

# Nowcasting Commodity Prices using Social Media

Jaewoo Kim<sup>1</sup>, Meeyoung Cha<sup>1</sup>, and Jonggun Lee<sup>2</sup>

<sup>1</sup>Graduate School of Culture Technology, KAIST, South Korea

<sup>2</sup>Pulse Lab Jakarta, United Nations Global Pulse, Jakarta, Indonesia

## Food Price Monitoring via Social Media

- We examined the feasibility of using social media as a new data source for predicting food security landscape in developing countries.
- Continuous nature of data allows for estimating prices near real-time, which is a technique called *nowcasting*[1,2].
- We developed a nowcast model that monitors mentions of food prices on Twitter and forecasts daily price fluctuations of four major food commodities: beef, chicken, onion, and chili.

Onion price on July 8<sup>th</sup>, 2013

**Official Price Statistics: Rp 44245/kg**

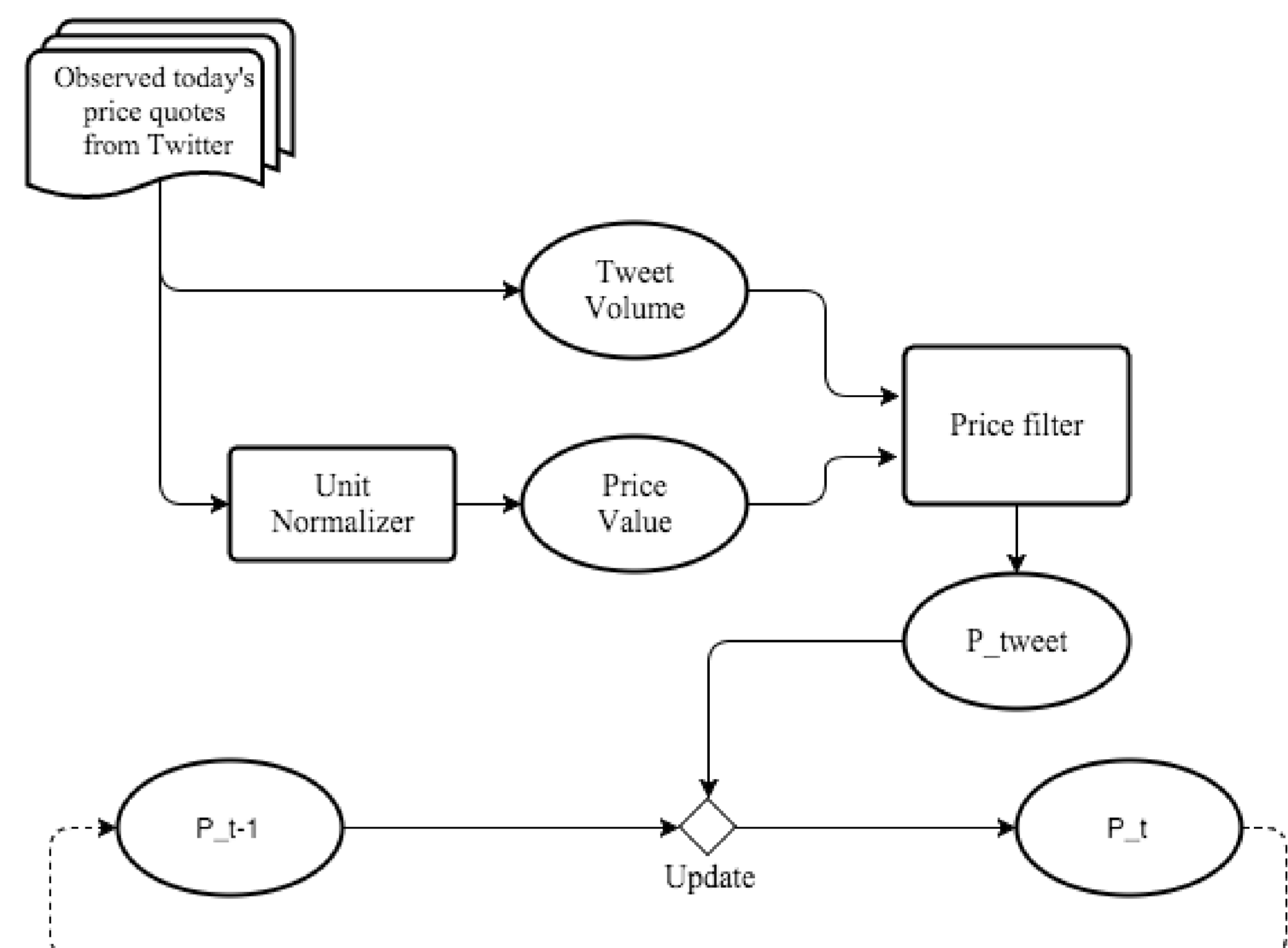
Store A: Rp 42000/kg  
 Store B: Rp 45000/kg  
 Store C: Rp 46000/kg ...

