

Monetary Policy and its Implications in Financial Education for Current Business Management

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Citation: Chero, J. A. S., Chero, M. J. S., Yarlequé, M. V., Coveñas, P. B. and Salazar, E. B.S (2025). Monetary Policy and its Implications in Financial Education for Current Business Management, *Journal of Cultural Analysis and Social Change*, 10(2), 2376-2386. <https://doi.org/10.64753/jcasc.v10i2.1956>

Published: November 16, 2025

ABSTRACT

Monetary policy plays a significant role in Peru's macroeconomic stability. The relationship between the instruments used by the Central Reserve Bank of Peru (BCRP) and the primary issuance flow in the 2018-2025 time window was reviewed, analyzing the relationship it may represent for academic training and commercial decision-making. **METHODOLOGY**, A quantitative approach with a non-experimental and longitudinal design, using monthly data from the BCRP's statistical portal. A VAR econometric model and an OLS regression were calculated from 330 observations. Stationarity tests (ADF and KPSS) and optimal VAR order, impulse response functions, and variance decomposition were also performed. **RESULTS**, They revealed that foreign exchange transactions and other monetary operations, including supply levels with monetary instruments, exerted a positive and significant effect on primary issuance ($p < 0.05$), while exports, CPI, and financial inflation were not relevant. Starting in 2020 and throughout the 2020–2022 period, amid the pandemic, a high degree of volatility was observed in both primary issuance and monetary instruments, as well as normalization processes. The model explained a good part of the variability ($R^2 = 1.000$), although it showed problems of multicollinearity and overfitting, which requires caution in its interpretation. **DISCUSSION**, They confirmed the relevance of monetary policy in liquidity management and its relationship with the development of the business economy. They also confirmed the need to strengthen financial education with a focus on practical use, based on empirical evidence that enables students to respond to macroeconomic scenarios and manage risks in the face of uncertainty.

Keywords: Money, Inflation, Currency, Government Policy, Development Policy

INTRODUCTION

The Silicon Valley banking crisis in March 2023 highlighted the importance of understanding the adverse risk transfer mechanism for monetary policy, using an asset-liability management perspective (Fadda et al., 2025) based on the risk-taking channel theory of monetary policy, using public data on 176 Chinese monetary and financial services firms from 2000 to 2022 (Xuanling-Ma. and Meng-Ji., 2023).

Different economic factors that impacted stock market volatility in Malaysia were also analyzed using data from 2013 to 2023 with the Garch-Midas model incorporating high and low frequency data. The results on monetary policy had a significant effect on volatility: in the short term, it directly impacts volatility; in the long term, it influences through the money supply, which in turn determines volatility (Siddique, 2022). Additionally,

economic growth contributes to stabilizing market volatility (Dinh et al., 2025), The study highlighted the interconnection between monetary policy, money supply, economic growth and stock market volatility in emerging economies (Zuo., 2025).

In Ukraine and Poland, inflation expectations were influenced by the sociodemographic characteristics of respondents, assessing the scale and effectiveness of central bank responses. The results indicated a low perception of the effectiveness of central bank monetary policy among financial market clients. Chi-square (χ^2) analysis revealed sociodemographic factors (place of residence, gender, age, employment, income, debt, and savings) influencing the perception of the correlation between effectiveness and response to external shocks (Szmigiel, 2025).

Monetary policy played a very important role in terms of macroeconomic stability in an open economy like Peru's (Ferreira and Serra, 2022). Thus, primary issuance provides a visualization of an economy's liquidity level (Chortareas et al., 2025). However, despite its relevance, companies lack awareness of how the BCRP's decisions—through foreign exchange transactions, securities issuance, or monetary regulation loans—translate into the financial environment facing companies (Kim et al., 2024). This gap between monetary policy and business management is also reflected in training programs, where macroeconomic concepts are often addressed theoretically, without connection to empirical data and econometric tools. Therefore, it will be necessary to investigate how these instruments affect the flow of primary issuance, so that we can reflect on the financial management of organizations and university education in economics and business (Chinn et al., 2022).

The purpose of this research was to study how the BCRP's monetary policy instruments affected the flow of primary issuance in Peru, from the perspective of financial education and business economics (Naef, 2024). To this end, the operations of the different foreign exchange operations, monetary regulation credits, BCRP securities, and financial system deposits were characterized; an econometric model was used to answer questions about how to explain the variation in issuance; questions were posed about the impact of variables on primary issuance and the bidirectionality between the variables investigated; and, finally, an attempt was made to connect the findings with academic content within the framework of financial education and business economics (Chinn et al., 2024).

Ozili (2023) examined its impact and financial inclusion in 5 emerging countries between 2004 and 2020, finding heterogeneous effects depending on the dimension analyzed: while a high interest rate reduced the number of depositors, it favored the expansion of branches; however, after the financial crisis, the increase in rates negatively affected all indicators, recommending caution to the authorities (De-Grauwe & Ji, 2024). For his part, Hilgers (2021) analyzed the influence of the business sector, especially the financial sector, in a monetary policy managed by independent central banks. Applying the concepts of instrumental, structural, and infrastructural power, he showed how this sector expanded its influence in the implementation of monetary policy and proposed new lines of research related to transparency, technology, and emerging functions.

Chugunov et al. (2021) analyzed the relationship between monetary and fiscal policy in 19 emerging economies between 1995 and 2018, concluding that general public spending did not have a positive impact on GDP per capita, highlighting that spending well or poorly depends on the quality of institutions and their orientation towards productive purposes, always in line with the policy of sustainable growth and inflation targets. On the other hand, Bianchi and Bigio (2022) introduced a model of bank liquidity management in an unorganized interbank market, stating that monetary policy interferes with the tension between credit profitability and liquidity risk (Montes et al., 2024), which allowed them to explain both the pass-through of active rates and the credit collapse of 2008, emphasizing the importance of liquidity frictions and the interbank market as factors that influence the effectiveness of monetary policy (Zixi, 2024).

