two visual approaches: histogram and normal P-P plot. The histogram reveals that the residual distribution forms a pattern resembling a normal curve (bell-shaped), with data spread symmetrically around the central value, which in this case has a mean value of -3.07E-15 and a standard deviation of 0.979. Meanwhile, the normal P-P plot shows residual

points consistently scattered along the diagonal line without noticeable deviations, indicating that the residual distribution visually approximates a normal distribution. Together, these two visualizations demonstrate that the residual data from the regression model does not show deviations from the normality assumption, allowing us to conclude that the normality assumption in the regression analysis has been satisfied.

Results of Multiple Linear Regression Analysis

Multiple linear regression analysis was conducted to determine the extent of the influence of independent variables, namely Candlestick Chart (X_1) and Stochastic Oscillator (X_2), on the dependent variable, Investment Interest (Y). The results of data processing using SPSS software are presented in Table 4.11.

Table 3. Results of Multiple Linear Regression Analysis on Investment Interest

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.165	.479		2.434	.019
Chandelistick Chart	.258	.124	.277	2.087	.042
Stochistick Oscillator	.467	.132	.470	3.540	<.001

Based on Table 4.11 above, the multiple linear regression equation in unstandardized coefficients form is obtained as follows:

$$Y = 1{,}165 + 0{,}258X_1 + 0{,}467$$

The equation indicates that the constant value of 1.165 represents the baseline level of investment interest when Candlestick Chart and Stochastic Oscillator are considered to have no effect. The regression coefficient of 0.258 for Candlestick Chart shows that a one-unit increase in perception of this indicator will increase investment interest by 0.258 units, assuming other variables remain constant. Meanwhile, the regression coefficient of 0.467 for Stochastic Oscillator indicates that a one-unit increase in this indicator will increase investment interest by 0.467 units. Therefore, both technical indicators make positive contributions in influencing investment interest.

DISCUSSION

The results of this study indicate that the use of technical indicators, particularly Candlestick Charts and Stochastic Oscillators, has a significant influence on stock investment interest. Based on the multiple linear regression analysis results, both independent variables show positive contributions in explaining variations in retail investors' investment interest in PT Akasha Wira Internasional Tbk stocks, both partially and simultaneously.

In the partial test, the Candlestick Chart showed a significance value of 0.042 and a regression coefficient of 0.258, meaning that the better investors understand and use this indicator, the higher their investment interest. This confirms that price data visualization through candlesticks not only serves as a technical tool for reading the market but also shapes investor perceptions and confidence in market opportunities. Candlestick patterns such as hammer, doji, bullish engulfing, and morning star have

become a visual language well-known among retail investors as they provide simple yet strong signals of potential price movements. Previous studies by Santur (2022) and Wang et al. (2022) also support that candlesticks are highly effective tools in building investor confidence in market trends.

Meanwhile, the Stochastic Oscillator variable showed a greater influence than the Candlestick Chart, with a significance value <0.001 and a regression coefficient of 0.467. This finding indicates that this momentum-based indicator plays a crucial role in driving investor interest, particularly in decision-making contexts requiring precise timing. In practice, the Stochastic Oscillator is used to detect overbought and oversold conditions, which typically serve as important signals for buy or sell actions. For retail investors, such information is critical as it provides signals to anticipate price trend reversals. Research by Ni et al. (2020) and Ni et al. (2015) has proven that this indicator is not only predictive but also has psychological effects on investor behavior as it is considered to provide early warnings of market changes. In this study's context, the Stochastic Oscillator appears more dominant in influencing investment interest because its quantitative and measurable nature is more appealing than visualizations like candlesticks. This aligns with findings by Hadi et al. (2024) stating that numerically-based technical indicators tend to be more trusted by investors with higher education backgrounds and analytical thinking patterns.

From the simultaneous influence perspective, the F-test results show that both indicators together have a significant effect on investment interest, with an F-value of 19.026 and significance <0.001. The coefficient of determination (R^2) value of 0.447 indicates that 44.7% of investment interest variation can be explained by the model consisting of Candlestick Chart and Stochastic Oscillator, while the remaining 55.3% is influenced by other factors outside the model, such as macroeconomic conditions, industrial sector issues, company fundamental performance, and investors' psychological and social aspects. This R^2 value is moderate but sufficiently strong to state that technical indicators play a significant role in retail investment decision-making. This is consistent with studies by Ferennita et al. (2022) and Fitriani et al. (2024) concluding that the more complete and accurate technical information investors have, the higher their interest and participation in stock investments, especially among young investors who tend to rely on visual data and technical numbers rather than traditional fundamental analysis.

