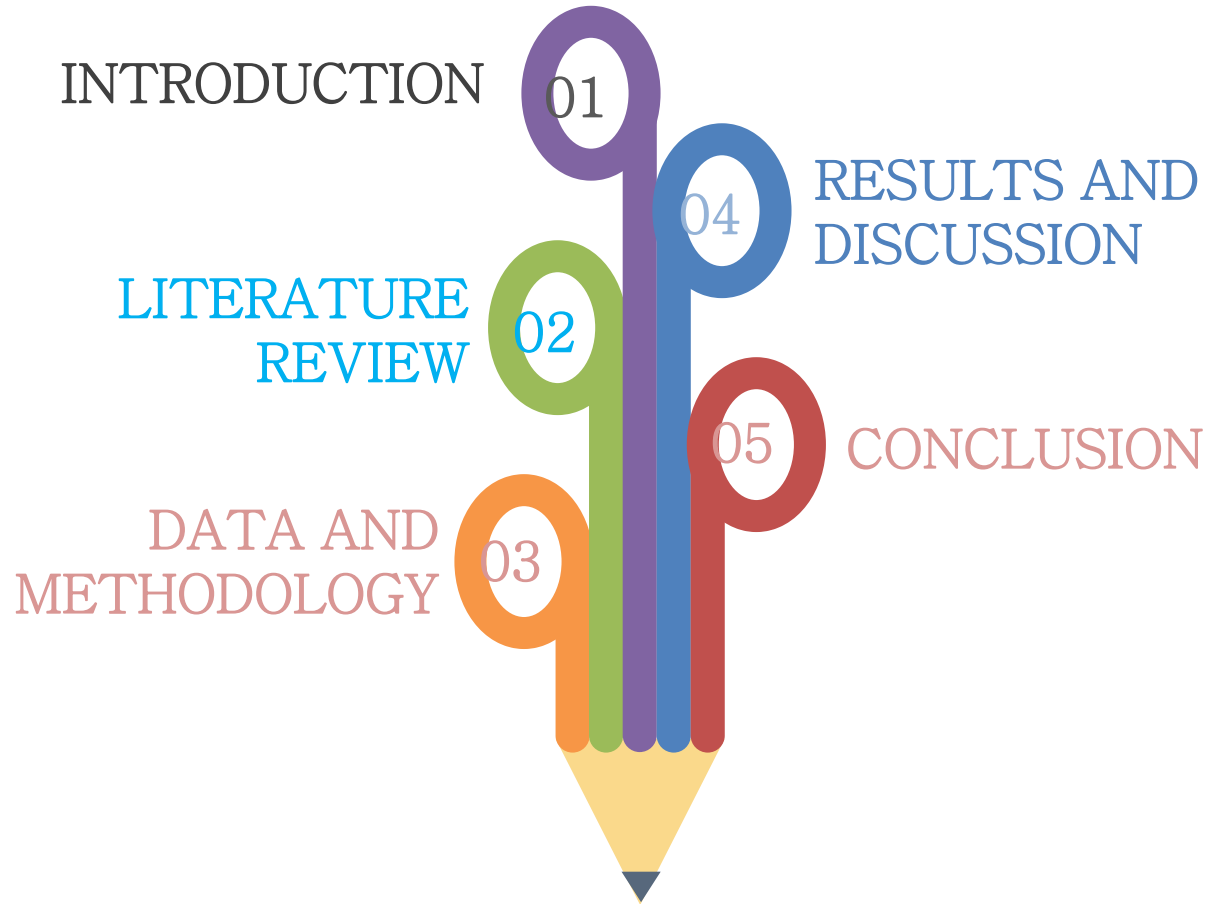




BUILDING THE RUPIAH FRAGILITY INDEX IN INDONESIA: AN EXTRACTION SIGNAL APPROACH

Dr. Dimas Bagus Wiranatakusuma
Universitas Muhammadiyah Yogyakarta

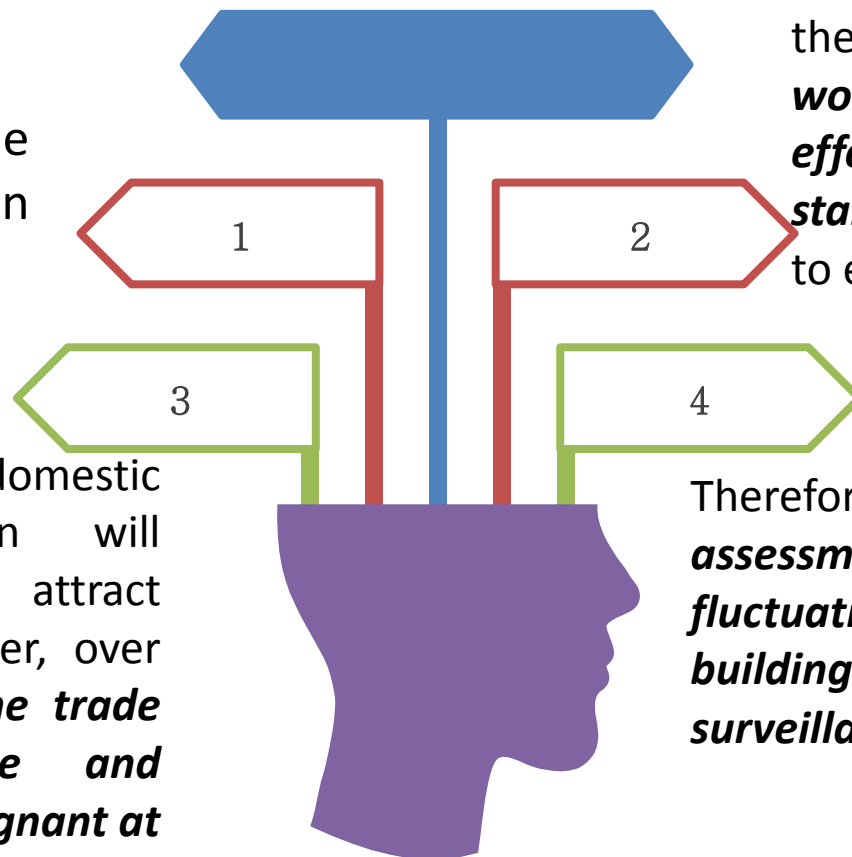
Table of Content



Introduction

Rupiah is one of the ***weakest currencies*** in the world..

Theoretically, the domestic currency depreciation will increase exports and attract capital inflows. However, over the past few years, ***the trade balance is negative and economic growth is stagnant at 5 percents***



Given that Indonesia is a small and open economy, the ***Rupiah fragility would have significant effect towards monetary stability*** as pre-requisite to economic growth.

Therefore, ***surveillance assessment in Rupiah fluctuation is important by building a credible index as surveillance tool.***

LITERATURE REVIEW

Technically, ***financial cycles dynamically fluctuate is because of financial system lives in an open system*** where financial cycles interact within financial system. New Economic forum (2015) argues that ***financial system can be vulnerable due to inability of absorbing shocks from its macroeconomic environment***. This argument was supported by Minsky (2008) that ***the current financial is prone to generating endogeneous and external adverse shocks***. In terms of shocks, it always exists and cannot be separated from the financial system, but the system must consequently have the ability to absorb it. A shock technically is transmitted through a complex system before it reaches the financial system, subsequently affects financial cycles. Referring to the Czech National Bank (2011), Bank Indonesia (2009), Reserve Bank of Australia (1999), and Bank for International Settlement (2012), ***the financial system can attain its stability by taking concern on financial system's environment, including macroeconomic shocks***. Demirguc-Kunt and Detragiache (1998) also conclude that ***financial system tends to be trapped into crises when the macroeconomic environment is weak***.