Chupina et al. (2022) worked on credit and loan figures from Russian banks since 2017 and observed significant variability in the way interest rates are set, which became more pronounced since the start of the COVID-19 pandemic. They concluded that banks are conditioning their terms, even offering interest-free loans, as a means of facilitating sustainable management in scenarios of high uncertainty. Gayratjon & Nodira (2024), on the other hand, work on monetary and credit policy in a public-private partnership economic model, emphasizing small businesses, foreign trade, inflation targeting, and central bank policy (Eisenschmidt et al., 2024). They showed that efficient use of monetary instruments, increasing human capital, and harnessing scientific potential are some of the keys to stabilizing the economy and transitioning to a multisystemic development model. Wang (2025) also analyzed the implication of secular decline in interest rates on the largest intermediation and supply of bank credit, showing that although rate decreases may imply credit expansion in the short run, in the long run it tends to contract due to the reduction in deposit spreads (Mkhattrishvili and Tsutskiridze, 2024).

The theoretical framework is based on the principles of modern monetary theory, which establishes the importance of monetary issuance and central bank policy as mechanisms for regulating the economy (Wang & Wang, 2024). Primary issuance, representing the initial level of money in circulation, is influenced by open market operations, monetary regulation credits, foreign exchange interventions, and the financial system's decisions regarding its deposits (BCRP, 2024).

Authors such as Mishkin (2019) and Blanchard (2021) argue that central bank liquidity decisions have both short- and medium-term effects on inflation, the exchange rate, and economic activity. Furthermore, the application of Var has been extensively used in emerging economies to study the impact of monetary policy on real variables defined by Sims (1980) and Lutkepohl (2005).

The VAR (Vector Autoregressive) econometric model allowed the collection of dynamic relationships between variables that respond to disturbances in others over time (Giovanni & Villa, 2023). VAR is the widely used economic model to analyze the dynamics between multiple economic variables that affect each other over time (Cortés *et al.*, 2022). Unlike univariate models (ARIMA), VAR considers several time series together, postulating that each variable will depend not only on its own lags, but also on the lags of the other variables in the system (Chávez & Burgos, 2021). This makes it a valid model in cases where there is no structural theory that specifies causal relationships between variables (Aizenman *et al.*, 2022).

The VAR model is represented as follows:

$$Y_t = A_1 Y_{t-1} + A_2 Y_{t-2} + \dots + A_p Y_{t-p} + \varepsilon_t$$

Considering that:

- Y_t column vector of size $k \times 1$, contains k endogenous variables analyzed in period t .
- $A_1, A_2, \dots, A_p$ are coefficient matrices of dimension $k \times k$, which represent the effect of the lags of the variables on themselves and on each other.
- ε_t is a vector of error terms or random disturbances, also of dimension $k \times 1$, which is assumed to have zero mean, constant variance and no autocorrelation (Tak & Gök, 2022).

In this context, each of the equations that make up this VAR system can be interpreted as a linear regression in which one variable is explained by the past values of all the variables considered in the model (Gan & Damdinjav, 2023). This property makes it possible to capture complex dynamic relationships without imposing explicit restrictions. A valuable contribution of the VAR is that it also allows the analysis of impulse-response functions, which show how a shock in one of the variables affects the rest of the system in subsequent periods (Acosta, 2023). Similarly, this technique can be complemented with the analysis of the variance of the variance, which allows us to know the degree to which each of the variables in the model explains the future variability of one of them (Witmer, 2023).

The VAR modeling technique is a commonly used tool in the fields of macroeconomics, financial research, and monetary research, since it allows us to study the interaction between various economic indicators such as the gross domestic product (GDP), the interest rate, inflation, the exchange rate, or monetary issuance (Bennani, 2023). The VAR modeling technique allows us to analyze how the different monetary policy instruments of the BCRP interact with each other and with primary issuance, producing delayed phenomena, as well as effects that accumulate over time and are key to business decision-making and the design of financial strategies (Chávez and Burgos, 2021).

Model specification according to the proposed variables:

- Y_t : Primary Emission Flow (PN00990MM) – Dependent variable.
- $A1_t$: Foreign Exchange Operations (PN00991MM)
- $A2_t$: Foreign Exchange Operations - Net Purchases on the Table (PN00992MM)
- $A3_t$: Foreign Exchange Operations - Net Purchases on the Table - Purchases (PN00993MM)
- $A4_t$: Foreign Exchange Operations - Public Sector (PN00995MM)
- $A5_t$: Other Monetary Operations (PN00999MM)
- $A6_t$: Lima Metropolitan Price Index (PN01272PM)
- $A7_t$: Financial System Inflation (ISFN01)
- $A8_t$: Exports by product group at national level (RD38578BM)

METHODOLOGY

The study applies a quantitative approach with a non-experimental and longitudinal design (Park, 2023), A VAR econometric model is used with monthly panel-type data between January 2018 and June 2025 (330 records). The information sources correspond to the BCRP statistical portal. The processes applied in the study included the descriptive analysis of the time series, followed by stationarity tests using ADF and KPSS to guarantee the validity of the data; subsequently, the optimal order of the VAR model was determined with the Akaike information criterion (AIC) (Fraccaroli *et al.*, 2023), Based on this, the model was estimated, the impulse response functions were calculated, and the variance decomposition of the forecast error was carried out, using the Python programming language as the main tool, specifically the statsmodels library (Bitar, 2022).

