# The Effect of Foreign Exchange (Exchange Rate: Selling and Buying Rates)

**Dalilatis Salamah[1],**
[1] Institut Badri Mashduqi,Probolinggo,Indonesia (dalilaassalamah@gmail.com)

**Article Info**

***Corresponding Author:***
Dalilatis Salamah,
Institut Badri Mashduqi,Probolinggo,Indonesia
Email:dalilaassalamah@gmail.com.

***Keywords:***

Financialperformance, investment decision, dividend policy, profitability.

**ABSTRACT**

This study discusses the foreign exchange market from a literature perspective, focusing on the working mechanism of the foreign exchange market, exchange rate systems, and the determinants of exchange rates during the 2020–2025 period. The background of this research is based on the increasing exchange rate volatility caused by global economic uncertainty and the dynamics of international financial markets.

The purpose of this study is to understand how the foreign exchange market mechanism shapes prices and volatility, to analyze the characteristics of fixed, floating, and managed float exchange rate systems, and to identify the main determinants of exchange rates and their implications for stabilization policies.

The research method used is a literature study with a qualitative-descriptive approach through the review of scientific journals, academic books, and official institutional reports accessible in PDF form within the 2020–2025 period.

The results show that exchange rate movements are influenced by a combination of macroeconomic fundamental factors, capital flows, market sentiment, as well as monetary policy intervention and credibility. The managed float exchange rate system is widely applied because it provides flexibility while allowing room for stabilization.

The conclusion of this study emphasizes the importance of a comprehensive and adaptive policy approach. It is recommended that future research use empirical data to further analyze the effectiveness of exchange rate policies.

***Article history:***

Submission 01 Maret 2026
Accepted 10 Maret 2026
Published 19 Maret 2026

## Introduction

The foreign exchange market (forex market) is one of the largest and most liquid financial markets in the world, playing a central role in determining exchange rates between currencies and transmitting macroeconomic signals. Activities in this market include spot, forward, swap, and other derivative instruments, which not only reflect differences in interest rates and trade balances but also represent market participants' responses to monetary policy, central bank interventions, and global economic shocks such as pandemics and commodity price fluctuations. Conceptual discussions and empirical evidence regarding market mechanisms, exchange rate systems (fixed, floating, managed float), and the determinants of exchange rates are essential to understanding how currency volatility is formed and how policies are implemented to maintain macroeconomic stability.

Studies on market instruments and the role of monetary authorities in developing countries, particularly Indonesia, provide insights into intervention practices and their effectiveness in responding to external pressures (Wang, 2020). The urgency of this study arises from the fact that exchange rate dynamics directly affect export-import competitiveness, domestic inflation, and fiscal and monetary planning. The 2020–2025 period has presented several events that have tested market mechanisms and exchange rate regimes worldwide, including the COVID-19 pandemic, shifts in monetary policy directions in advanced economies, and geopolitical risks affecting international capital flows. Recent studies indicate that the effectiveness of market interventions and exchange rate regime choices varies across countries and

depends heavily on the depth of the foreign exchange market, foreign exchange reserves, and the consistency of macroeconomic policies. Therefore, compiling and analyzing findings from journals published between 2020–2025 helps formulate more contextual and evidence-based policy recommendations (Rahmatullah & Ghuzini, 2023).

This literature review aims to synthesize empirical findings and theoretical frameworks on three main aspects: (1) the mechanism of the foreign exchange market, explaining how transactions and price formation occur as well as the role of instruments and market participants; (2) exchange rate systems—particularly the comparison of characteristics and implications of fixed, floating, and managed float regimes, as well as the reasons countries choose a particular regime; and (3) the determinants of exchange rates, including macroeconomic variables such as interest rates, inflation, balance of payments, foreign exchange reserves, as well as external factors such as capital flows and global economic news. A summary of previous research findings shows variations: some studies emphasize macroeconomic fundamentals (PPP, interest rates, trade balance), while others highlight short-term capital flows, financial market volatility, and central bank interventions as the main determinants of exchange rate movements (Ayadi et al., 2025).

The research problems are formulated as follows: (1) How does the foreign exchange market mechanism determine price formation and volatility in the context of the current open economy? (2) What are the characteristics and economic consequences of fixed, floating, and managed float exchange rate systems, and what factors drive a country's choice of exchange rate regime? (3) Which macro and non-macro variables have been empirically proven to be the main determinants of exchange rates during the 2020–2025 period, and what are their implications for stabilization policies? These research questions are designed to guide the literature review toward relevant empirical and policy issues.