Data and Methodology

Nominal Exchange Rate and
Inflation

0
1



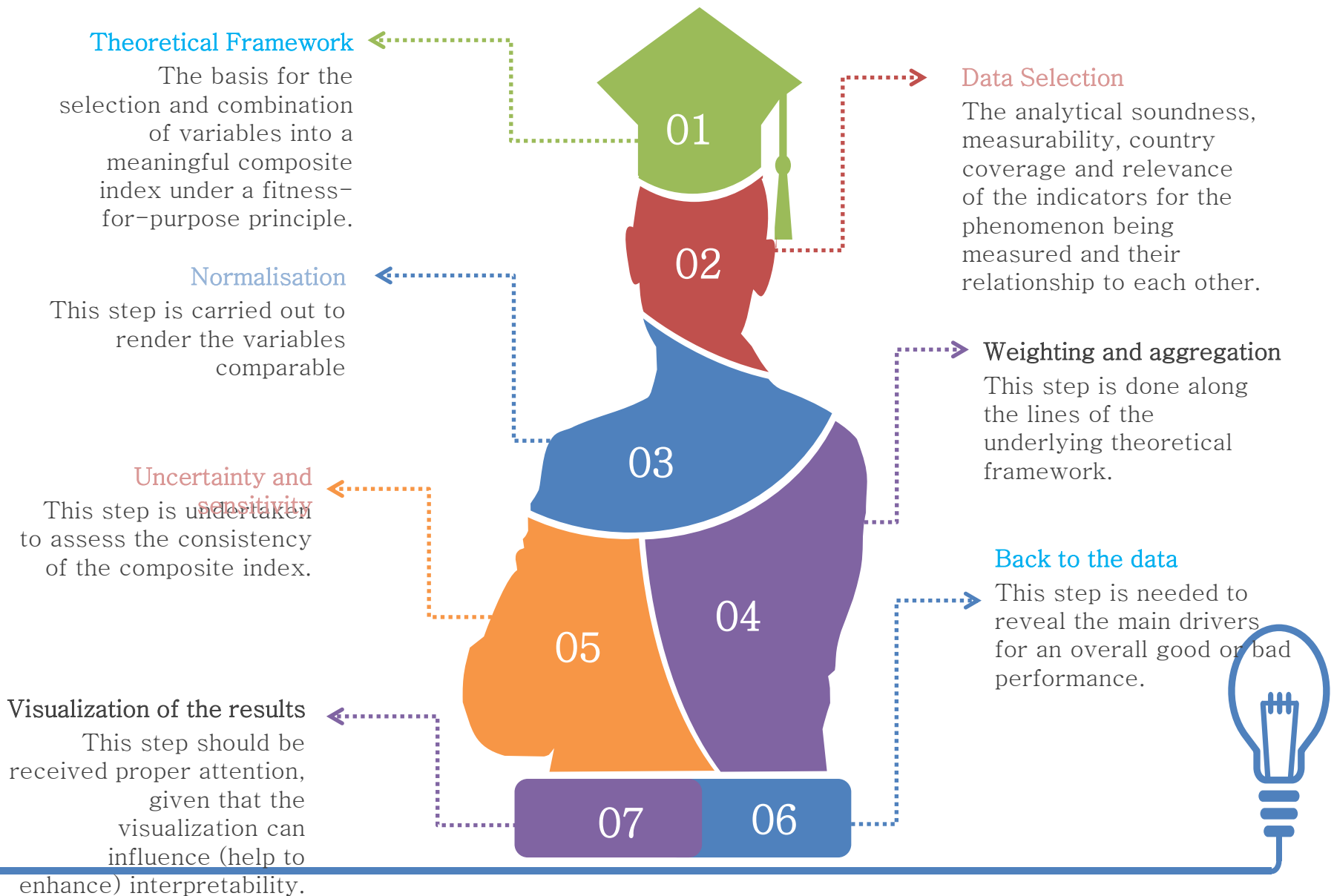
• Bank Indonesia

Extraction Signal Approach

January 2010 until November 2018



The Method to Measure Rupiah Fragility Index



Results and Discussion

Rupiah stability plays a crucial role in achieving price and financial system stability. In the case of Indonesia, Bank Indonesia is no longer pegging Rupiah to a particular level in order to minimize its sensitivity in the midst of VUCA (Vulnerability, Uncertainty, Complexity, and Ambiguity) era. ***In response Rupiah movement, setting up the tolerable limits of shocks are important. These limits would reflect a condition where a financial system is able to deal with external shocks, transmitted through Rupiah movements.***