RESULTS

During the period analyzed, it was evident that the BCRP's main monetary policy instruments exerted a significant and direct influence on the flow of primary issuance. In particular, foreign exchange operations—especially net purchases on the exchange market—showed a positive correlation with issuance, such that greater intervention in the foreign exchange market was associated with an increase in money in circulation. Thus, public sector operations, that is, transfers and payments to the Treasury, were also a source of liquidity, and the remaining monetary operations, connected with absorption and regulation mechanisms, also showed a positive and statistically significant effect. This reaffirms their role in liquidity management.

In order to deepend the study, an attempt was made to construct a VAR model that would allow the analysis of the interdependence between the variables being:

Table 1. Metadata of the BCRP's Monetary Instruments

Code / Role	Series Name	Description	Extent
PN00990MM (Y)	Primary Emission Flow	Monthly variation in circulating currency plus deposits from financial institutions at the BCRP.	Millions of S/.
PN00991MM	Foreign Exchange Operations	Net purchases and sales of foreign currency by the BCRP in the foreign exchange market.	Millions of US\$
PN00992MM	Foreign Exchange Operations – Net Purchases on the Table	Monthly difference between purchases and sales of foreign currency by the BCRP in the spot market.	Millions of S/.
PN00993MM	Foreign Exchange Operations – Net Purchases on the Table – Purchases	Monthly total of foreign currency purchased directly by the BCRP.	Millions of S/.
PN00995MM	Foreign Exchange Operations – Public Sector	Exchange operations between the BCRP and public sector entities.	Millions of S/.
PN00999MM	Other Monetary Operations	Includes rediscounts, deposits, securities and reserve requirements that affect the monetary base.	Millions of S/.
PN01272PM	Lima Metropolitan Price Index	General price level in Lima (CPI).	% accumulated var.
ISFN01	Inflation Financial System	Projected or realized inflation according to BCRP surveys.	% National
RD38578BM	Exports by product group	Monthly exports grouped by economic sectors.	Millions of US\$ (FOB)

Note. Central Reserve Bank of Peru – Statistical Series.

In contrast, financial system inflation and export volumes were negative, albeit significant, suggesting that inflationary contexts or increased external revenues lessened the need for monetary expansion. The Consumer Price Index (CPI) was not significant, indicating that primary issuance did not respond to monthly variations in domestic prices. The implications of these findings were relevant for financial education and business management. From a training perspective, emphasis was placed on the need to include content that addresses the relationship between monetary policy and liquidity, as well as the interpretation of macroeconomic indicators and their effect on markets. From a business perspective, which established the stage in which the decision-making process took place, it was concluded that understanding the direction and intensity of monetary policy made it possible to anticipate changes in liquidity, interest rates, or the exchange rate, thus giving rise to the consideration of an aspect of the decision-making process related to financing, investment, or currency hedging, thereby enabling companies to strengthen their financial and operational risk management capabilities in highly volatile contexts.

The analysis of the influence of the BCRP's monetary policy instruments on the flow of primary issuance in Peru from January 2018 to June 2025 revealed complex and nonlinear dynamics. Throughout the econometric analysis, significant technical restrictions were identified, particularly related to the lack of stationarity in most of the time series used. This condition necessitated the application of statistical transformations, especially through first differences, to ensure the validity of the estimated models.

Despite these methodological adjustments, the results continued to show limited interaction between traditional monetary policy instruments and primary issuance. This type of behavior suggested that factors internal and external to monetary policy, such as market expectations, the fiscal environment, or decisions of the financial system, could also explain this, but with greater weight than monetary policy itself. The above findings for corporate financial management justified the need for a more global orientation in decision-making planning.

Table 2. Stationarity Tests (ADF)

Statistical	PN00990MM	PN00991MM	PN00992MM	PN00993MM
ADF Statistician	-3.78655	-5.87693	-5.02420	-3.71578
p-value	0.00305	0.00000	0.00002	0.00390
Number of used remnants	14.00000	3.00000	6.00000	7.00000
Number of Observations	315.00000	326.00000	323.00000	322.00000
Critical value 1%	-3.45128	-3.45057	-3.45076	-3.45082
Critical value 5%	-2.87076	-2.87045	-2.87053	-2.87056
Critical value 10%	-2.57168	-2.57152	-2.57156	-2.57157
Conclusion	Stationary	Stationary	Stationary	Stationary
Statistical	PN00995MM	PN00999MM	ISFN01	RD38578BM
ADF Statistician	-3.12271	-16.02933	-3.43136	-3.37380
p-value	0.02492	0.00000	0.00994	0.01189
Number of used remnants	16.00000	0.00000	0.00000	13.00000
Number of Observations	313.00000	329.00000	329.00000	316.00000
Critical value 1%	-3.45142	-3.45038	-3.45038	-3.45121
Critical value 5%	-2.87082	-2.87037	-2.87037	-2.87073
Critical value 10%	-2.57171	-2.57147	-2.57147	-2.57167
Conclusion	Stationary	Stationary	Stationary	Stationary

The company experienced an economic environment marked by high uncertainty, where changes in available liquidity were not always clearly related to the BCRP's policy expansion decisions. Consequently, by eliminating the potential influence of policy on liquidity supply, it became essential to strengthen management mechanisms and diversify revenue sources, make use of scenario analysis tools, and offer adequate liquidity margins. These latter measures were aimed at ensuring a more flexible response to changes in macroeconomic behavior.