The objectives of this paper are: (1) to present a systematic summary of foreign exchange market mechanisms and the instruments used by market participants and authorities; (2) to critically evaluate the differences in economic impacts of fixed, floating, and managed float exchange rate regimes based on the latest empirical evidence; and (3) to identify and synthesize empirical evidence on exchange rate determinants during the 2020–2025 period in order to provide research-based policy recommendations. Thus, this study is expected to provide practical contributions to the formulation of monetary policy and foreign exchange reserve management, as well as enrich academic literature by integrating recent findings from publicly accessible journals (Syarifuddin, 2020).

Relevant studies published between 2020–2025 show methodological advancements (e.g., the use of high-frequency data to measure market responses to policy announcements) and the emergence of new relevant factors such as pandemic-related news and climate risks that influence currency volatility. This study places these findings within a comparative framework to assess whether new evidence reinforces classical theories (such as parity conditions and PPP) or indicates the need for models that incorporate modern financial market behavior and policy interventions (Ayadi et al., 2025).

## Research Method

This study employs a literature review approach with a qualitative-descriptive research design. This method is chosen to obtain a comprehensive understanding of the foreign exchange market mechanism, exchange rate systems, and the determinants of exchange rates through the exploration, examination, and synthesis of relevant and up-to-date previous studies. A literature review is considered appropriate because the topic under study is both conceptual and empirical in nature and has been widely discussed in various scientific publications, allowing researchers to compare, classify, and draw conclusions from diverse academic perspectives.

The data sources in this study consist of national and international scientific journal articles, academic books, and official institutional reports that are accessible online in PDF format. The inclusion criteria for the sources include publications within the 2020–2025 period, relevance to the topic of the foreign exchange market and exchange rates, and publication by reputable journals or credible institutions. The literature search is conducted through academic databases such as Google Scholar, national journal portals, and international scientific publisher websites. The selection process is carried out by reviewing the titles, abstracts, and full content of the articles to ensure their relevance to the research focus.

The data collection technique is conducted through documentation, namely by recording important information, key concepts, empirical findings, and theoretical frameworks used in each source. The collected data are then processed through data reduction by selecting relevant information, presenting the data in the form of thematic narratives, and drawing analytical conclusions. Data analysis is conducted by comparing findings across studies, identifying patterns of similarities and differences in research results, and relating them to international economic theories and exchange rate policies.

The analysis method used is descriptive-analytical, which involves explaining phenomena based on existing literature while also providing critical interpretations of previous research findings. Through this approach, the study is expected to provide a systematic, objective, and evidence-based overview of the foreign exchange market and exchange rate dynamics, as well as to demonstrate the relevance and significance of the literature review method in enriching macroeconomic and international finance studies. This research method uses a normative approach and the sociology of knowledge approach. The normative research is employed to examine the ideal development of the foreign exchange market. Meanwhile, the sociology of knowledge approach is used to observe and analyze empirical facts in the field, which are obtained from relevant literature related to the main topic.

The data analysis used in this study is descriptive-qualitative. The problems or facts are presented descriptively and then analyzed to obtain a comprehensive understanding of the issues being studied, including through content analysis.

Descriptive qualitative research is a type of research that seeks to reveal natural conditions holistically. Qualitative research does not only describe single variables but can also reveal the relationships between one variable and another. From the analysis of the relationships among these variables, conclusions can be drawn that are relevant for application without harming other variables. Instead, it is expected to provide positive contributions to each variable analyzed.

It is hoped that this research can have a direct impact on society as well as on the government.

## Results and Discussion

### Foreign Exchange Market Mechanism in Price Formation and Volatility

Recent studies emphasize that short-term exchange rate dynamics are largely determined by market microstructure mechanisms, including order flow, the role of dealer-intermediaries, market liquidity, and the use of algorithmic/electronic trading. Descriptive and empirical research finds that order flow—defined as the difference between net purchases and net sales over a short period—explains daily exchange rate variations that cannot be accounted for by classical fundamentals (such as interest rates or trade balances) within intraday to short-term horizons.