Table 1. The Quality Dimensions for the Indicators

No	Quality Dimension	Reasons
1	Relevance	All indicators have low loss values
2	Accuracy	All indicators have closeness between values provided and the unknown true values
3	Timeliness	All indicators show lower probability of triggering systemic risk
4	Accessability	All indicators are freely accessed and regularly updated
5	Interpretability	All indicators have solid credibility to interpret the generated signals
6	Coherence	All indicators are logically connected and mutually consistent
Conclusion		All indicators (Inflation and Exchange rate) have strong quality for setting up Rupiah Fragility Index.

the threshold level of fragility

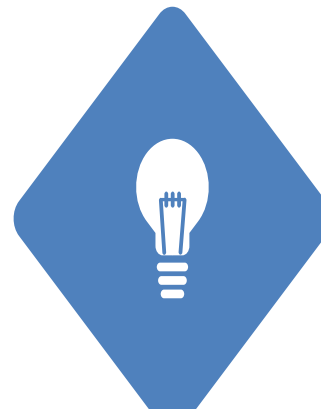


Table 2 shows the optimal threshold reflecting the tolerated level of shocks in Indonesia. The paper suggests that ***the rate of inflation which lead to optimal level is within 3,5% - 6,4%.*** Meanwhile, ***The value of nominal exchange rate which lead to optimal threshold is within Rp 8.894 – Rp 9.226.*** Those thresholds can be used as policy references in setting up policies as well as ***providing reference in policy intervention.***



No	Indicators	Threshold Optimal
1.	Inflation Rate	3,5 (%) - 6,4 (%)
2.	Exchange Rate	Rp 8.894 – Rp 9.226