And regarding economic education and business management training, the study highlights numerous opportunities to enrich curricular content. The use of real data from the BCRP, as well as the application of linear regression models and time series analysis, contributed to developing technical skills, critical thinking, and a systemic understanding of the macroeconomic context. Likewise, the complexity seen in the interaction between monetary policy and primary issuance highlighted the need to train professionals who could correctly interpret the effects of public policies on the real economy and business decisions. In this regard, the identification and planned use of metadata was also recognized as a fundamental tool to ensure the traceability, relevance, and applicability of the chosen indicators.

A series is considered stationary when ADF rejects H_0 ($p \leq 0.05$) and KPSS does not ($p > 0.05$). For variables PN00995MM, ISFN01, and RD38578BM, there are inconsistencies between ADF and KPSS, suggesting that they may require transformation or further analysis.

Table 1 Non-Stationarity Tests (KPSS)

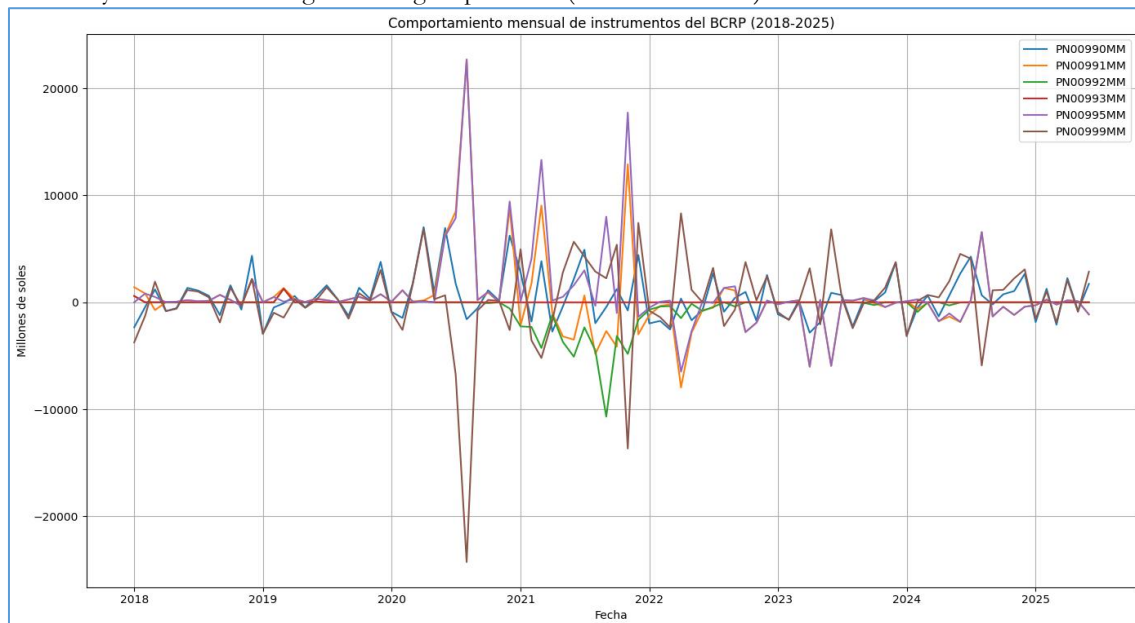
Statistical	PN00990MM	PN00991MM	PN00992MM	PN00993MM
KPSS Statistician	0.34698	0.06153	0.37398	0.41428
p-value	0.10000	0.10000	0.08837	0.07100

Number of used remnants	1.00000	8.00000	10.00000	9.00000
Critical value 10%	0.34700	0.34700	0.34700	0.34700
Critical value 5%	0.46300	0.46300	0.46300	0.46300
Critical value 2.5%	0.57400	0.57400	0.57400	0.57400
Critical value 1%	0.73900	0.73900	0.73900	0.73900
Conclusion	Stationary	Stationary	Stationary	Stationary
Statistical	PN00995MM	PN00999MM	ISFN01	RD38578BM
KPSS Statistician	0.54127	0.13084	0.72016	0.66568
p-value	0.03237	0.10000	0.01171	0.01667
Number of used remnants	7.00000	5.00000	10.00000	11.00000
Critical value 10%	0.34700	0.34700	0.34700	0.34700
Critical value 5%	0.46300	0.46300	0.46300	0.46300
Critical value 2.5%	0.57400	0.57400	0.57400	0.57400
Critical value 1%	0.73900	0.73900	0.73900	0.73900
Conclusion	Non-Stationary	Stationary	Non-Stationary	Non-Stationary

Table 2 Stationarity Tests (ADF and KPSS)

Variable	ADF	KPSS	General conclusion
PN00990MM	Yeah	Yeah	Stationary
PN00991MM	Yeah	Yeah	Stationary
PN00992MM	Yeah	Yeah	Stationary
PN00993MM	Yeah	Yeah	Stationary
PN00995MM	Yeah	No	Ambiguous
PN00999MM	Yeah	Yeah	Stationary
PN01272PM	Yeah	Yeah	Stationary
ISFN01	Yeah	No	Ambiguous
RD38578BM	Yeah	No	Ambiguous

During the 1998–2025 period, the comparative graph showed the monthly evolution of the main monetary policy instruments used by the Central Reserve Bank of Peru (BCRP). In the early years, most variables exhibited stable dynamics, with moderate fluctuations and values close to zero, reflecting a smooth economic environment and a conservative use of monetary instruments. However, starting in 2020, abrupt peaks were observed in the PN00990MM, PN00999MM, and PN00991MM series, associated with the pandemic, revealing an intensive use of expansionary measures to mitigate the effects of the health crisis. In contrast, variables such as PN01272PM and ISFN01 showed smoother trajectories, suggesting a structural nature and less sensitivity to cyclical shocks. The graph thus made it possible to identify the moments of greatest central bank intervention and visualize the magnitude of the impacts on the liquidity and stability of the financial system. The monthly behavior of operations is presented below:

Figure 1 Monthly Behavior of Foreign Exchange Operations (BCRP 2018-2025)

Note: Calculated using the Python Programming Language

The econometric model, estimated using ordinary linear regression (OLS), analyzed the effect of nine variables on the flow of primary issuance from 330 observations. The results showed a perfect fit ($R^2 = 1.000$), although with evidence of overfitting, given the lack of normality in the residuals (Jarque- Bera = 5317.857) and severe multicollinearity (Cond. No. = $4.18e+05$). Only general foreign exchange transactions (PN00991MM) and other monetary transactions (PN00999MM) had a positive and significant effect, with coefficients of 1.000 and p-values of 0.000, reflecting a direct and proportional relationship with primary issuance. In contrast, net table purchases, transactions with the public sector, exports, the CPI, and financial inflation were not significant. Likewise, the Durbin-Watson value (1.629) showed slight positive autocorrelation, which compromised the efficiency of the estimators and forced the results to be interpreted with caution.

Table 3 Ordinary Linear Regression (OLS) of Foreign Exchange Operations (BCRP 2018-2025)

OLS Regression Results							
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Dep. Variable:	PN00990MM - Flujo de Emisión Primaria	R-squared:	1.000				
Model:	OLS	Adj. R-squared:	1.000				
Method:	Least Squares	F-statistic:	2.394e+21				
Date:	Sun, 03 Aug 2025	Prob (F-statistic):	0.00				
Time:	17:49:44	Log-Likelihood:	4616.3				
No. Observations:	330	AIC:	-9213.				
Df Residuals:	320	BIC:	-9175.				
Df Model:	9						
Covariance Type:	nonrobust						
=====							
		coef	std err	t	P> t	[0.025	0.975]

const		3.109e-09	3.11e-08	0.100	0.921	-5.81e-08	6.44e-08
Registro		6.479e-12	1.45e-10	0.045	0.964	-2.79e-10	2.92e-10
PN00991MM - Operaciones Cambiarias		1.0000	5.13e-11	1.95e+10	0.000	1.000	1.000
PN00992MM - Operaciones Cambiarias - Compras Netas en Mesa		1.4e-11	5.28e-11	0.265	0.791	-8.99e-11	1.18e-10
PN00993MM - Operaciones Cambiarias - Compras Netas en Mesa - Compras		5.287e-12	1.37e-11	0.385	0.700	-2.17e-11	3.23e-11
PN00995MM - Operaciones Cambiarias - Sector Público		2.393e-11	5.08e-11	0.471	0.638	-7.6e-11	1.24e-10
PN00999MM - Resto de Operaciones Monetarias		1.0000	7.15e-12	1.4e+11	0.000	1.000	1.000
PN01272PM - Índice de precios Lima Metropolitana (var% acumulada) - IPC		-8.551e-10	8.8e-09	-0.097	0.923	-1.82e-08	1.65e-08
ISFN01 - Inflación Sistema Financiero (% Nacional)		2.784e-07	1.07e-06	0.260	0.795	-1.83e-06	2.39e-06
RD38578BM - Exportaciones por grupo de productos(Valores FOB en millones US\$)		-1.37e-10	2.32e-10	-0.589	0.556	-5.94e-10	3.2e-10
=====							
Omnibus:	111.313	Durbin-Watson:	1.629				
Prob(Omnibus):	0.000	Jarque-Bera (JB):	5317.857				
Skew:	0.518	Prob(JB):	0.00				
Kurtosis:	22.639	Cond. No.	4.18e+05				
=====							

Note: Calculated using the Python Programming Language

1. Standard errors covariance matrix of the errors is correctly specified.
2. The condition is high, $4.18e+05$. They indicate a strong multi-color or other digital problem.

The study's findings reveal a very strong relationship between the monetary policy pursued by the BCRP and the content that shapes financial education and business economics. The analysis of primary issuance and various

monetary instruments revealed how the decisions taken by the central bank directly impacted system liquidity and the way a company was managed, especially during the 2018–2025 period and within the context of the pandemic that companies had to endure. This behavior had a very direct impact on illustrating key and important concepts such as the money supply, inflation, interest rates, and the cost of credit. This provided real-life, mosaic, and easily quantifiable examples of these situations for academic and professional training. Likewise, the need for organizations to develop anticipatory capabilities in order to adapt to changes in the environment was once again demonstrated, highlighting the importance of teaching topics related to financial planning, risk management and organizational strategy. Ultimately, the results of the research helped to strengthen a practical and comprehensive discussion on financial education, both for managing the home and for making decisions in complex business scenarios.

DISCUSSIONS

The findings of this research revealed that foreign exchange transactions, based on net outright purchases, had a significant positive impact on primary issuance in Peru between 2018 and 2025. This result was consistent with those of Xuanling-Ma and Meng-Ji (2023), who analyzed how asset and liability risks determine the direction of monetary policy according to the risk-taking channel. As in the Chinese case, the Peruvian case demonstrated that monetary intervention instruments, such as foreign exchange transactions, played a proactive role in liquidity management, confirming the interaction between the BCRP's decisions and monetary policy transmission mechanisms. Also in relation to liquidity management through monetary instruments, the rest of the monetary operations had a positive and significant effect on primary issuance, which was consistent with what was argued by Bianchi and Bigio (2022), who argued that monetary policy influences banks by altering the credit profitability - liquidity risk relationship. In both cases, it was clear that liquidity frictions and the operational capacity of central banks to intervene in the market are determining factors in monetary expansion, especially in highly volatile contexts such as the pandemic.