The development of electronic trading and market fragmentation (offshore venues, ECNs) has accelerated the price discovery process, but also increased sensitivity to news shocks and led to high-volatility events (flash events) (Chaboud et al., 2023). Several empirical studies show that during major events (e.g., the onset of the COVID-19 pandemic in 2020 or major Federal Reserve rate announcements), market liquidity contracts while order flow becomes more informative, resulting in sharp exchange rate movements even when fundamentals have not changed significantly.

High-frequency analysis indicates that dealers acting as liquidity providers may reduce their exposure during periods of heightened risk, leading to wider spreads and increased intraday volatility. This phenomenon is documented in modern FX market studies and microstructure literature summaries (Filardo et al., 2022).

Research also highlights the important role of expectations and media sentiment: policy announcements, geopolitical news, and media narratives can shift market expectations and trigger sharp short-term price reactions. Furthermore, interactions between spot markets, derivative markets (futures, NDFs), and onshore/offshore markets complicate shock transmission. Pressure in offshore markets can spill over to onshore markets through arbitrage and hedging flows. IMF studies and working papers suggest that the location and timing of interventions (spot vs derivatives, onshore vs offshore) have varying effects on volatility (BIS, 2024).

These findings reinforce two key policy implications. First, short-term exchange rate stability depends not only on fundamentals (inflation, interest rates, balance of payments) but also on market depth and liquidity conditions. Central banks aiming to stabilize exchange rates must understand microstructure dynamics: spot market intervention may be effective under normal liquidity conditions, but during low

liquidity periods it may become costly or even exacerbate volatility. Therefore, coordinated interventions (policy announcements combined with market operations) and the use of derivative instruments are sometimes necessary. BIS and IMF studies recommend that authorities map where liquidity is concentrated (onshore vs offshore) and adjust intervention strategies accordingly.

Second, with the increasing role of algorithms and high-frequency trading, market regulation (transparency, circuit breakers, derivative market supervision) becomes essential to reduce the risk of flash events. However, regulation must be carefully designed to avoid reducing market depth. Empirical research highlights a trade-off: while intervention and micro-level regulations may reduce extreme shocks, they may also reduce normal market liquidity. Therefore, monetary stability policies that incorporate microstructure considerations must be combined with macro policies (foreign reserves, interest rate policies) for optimal outcomes. In practice, high-frequency monitoring (e.g., order flow tracking, automated intervention guidelines when spreads exceed thresholds) and international coordination for fragmented markets can enhance authorities' ability to manage harmful volatility. Research trends from 2020–2025 also suggest the use of high-frequency data as a complement to traditional fundamental analysis in designing responsive FX policies.

---

**Exchange Rate Systems: Fixed, Floating, and Managed Float and Their Economic Implications**

Recent literature (theoretical evaluations and empirical evidence) indicates that no single exchange rate regime is universally optimal; the choice depends on country-specific characteristics such as financial market depth, capital mobility, macroeconomic policy credibility, and foreign exchange reserves. IMF/IEO analyses and comparative studies confirm that fixed exchange rate regimes provide stability that can help control inflation and enhance credibility in countries with histories of hyperinflation, but they limit monetary policy independence and require substantial foreign reserves to maintain the peg. Conversely, floating exchange rates provide flexibility for external adjustment but may lead to high volatility, especially in countries with underdeveloped financial markets. Managed float (hybrid regime) is commonly adopted by many developing countries as a compromise: the market determines exchange rates under normal conditions, while central banks intervene to prevent excessive fluctuations (Policy & Adjustment, 2021).

Empirical studies from 2020–2024 show mixed results regarding the impact of exchange rate regimes on growth and stability. Some find that floating regimes reduce crisis frequency, while others argue that outcomes depend on domestic policy quality and external structures. IMF program evaluations and country case studies suggest that regime transitions (e.g., from peg to managed float) carry risks if not supported by consistent fiscal and monetary policies.During the COVID-19 pandemic (2020–2022), many countries officially classified as floating regimes engaged in active intervention, reflecting "behavioral managed floats." Studies during 2020–2025 observe increased use of interventions not only in spot markets but also in derivative/offshore markets, along with policy communication (forward guidance) as part of managed float strategies. BIS studies and Bank Indonesia papers show that the type of market where intervention occurs (spot vs NDFs) influences its effectiveness.