Source: Author's Calculation



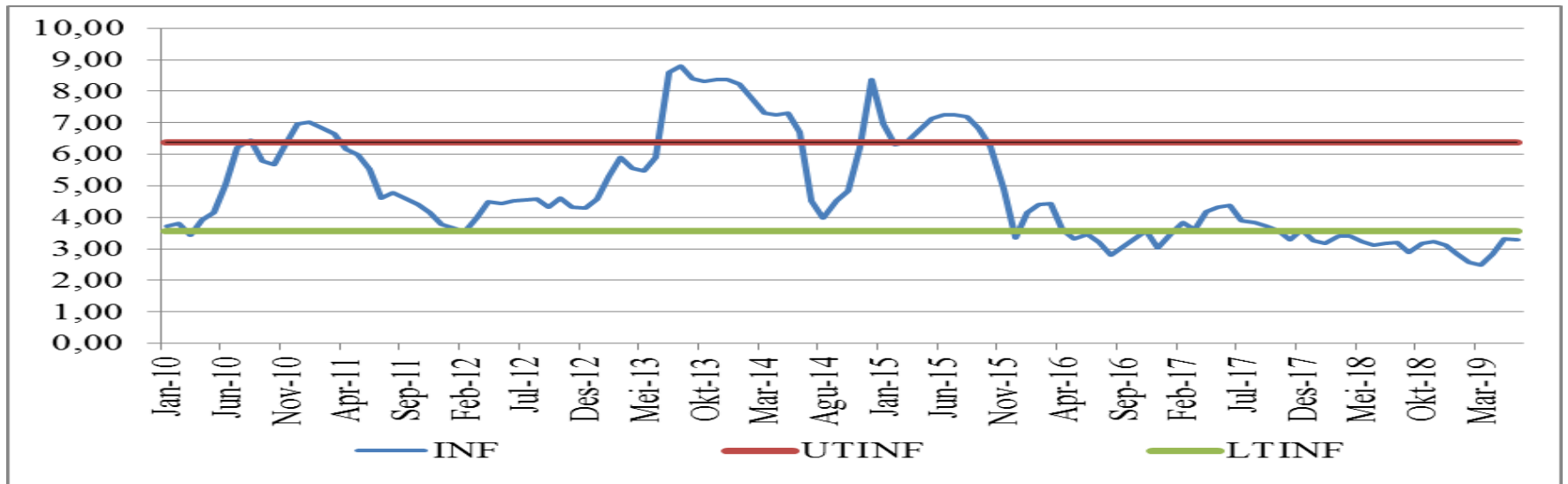


Figure 1. Inflation Rate Movement in Indonesia Period 2010 - 2019

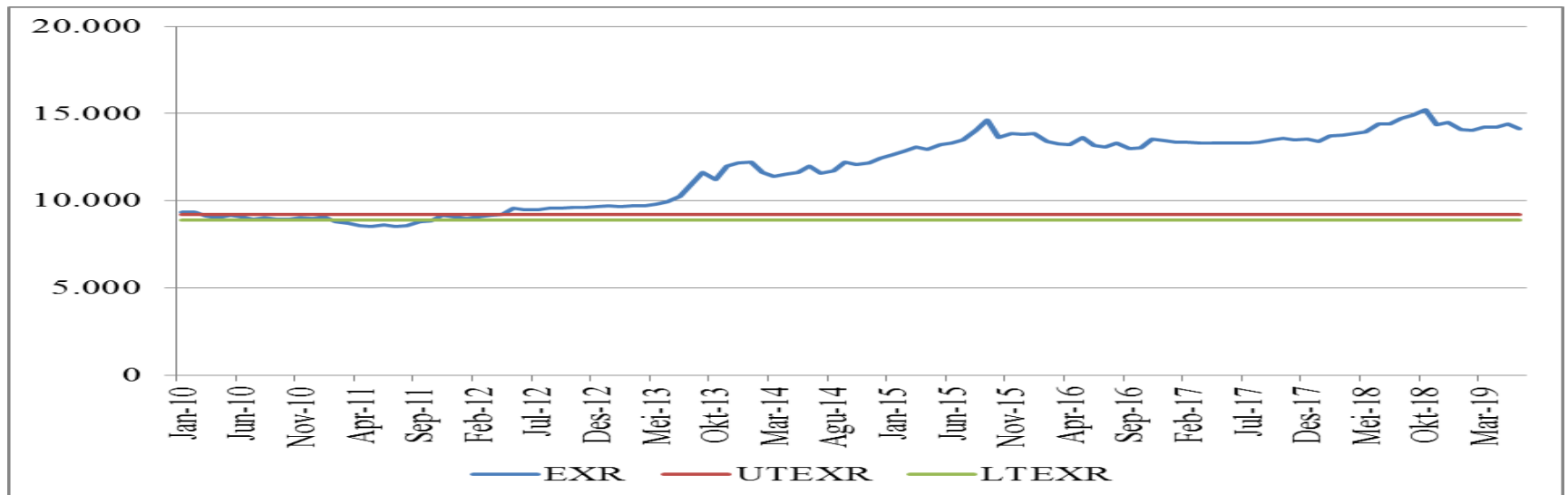


Figure 2. Exchange Rate Movement in Indonesia Period 2010 – 2019

Conclusion

In the midst of VUCA era, *financial system is prone to financial instability*. As a result, *monitoring the evolution of macroeconomic indicators* is important to minimize the potential vulnerabilities in the financial system. In terms of macroeconomic indicators, the study employs indicators which *capture the linkage between boom-burst financial cycles and the evolution of shocks*. Having gone through some steps, the study suggests that *Inflation rate and nominal exchange rate are eligible as potential indicators for managing external adverse shocks*. By using those two indicators, the study *develops Rupiah Fragility Index to set up the optimal level of shocks*. Finally, the results show that the Government has been able to *maintain sound inflation rate, but not for the nominal exchange rate*. The exchange rate move above the upper threshold which implies exchange rate stability an outstanding challenge. Therefore, the government should take policies leading to *Rupiah's appreciation againts US dollar*.