On the other hand, the negative relationship observed between financial inflation and exports with primary issuance reflected a logic compatible with that proposed by Wang (2025), who warned that a prolonged decline in interest rates affects intermediation margins and, therefore, the supply of credit. In this study, it was observed that domestic inflationary pressures and higher external income through exports can reduce the need for issuance, which reaffirms the stabilizing role of these variables on the liquidity of the financial system.

However, not all explanatory variables showed significant effects on primary issuance. In particular, the consumer price index (CPI) was not statistically significant. This situation is related to what Zuo (2025) observed, who found that monetary policy impacts stock market volatility in both the short and long term, but with differentiated effects depending on the economic variable analyzed. In this sense, the weak response of primary issuance to the CPI could reflect a more indirect or delayed interaction of this indicator compared to other more immediate instruments, such as foreign exchange transactions.

The results also confirmed limited interaction between certain monetary policy instruments and primary issuance, even after performing statistical transformations to correct for stationarity issues. This evidence aligns with what Hilgers (2021) pointed out, who emphasized that, although central banks formally operate independently, business and financial sector decisions influence monetary policy through various types of power. In the Peruvian case, it could be inferred that economic actors, market expectations, or external factors such as the fiscal situation influence the effectiveness of the BCRP's measures.

Regarding the analysis of public spending and its limited direct impact on monetary expansion, the proposal by Chugunov *et al.* (2021) was reflected, who pointed out that general fiscal spending does not necessarily promote economic growth unless it is based on a solid institutional architecture and an adequate composition of expenditure. The lack of statistical significance in variables such as operations with the public sector suggests that coordination between fiscal and monetary policy still faces challenges in the Peruvian context.

During the health crisis period (2020–2022), intensive monetary policy measures were identified, with abrupt spikes in key variables. This behavior was consistent with the findings of Chupina *et al.* (2022), who documented how, in the face of the pandemic, Russian banks adjusted their credit conditions to sustain efficient management in an uncertain environment. In the case of Peru, the Central Bank of Peru implemented similar expansionary measures to counteract the negative effects of the pandemic, which was reflected in the intensive use of instruments such as foreign exchange purchases and other monetary operations.

On the other hand, the proposal to include these findings in educational content on economics and business management was consistent with that pointed out by Gayratjon and Nodira (2024), who highlighted the importance of leveraging human and scientific capital to strengthen the role of monetary policy in changing global contexts. The relationship between the BCRP's decisions and their effects on the training of professionals and students is expressed in the need to develop more applied, realistic, and analytical financial education. Finally, the

analysis of primary issuance through the use of econometric models such as OLS regression has made possible a direct connection with the foundations of modern monetary theory (Mishkin, 2019; Blanchard, 2021). These authors indicate that the BCRP's decisions have real effects in the form of liquidity and general behavioral patterns for the economy as a whole. When this approach is applied to the Peruvian reality, this article confirms the use of VAR models and econometrics as tools to account for the complexity of monetary policy and its effects on the national financial system.

CONCLUSIONS

The study comprehensively examined the impact of the BCRP's monetary policy instruments on the flow of primary issuance in Peru for the period 2018–2025. Through a quantitative approach, behaviors are identified, an econometric model is developed, and the degree of impact of the instruments used is estimated. The results showed that foreign exchange transactions and other monetary interventions have a high impact on system liquidity, particularly during the years of greatest economic instability due to the pandemic, while general macroeconomic factors do not have a significant impact within the model. The analysis also revealed high volatility of the instruments used during the 2020–2022 period and a subsequent tendency toward normalization, which demonstrated the BCRP's ability to readjust in the face of a crisis. Conversely, high interdependence among the explanatory variables reveals multicollinearity problems, limiting the robustness of some estimates, even when the model achieved a perfect fit.

Finally, the findings related to financial education and business economics, emphasizing the need to understand how monetary policy, inflation, exchange rates, liquidity, and credit are linked. This also served to strengthen academic and professional studies from a practical perspective, oriented toward strategic decision-making in changing and complex economic environments.

RECOMMENDATIONS

Companies were encouraged to monitor BCRP operations, as these have proven to have a direct and significant impact on the flow of primary issuance. Constant monitoring of the central bank's interventions in the foreign exchange market will allow for anticipating liquidity fluctuations that impact the exchange rate, access to credit, and financing conditions.

The need to consider the effect of monetary liquidity on the investment decision-making process. In fact, the behavior of primary issuance was strongly correlated with the monetary policy instruments applied by the BCRP. This was especially true in crisis situations. Therefore, it was essential for companies to incorporate monetary expansion or contraction scenarios that could alter interest rates, inflation, and aggregate demand into their financial analysis.

Another recommendation was to develop contingency plans for expansionary or contractionary monetary policies. During the 2020–2022 period, high volatility in primary issuance was observed, associated with stimulus measures, highlighting the importance of companies having flexible cash management policies, access to contingent credit lines, and dynamic financial planning that allows them to quickly adapt to different scenarios.

The importance of strengthening internal financial education regarding monetary policy was also highlighted. The findings confirmed that BCRP decisions have direct effects on macroeconomic variables that impact business management. Therefore, training management and financial staff on these topics would facilitate the interpretation of market signals and support more strategic decision-making.

Finally, the need to diversify financing sources, taking into account the monetary environment, was raised. Given changes in monetary policy that could increase credit costs or restrict liquidity, it was suggested that alternatives such as factoring, private debt issuance, or the formation of strategic alliances be explored, so that companies can sustain their operations without relying exclusively on the traditional financial system.