First, empirical evidence suggests a pragmatic recommendation: regime choice should be based on institutional capacity—particularly financial market depth, reserve levels, and fiscal capability—rather than rigid doctrine. Countries with shallow financial markets and limited reserves tend to benefit from more controlled regimes, while those with deeper markets and open capital accounts can adopt floating regimes more effectively. However, such choices must be supported by credible macroeconomic frameworks (sound fiscal policy, clear inflation targets).Second, given that many countries operate de facto managed floats, transparency and policy consistency are crucial. Uncoordinated or unpredictable interventions can reduce market confidence and increase medium-term volatility. Therefore, policy communication plays a key role in minimizing intervention costs. Case studies from Indonesia illustrate how coordinated interest rate policies and market interventions can support exchange rate stabilization.

Third, regime transitions require structural readiness, including capital market development, increased foreign reserves, and the establishment of hedging markets (currency/derivatives) to reduce vulnerability to external shocks. Supporting policies such as strengthening market supervision frameworks and developing repo and domestic liquidity markets are frequently recommended. In summary, studies from 2020–2025 emphasize pragmatism: choose regimes based on national capacity,

use managed float for flexibility with protection, and enhance transparency and institutional readiness for optimal outcomes.

**Determinants of Exchange Rates and Their Implications for Stabilization Policy (2020–2025)**
Empirical studies from 2020–2025 using various methods (VAR, GARCH, band-spectrum regression, high-frequency event studies) show that exchange rate determinants vary by time horizon. In the medium to long term, classical fundamentals (inflation differentials, long-term interest rates, trade balance, balance of payments) remain relevant. In the short term, capital flows (portfolio flows, carry trade reversals), market sentiment, and microstructure factors dominate.IMF and EIB studies highlight that shifts in monetary policy in advanced economies (e.g., tightening by the Federal Reserve) have been major drivers of capital outflows from emerging markets and depreciation pressures during 2021–2024 (Filardo et al., 2022).

Studies in developing countries (including Indonesia, Africa, and Asia) find that variables such as foreign exchange reserves, debt-to-GDP ratios, and geopolitical factors significantly influence exchange rate crises or crash risks. Pandemic-related studies show that global demand shocks and supply chain disruptions affected trade balances and corporate foreign exchange exposure, increasing volatility (Qarina, 2023).Modern methods indicate that intervention effectiveness depends on shock frequency and market conditions. Interventions are generally more effective in smoothing short-term volatility rather than altering long-term trends. IMF evidence (2022) shows that interventions can reduce real exchange rate volatility, especially when supported by credible macroeconomic policies.

First, stabilization policies must consider time horizons. To manage short-term fluctuations caused by capital flows, authorities need a combination of tools: market interventions (spot/derivatives), monetary policy (interest rate adjustments), and liquidity measures. Combined interventions (interest rate increases plus market operations) are often more effective than spot intervention alone, but involve trade-offs for domestic economic activity.Second, strengthening foreign exchange reserves and improving external profiles (external debt maturity, corporate hedging) reduces vulnerability to shocks. Cross-country evidence shows that countries with adequate reserves and long-term debt structures experience more stable exchange rates. Thus, fiscal discipline and the development of hedging markets are essential for medium-term strategies (Papers, 2022).

Third, strengthening market infrastructure (liquidity, onshore derivative markets, supervision) and using high-frequency data for monitoring can improve policy responsiveness. Since short-term determinants are often financial and behavioral, regulators must incorporate financial indicators (order flow, large open positions, portfolio flows) into their analytical frameworks.
In conclusion, policy recommendations include integrating fundamental analysis (medium-term) with microstructure monitoring (short-term), using a consistent mix of instruments (intervention, interest rates, liquidity policy), and enhancing institutional readiness (reserves, hedging markets, transparency) to ensure effective exchange rate stabilization without compromising economic growth.

**1. Definition of the Foreign Exchange Market**
The **foreign exchange market**, often referred to as the **forex market**, is a mechanism where people can transfer purchasing power between countries, obtain or provide credit for international trade transactions, and minimize the risk of loss due to fluctuations in exchange rates.
From this definition, it can be concluded that the functions of the foreign exchange market are:
a. Transfer of purchasing power
b. Provision of credit
c. Reduction of foreign exchange risk

**2. Participants in the Foreign Exchange Market**
Transactions in the forex market consist of two levels: the **interbank (wholesale market)** and the **client (retail market)**.
a. **Foreign Exchange Dealers (Banks and Non-Banks)**
International bank dealers often act as market makers. They are always ready to buy and sell specific foreign currencies and usually maintain an inventory of certain currencies.
b. **Companies and Individuals**
Companies and individuals use the forex market to facilitate investment and commercial transfers.