Interestingly, this study's findings also indirectly show that investment interest is not solely formed by profit expectations but also by confidence in the analytical tools used. When investors feel confident about the accuracy of signals from technical indicators, they are more motivated to engage actively in transactions. This reflects that investment decisions are not only rational data-based decisions but also psychological decisions influenced by perceptions of the tools used. Therefore, mastery of technical indicators like Candlestick Charts and Stochastic Oscillators is not just about the ability to read trends but also about how these indicators influence perceptions of risk and potential returns.

In the context of Indonesian capital market development, these findings provide an important contribution by showing that improving technical literacy can be key to encouraging broader retail investor participation. If understanding of technical indicators is strengthened through training, education, and accessible information provision, sustainable increases in investment interest will likely occur. This could also

strengthen market stability as investor decisions become more analysis-based rather than speculative or driven by temporary sentiment.

Thus, it can be concluded that both separately and together, Candlestick Charts and Stochastic Oscillators make real contributions in influencing investment interest. The use of technical indicators proves to not only help in market analysis but also strengthen investor confidence in decision-making, particularly regarding PT Akasha Wira Internasional Tbk stocks as the object of this study. Therefore, the ability to understand and apply technical indicators is not just an added value but a basic necessity for retail investors who want to make more rational and strategic investment decisions amid dynamic market fluctuations.

CONCLUSION

Based on the research results conducted on 50 retail investors who have an interest in PT Akasha Wira Internasional Tbk stocks, it can be concluded that technical analysis indicators, namely Candlestick Chart and Stochastic Oscillator, have a significant influence on investment interest. These findings are based on multiple linear regression analysis results which show that both independent variables, both partially and simultaneously, provide positive contributions to increasing investor interest in stock investments.

Partially, the Candlestick Chart has a significant influence with a significance value of 0.042, while the Stochastic Oscillator shows a stronger influence with a significance value below 0.001. These results indicate that both technical indicators not only assist in the decision-making process but also shape investor confidence and interest in investment activities. Simultaneously, both indicators can explain 44.7% of the variation in investment interest, meaning that technical indicators play an important role in shaping retail investors' interest and behavior, although there are still other factors outside the model that also influence an individual's investment decisions.

Through this conclusion, the recommendations that can be given are that for investors, especially beginner retail investors, it is important to equip themselves with adequate understanding of technical indicators such as Candlestick Chart and Stochastic Oscillator. These two tools not only provide reliable market signals but also strengthen confidence in making rational investment decisions. In addition, capital market institutions such as the Indonesia Stock Exchange, securities companies, and related authorities need to expand financial literacy programs by emphasizing skills in reading and interpreting technical indicators. Comprehensive and structured education about technical analysis will encourage more individuals to actively participate in stock investments while minimizing speculative or trend-based decision making.

For further research, it is suggested to consider other variables such as fundamental analysis, market sentiment, or investor psychology to build a more comprehensive model in explaining investment behavior. Thus, the results of this study are expected to provide practical contributions to the investment world and serve as a basis for developing more effective and sustainable capital market education policies.

REFERENCES

Deng, S., Yu, H., Wei, C., Yang, T., & Shimada, T. (2020). The profitability of Ichimoku Kinkohyo based trading rules in stock markets and FX markets. *International Journal of Finance & Economics, 26*(4), 5321–5336. https://doi.org/10.1002/ijfe.2067

Fadilah, W., Agfiannisa, D., & Azhar, Y. (2020). Analisis prediksi harga saham PT. Telekomunikasi Indonesia menggunakan metode Support Vector Machine. *Fountain of Informatics Journal, 5*(2), 45–54. https://doi.org/10.21111/fij.v5i2.4449

Ferennita, C., Hasan, H., & Astuti, E. (2022). Pengaruh literasi keuangan, advocate recommendation dan overconfidence terhadap pengambilan keputusan investasi saham oleh investor muda di Kota Semarang. *Journal of Accounting and Finance, 1*(1). https://doi.org/10.31942/.v1i1.7009