REFERENCES

- Acosta, M. (2023). A new measure of central bank transparency and its implications for monetary policy effectiveness. *International Journal of Central Banking*, 19 (3), pp. 49–97., <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85167355124&partnerID=40&md5=8eaa1408b1bad45e2ec894678062afcf>
- Aizenman, J., Ito, H., Pasricha, G.K. (2022). Central bank swap agreements in the COVID-19 crisis. *Journal of International Money and Finance*, 122, art. no. 102555., <https://www.doi.org/10.1016/j.jimonfin.2021.102555>

- BCRP (2024). Monetary Statistics. Central Reserve Bank of Peru. <https://www.bcrp.gob.pe/docs/Publicaciones/Guia-Metodologica/Guia-Metodologica.pdf>
- Bennani, H. (2023). Federal Reserve Chairman Overconfidence and Market Expectations: Evidence from Media Coverage. *International Journal of Finance and Economics*, 28 (3), pp. 3403–3419., <https://www.doi.org/10.1002/ijfe.2599>
- Bianchi, J., and Bigio, S. (2022). Banks, liquidity management, and monetary policy. *Econometría*, 90 (1), 391–454; <https://doi.org/10.3982/ECTA16599>
- Bitar, J. (2022). A note on reserve requirements and bank liquidity. *International Journal of Finance and Economics*, 27 (4), pp. 4837–4852., <https://www.doi.org/10.1002/ijfe.2403>
- Blanchard, O. (2021). Macroeconomics (7th Edition). Pearson. <https://danielmorochoruiz.files.wordpress.com/2015/09/macroeconomc3ada-blanchard.pdf>
- Chávez Lazo, IB and Burgos Zavaleta, VFJ (2021) External economic factors in the growth of the Peruvian economy: A vector autoregressive (VAR) model. *Quipukamayoc*, 29(61), 37-46. Epub; <https://doi.org/10.15381/quipu.v29i61.21628>
- Chinn, MD, Ito, H. McCauley, RN. (2022). Are central banks rebalancing their holdings in the foreign exchange market? *Journal of International Money and Finance*, 122, art. No. 102557., <https://www.doi.org/10.1016/j.jimonfin.2021.102557>
- Chinn, M.D., Menzie David, J.A., Frankel, Jeffrey A., H., Ito, H. (2024). The dollar versus the euro as international reserve currencies. *Journal of International Money and Finance*, 146, art. no. 103123., <https://www.doi.org/10.1016/j.jimonfin.2024.103123>
- Chortareas, GE, Georgios E., F., Papailias, Fotis, L., Shuku, L. (2025). Does the speech of central banks matter for forecasting? Evidence from speeches by the Bank of England, the ECB and the Federal Reserve. *International Journal of Finance and Economics*, <https://www.doi.org/10.1002/ijfe.3136>
- Chugunov, I., Pasichnyi, M., Koroviy, V., Kaneva, T., and Nikitishin, A. (2021). Fiscal and Monetary Policy in Economic Development. *European Journal of Sustainable Development*, 10 (1), 42; <https://doi.org/10.14207/ejsd.2021.v10n1p42>
- Chupina, Z., Abanina, I., Abramov, V., Artamonova, K., Yurchenko, O., Osipova, I., and Stroeve, P. (2022). Monetary policy management in the framework of interest rate decision-making for a sustainable social system: An example from the Russian Federation. *Sustainability*, 14 (1), 79; <https://doi.org/10.3390/su14010079>
- Cortés, G.S., Gao, G.P., Silva, F.B.G., & Song, Z. (2022). Unconventional Monetary Policy and Disaster Risk: Evidence from the Subprime Mortgage Crises and COVID-19. *Journal of International Money and Finance*, 122, art. no. 102543., <https://www.doi.org/10.1016/j.jimonfin.2021.102543>
- De Grauwe, P., Paul, Y., Ji, Y. (2024). How to run monetary policy. The ECB: past, present, and future. *Journal of International Money and Finance*, 143, art. no. 103048., <https://www.doi.org/10.1016/j.jimonfin.2024.103048>
- Dinh, L.Q., Le Quoc, O.T., Tran, Oanh Thi, N.T.H., Ha, Nguyen, T.H. (2025). Financial stability and sustainable development: Fiscal and monetary policy perspectives. *International Journal of Finance and Economics*, 30 (2), pp. 1724–1741., <https://www.doi.org/10.1002/ijfe.2981>
- Eisenschmidt, J., Jens, D., Kedan, Danielle, M., Schmitz, M. (2024). Eurozone monetary policy and TARGET balances: a trilogy. *Journal of International Money and Finance*, 141, art. No. 103000., <https://www.doi.org/10.1016/j.jimonfin.2023.103000>
- Fadda, P., Pietro, R., Hanifi, K., Rayane, Istrefi, A., Klodiana, A., Penalver, A. (2025). Uncertainty communication by central banks. *Journal of International Money and Finance*, 157, art. no. 103385., <https://www.doi.org/10.1016/j.jimonfin.2025.103385>
- Ferreira, E.J., and Serra, A.P. (2022). The Effects of Unconventional Monetary Policy Announcements on Prices in European Stock Markets. *Journal of International Money and Finance*, 122, art. no. 102558., <https://www.doi.org/10.1016/j.jimonfin.2021.102558>
- Fraccaroli, N., Giovannini, A., Jamet, J.F., and Persson, E. (2023). Central banks in parliaments: a textual analysis of the parliamentary hearings of the Bank of England, the European Central Bank and the Federal Reserve. *International Journal of Central Banking*, 19 (2), pp. 543 – 600., <https://www.doi.org/10.2139/ssrn.3646000>
- Gan, D., and Damdinjav, D. (2023). The macroeconomic effects of unconventional monetary policies in a commodity-exporting economy: Evidence from Mongolia. *International Journal of Finance and Economics*, 28 (4), pp. 4627–4654. <https://www.doi.org/10.1002/ijfe.2669>
- Gayratjon, A. and Nodira, S. (2024). Monetary policy in the development of public-private partnerships. *American Journal of Public Diplomacy and International Studies*, 2 (3). pp. 106–114. ISSN 2993-2157; <http://eprints.umsida.ac.id/id/eprint/13640>
- Giovanni, M., and Villa, S. (2023). Drivers of Large Recessions and Monetary Policy Responses. *Journal of International Money and Finance*, 137, art. no. 102894. <https://www.doi.org/10.1016/j.jimonfin.2023.102894>