This group includes importers, international portfolio investors, and multinational corporations. They use the forex market mainly for investment purposes.

c. **Speculators and Arbitrageurs**

Speculators and arbitrageurs conduct transactions in the forex market to gain profit. Arbitrage is essentially a form of speculation where they buy foreign currency in one financial center and sell it in another to earn profit. This activity is made possible by the speed and ease of fund transfers between global financial centers.

d. **Central Banks**

Central banks use the forex market to obtain foreign exchange reserves and to influence the value of their currency. They may take actions aimed at supporting or strengthening their domestic currency.

**3. Types of Transactions**

1. **Spot Transactions**
   Spot transactions are the buying and selling of currencies with settlement within two working days.

Settlement methods include:

- **Value Today (TOD)**: settlement on the same day as the transaction (same-day or cash settlement)
- **Value Tomorrow (TOM)**: settlement on the next working day (one-day settlement)
- **Value Spot**: settlement two working days after the transaction

2. **Forward Transactions**
   A forward transaction is an agreement to exchange currencies at a predetermined rate with settlement at a future date. The exchange rate is agreed upon at the time of contract, while payment and delivery occur at maturity. These are commonly used for **hedging** and speculation.
3. **Swap Transactions**
   A swap transaction involves the simultaneous buying and selling of a certain amount of currency with different settlement dates. A common type is the “spot against forward” swap.

Types of swaps with Bank Indonesia:

- **Liquidity Swap**: initiated by Bank Indonesia for funds from foreign loans (maximum 20% of bank capital)
- **Investment Swap**: initiated by banks based on customer swaps for investment purposes in Indonesia

**4. Exchange Rates and Quotation**

The exchange rate is the price of one currency expressed in another currency. A quotation is a statement of willingness to buy or sell foreign currency at a specified rate.

Types of quotation:

a. **Direct Quotation**

A foreign currency unit is used to value the domestic currency.

b. **Indirect Quotation**

A domestic currency unit is used to value the foreign currency.

c. **USD Quotation**

The US dollar is commonly used as a reference currency in international forex transactions.

**5. Margin Trading**

Margin trading is a forex transaction that does not involve actual fund movement; profit or loss is calculated based on the difference between buying and selling prices.

Bank Indonesia regulations (February 28, 1991 policy package):

a. Must be based on bank policy and formal contracts
b. Contracts must include base currency, settlement method, profit/loss accounting, and margin limits
c. Requires margin deposits
d. Maximum for customers: 10 times the margin deposit
e. Maximum for banks: 10% of bank capital
f. If losses reach 5% of capital, trading must stop until approval is given
g. Margin deposits must be reported weekly and monthly

**6. Eurocurrency**

a.**Definition of Eurocurrency and Eurobank**

Eurocurrency is a currency deposited in a bank outside the country of origin of that currency.
A Eurobank is a financial institution that accepts deposits and provides loans in currencies other than the local currency where it operates. These activities are generally not subject to domestic banking regulations such as reserve requirements.

b.**EurocurrencyMarket**

The eurocurrency market (or euromarket) is an international banking market dealing with deposits and loans in foreign currencies. Its main center in Europe is the **City of London**, a major global financial hub.

**Conditions in the Eurocurrency Market:**

- Loan maturity
- Interest rates
- Funding instruments

**Reasons for Regulation:**

- To limit excessive credit creation
- To reduce currency speculation
- To maintain national economic sovereignty
-

**Arguments for Supervision:**

- **Prudential reasons**: risks affecting financial stability
- **Exchange rate concerns**: may increase volatility
- **Inflation concerns**: excessive liquidity can raise global inflation
- **Solvency issues**
- Complicates domestic monetary policy
- Easy credit access may reduce incentives for economic adjustment policies

Despite this, the eurocurrency market contributes significantly to global trade, investment, and helps address balance of payments issues, especially in developing countries.