Fitriani, F., Falah, A., & Sugianto, I. (2024). Analisis tingkat risiko investasi saham pada sektor perbankan terdaftar di BEI tahun 2018–2022. *Jurnal E-Bis (Ekonomi-Bisnis), 8*(1), 382–394. https://doi.org/10.37339/e-bis.v8i1.1697

Hadi, D., Wiharno, H., & Yusuf, A. (2024). Faktor keputusan investasi saham dengan manajemen risiko sebagai variabel moderating. *JEMASI: Jurnal Ekonomi Manajemen dan Akuntansi, 20*(1), 117–130. https://doi.org/10.35449/jemasi.v20i1.785

Harahap, Z., & Ajabar, A. (2022). Program "Yuk Nabung Saham" dan reksadana dalam perspektif usaha kecil menengah (UKM) sebagai alternatif pemilihan investasi dan peningkatan pendapatan di Kota Prabumulih pada masa pandemi COVID-19. *Islamic Banking: Jurnal Pemikiran dan Pengembangan Perbankan Syariah, 7*(2), 237–262. https://doi.org/10.36908/isbank.v7i2.314

Hasanah, M., Fahruddin, A., & Tamami, B. (2021). Exchange Trade Fund (ETF) syariah: Alternatif investasi syariah yang halal dan menjanjikan. *At-Tasharruf: Jurnal Kajian Ekonomi dan Bisnis Syariah, 3*(2), 42–47. https://doi.org/10.32528/at.v3i2.6764

Lubis, M., & Kusuma, I. (2022). Analisis pertumbuhan investor ritel pada masa pandemi dan implikasi pajak penghasilan final atas penjualan saham di bursa. *Jurnal Pajak Indonesia (Indonesian Tax Review), 6*(2), 245–264. https://doi.org/10.31092/jpi.v6i2.1854

Mardiana, R., Saputra, M., & Hassandi, I. (2023). Anchoring bias dalam pengambilan keputusan investor ritel (studi peristiwa selama pandemi COVID-19). *JUMANAGE, 2*(2), 182–190. https://doi.org/10.33998/jumanage.2023.2.2.780

Ni, Y., Cheng, Y., Liao, Y., & Huang, P. (2020). Does board structure affect stock price overshooting informativeness measured by stochastic oscillator indicators? *International Journal of Finance & Economics, 27*(2), 2290–2302. https://doi.org/10.1002/ijfe.2273

Ni, Y., Liao, Y., & Huang, P. (2015). Momentum in the Chinese stock market: Evidence from stochastic oscillator indicators. *Emerging Markets Finance and Trade, 51*(sup1), S99–S110. https://doi.org/10.1080/1540496x.2014.998916

Patriya, E., Latif, A., & Handayani, H. (2023). Peramalan harga saham penutupan indeks harga saham gabungan (IHSG) menggunakan algoritma Long Short Term

Memory (LSTM). *Jurnal Ilmiah Ekonomi Bisnis, 28*(2), 304–314. https://doi.org/10.35760/eb.2023.v28i2.7964

Santur, Y. (2022). Candlestick chart based trading system using ensemble learning for financial assets. *Sigma Journal of Engineering and Natural Sciences – Sigma Mühendislik ve Fen Bilimleri Dergisi*. https://doi.org/10.14744/sigma.2022.00039

Suryosumirat, R. (2023). Exchange Trade Fund (ETF) syariah sebagai alternatif investasi halal. *Cakrawala Repositori Imwi, 6*(6), 2264–2271. https://doi.org/10.52851/cakrawala.v6i6.536

Tobing, S., Saputra, M., & Putri, V. (2023). Pengaruh gross profit margin dan exchange rate terhadap harga saham. *JIMAT (Jurnal Ilmiah Mahasiswa Akuntansi) Undiksha, 14*(4), 945–952. https://doi.org/10.23887/jimat.v14i04.69577

Wang, J., Li, X., Jia, H., Peng, T., & Tan, J. (2022). Predicting stock market volatility from candlestick charts: A multiple attention mechanism graph neural network approach. *Mathematical Problems in Engineering, 2022*, 1–16. https://doi.org/10.1155/2022/4743643