- Hilgers, S. M. (2021). Economic and Monetary Policy. *Handbook of Economic and Public Policy*, (pp. 177–192). Edward Elgar Publishing. <https://doi.org/10.4337/9781788979122.00019>
- Kim, M., Minsuk, R. C., Mano, Rui, M., Mrkaić, M. (2024). Do foreign exchange interventions lead to higher foreign exchange borrowing? Evidence from firm-level data. *Journal of International Money and Finance*, 148, art. no. 103160., <https://www.doi.org/10.1016/j.jimonfin.2024.103160>
- Lutkepohl, H. (2005). New Introduction to Multiple Time Series Analysis. *Springer*, <https://doi.org/10.1007/3-540-27752-8>.
- Mishkin, F. (2019). Monetary, Banking, and Financial Markets Economics (10th Edition). *Pearson*, <https://books.instituto-idema.org/sites/default/files/Moneda%2C%20banca%20y%20mercados%20financieros%20-%20Frederic%20S.%20Mishkin%20-%20ed.pdf>
- Mkhattrishvili, S., Shalva, G., Tsutskiridze, G. (2024). Sterilized interventions may not be so sterilized. *International Journal of Central Banking*, 20 (4), pp. 371–413., <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85215361075&partnerID=40&md5=c8e9299a8a7c7adb9a7e988a6435e280>
- Montes, G.C., Gabriel Caldas, I., da Silva Rodrigues J., Irineu, J.C.A., Bastos, J.C., Albuquerque, L.M., Batista, L.M. (2024). The effects of monetary policy credibility and the open economy trilemma on monetary policy efficiency. *International Journal of Finance and Economics*, 29 (2), pp. 1236–1258., <https://www.doi.org/10.1002/ijfe.2737>
- Naef, AA (2024). Headwind? A Narrative Approach to Central Bank Foreign Exchange Intervention. *Journal of International Money and Finance*, 146, art. no. 103129., <https://www.doi.org/10.1016/j.jimonfin.2024.103129>
- Ozili, PK. (2023). The Impact of Monetary Policy on Financial Inclusion in Emerging Markets. *Journal of Risk Management and Finance*, 16 (7), 303; <https://doi.org/10.3390/jrfm16070303>
- Park, K. (2023). Central Bank Credibility and Monetary Policy. *International Journal of Central Banking*, 19 (2), pp. 145–197., <https://www.doi.org/10.2139/ssrn.3306035>
- Siddique, Z. (2022). Modern Money and Islamic Banking in the Light of Islamic Riba Law. *International Journal of Finance and Economics*, 27 (1), pp. 993–1008., <https://www.doi.org/10.1002/ijfe.2196>
- Sims, C. A. (1980). Macroeconomics and reality. *Econometrica*, 48(1), 1–48. <https://www.jstor.org/stable/1912017>
- Szmigiel, K. (2025). Monetary policy on GDP in 2020–2022 in light of central banks' responses to external shocks. *Journal of Finance and Financial Law*, 2 (46), 97–122. <https://doi.org/10.18778/2391-6478.2.46.06>
- Tak, N., and Gök, A. (2022). Currency crisis dating and early warning system design: Meta-possibilist fuzzy index functions. *International Journal of Finance and Economics*, 27 (3), pp. 3773–3790., <https://www.doi.org/10.1002/ijfe.2350>
- Unuzungo Villa, J.G., Alvarez Paccha, L.M., & Salgado Suquilanda, M.I. (2024). Bank delinquency in Ecuador measured through economic growth with a vector autoregressive model. *Eruditus Journal*, 5(2), 73–90; <https://doi.org/10.35290/re.v5n2.2024.1124>
- Wang, O. (2025) Banks, low interest rates, and the transmission of monetary policy. *J. Finance*, 80: 1379–1416; <https://doi.org/10.1111/jofi.13436>
- Wang, P., Peijie, P., Wang, P. (2024). Emerging influence of the RMB on foreign exchange markets in a developing tripolar international monetary system. *International Journal of Finance and Economics*, 29 (1), pp. 443–464., <https://www.doi.org/10.1002/ijfe.2693>
- Witmer, J. (2023). Monetary policy implementation and payment system modernization. *International Journal of Central Banking*, 19 (3), pp. 325–357., <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85167351041&partnerID=40&md5=445e1298bc71aff59fc48648f2a102b4>
- Xuanling-Ma. and Meng-Ji. (2023). Analysis of the risk transmission mechanism of monetary policy in the monetary and financial service sectors from the perspective of asset-liability management. *PLoS ONE*, 18(10), 1–16. <https://doi.org/10.1371/journal.pone.0292007>
- Zixi, L. (2024). The Impact of China's Monetary Policy on its International Portfolio Investment Flows. *Journal of International Money and Finance*, 141, art. no. 103007., <https://www.doi.org/10.1016/j.jimonfin.2023.103007>
- Zuo, J. (2025). The Impact of Monetary Policy on Stock Market Volatility: A GARCH-MIDAS Approach to the Malaysian Economy. *Cogent Economics and Finance*, 13 (1). <https://doi.org/10.1080/23322039.2025.2459183>