**Conclusion**

The literature findings confirm that under conditions of global uncertainty, such as health crises and international financial turbulence, exchange rate volatility tends to increase due to rapid changes in market sentiment and expectations. In the context of exchange rate systems, there is no single regime that is universally superior for all countries. Fixed, floating, and managed float exchange rate systems each have their own advantages and limitations, depending on a country's economic structure, financial market depth, and the capacity of its monetary and fiscal policies.

Many developing countries during the study period tend to adopt a managed float system as a compromise between exchange rate flexibility and the need to maintain economic stability. Meanwhile, the determinants of exchange rates are proven to be multidimensional, encompassing domestic macroeconomic factors, global external conditions, short-term capital flows, as well as the credibility of policies and interventions by monetary authorities.

Thus, the objective of this study to understand the mechanisms of the foreign exchange market, exchange rate systems, and the determinants of exchange rates has been achieved through the synthesis of relevant previous research findings. From the description of the research results above, the following conclusions can be drawn: The foreign exchange market, or commonly abbreviated as forex, is a type of trade or transaction that involves the buying and selling of one country's currency against another (currency pairs), taking place continuously across global currency markets for 24 hours.

The functions of the foreign exchange market are:

1. Transfer of purchasing power
2. Provision of credit
3. Reduction of foreign exchange risk

Transactions in the foreign exchange market consist of two levels, namely the interbank or wholesale market and the client or retail market. In this section, transactions in the foreign exchange market are carried out based on the following:

4. SpotTransactions
   Spot transactions are the buying and selling of currencies with delivery and payment between banks that are settled within two working days.
5. ForwardTransactions
   Forward transactions, also known as forward contracts, are essentially agreements to exchange a certain amount of one currency for another at a future date. The exchange rate is determined at the time the contract is made, but payment and delivery are carried out when the contract reaches maturity. Forward transactions are commonly used for hedging and speculation purposes, especially to protect against exchange rate fluctuations.
6. Swap Transactions
   Swap transactions in the interbank market involve the simultaneous buying and selling of a certain amount of currency with different value dates (delivery dates). A common type of swap transaction is the "spot against forward." In this case, a dealer buys a currency in a spot transaction and simultaneously sells the same amount to another bank using a forward contract.

**Referencing/Quotation**

ayadi, M. A., Ben Omrane, W., & Panah, P. G. (2025). Foreign Exchange Markets, Climate Risks And Contextual News: An Intraday Analysis. International Review Of Financial Analysis, 102(February), 104103. Https://Doi.Org/10.1016/J.Irfa.2025.104103

Bis. (2024). Fx Markets And Fx Interventions: Insights From A Markets Committee Workshop. March, 1–19.

Chaboud, A., Rime, D., & Sushko, V. (2023). Bis Working Papers The Foreign Exchange Market. 1094.

Filardo, A., Mcgregor, T., & Gelos, R. (2022). Exchange-Rate Swings And Foreign Currency Intervention. Imf Working Papers, 2022(158), 1. Https://Doi.Org/10.5089/9798400215322.001

Papers, W. (2022). Economics – Working Papers 2022/12. Policy, E. R., & Adjustment, E. (2021). Exchange Rate Policy, External Adjustment, And Growth. 59–71.

Qarina, Q. (2023). Analisis Determinan Nilai Tukar Di Indonesia. Sibatik Journal: Jurnal Ilmiah Bidang Sosial, Ekonomi, Budaya, Teknologi, Dan Pendidikan, 2(2), 369– 380. Https://Doi.Org/10.54443/Sibatik.V2i2.562

Rahmatullah, D., & Ghuzini, D. (2023). Exchange Rate Responses To Macroeconomic Announcement On The Covid-19 Pandemic. Jurnal Ekonomi Dan Bisnis, 26(1), 45–66. Https://Doi.Org/10.24914/Jeb.V26i1.4868

Sofyan Rizal, 2006, Kontrak Mudharabah, Permasalahan dan Alternatif Solusi,

Iqbal Hasan, Metode Penelitian dan Aplikasinya, Jakarta: Ghalia Indonesia, 2002.

Suharsimi Arikunto, 2002, Prosedur Penelitian, Suatu Pendekatan Praktek. Jakarta. Rineka Cipta.

Hart, Oliver and John Moore. 1998. Default and Renegotiation: A Dynamic Model of Debt, Quarterly Journal of Economics, vol. 113.

Cholid Narbuko dan Abu Achmadi, 2005, Metodologi Penelitian, cet. VI. Jakarta.PT. BumiAksara