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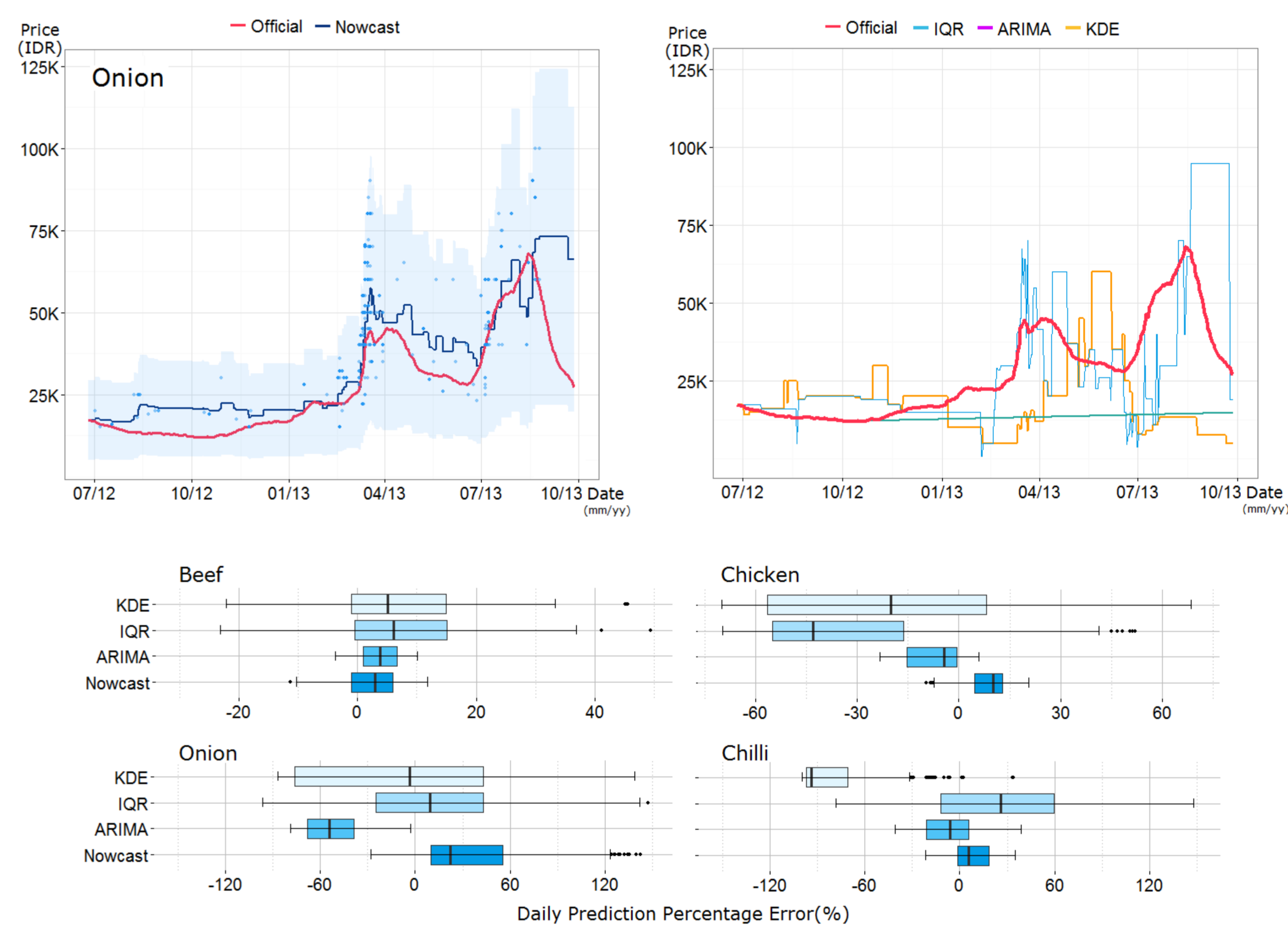
**Tweet Price Quotes:**

The price of onions in Kuningan regency, West Java, jumped back up to **Rp 45 thousand** per kilogram.  
  
 via @InfoBalikpapan: Staple food prices skyrocketed in Balikpapan, Onions go through **Rp 60 Thousand**.  
  
 Onion prices **Rp 50 thousand** per kilogram from Radio Republik Indonesia (RRI) ...

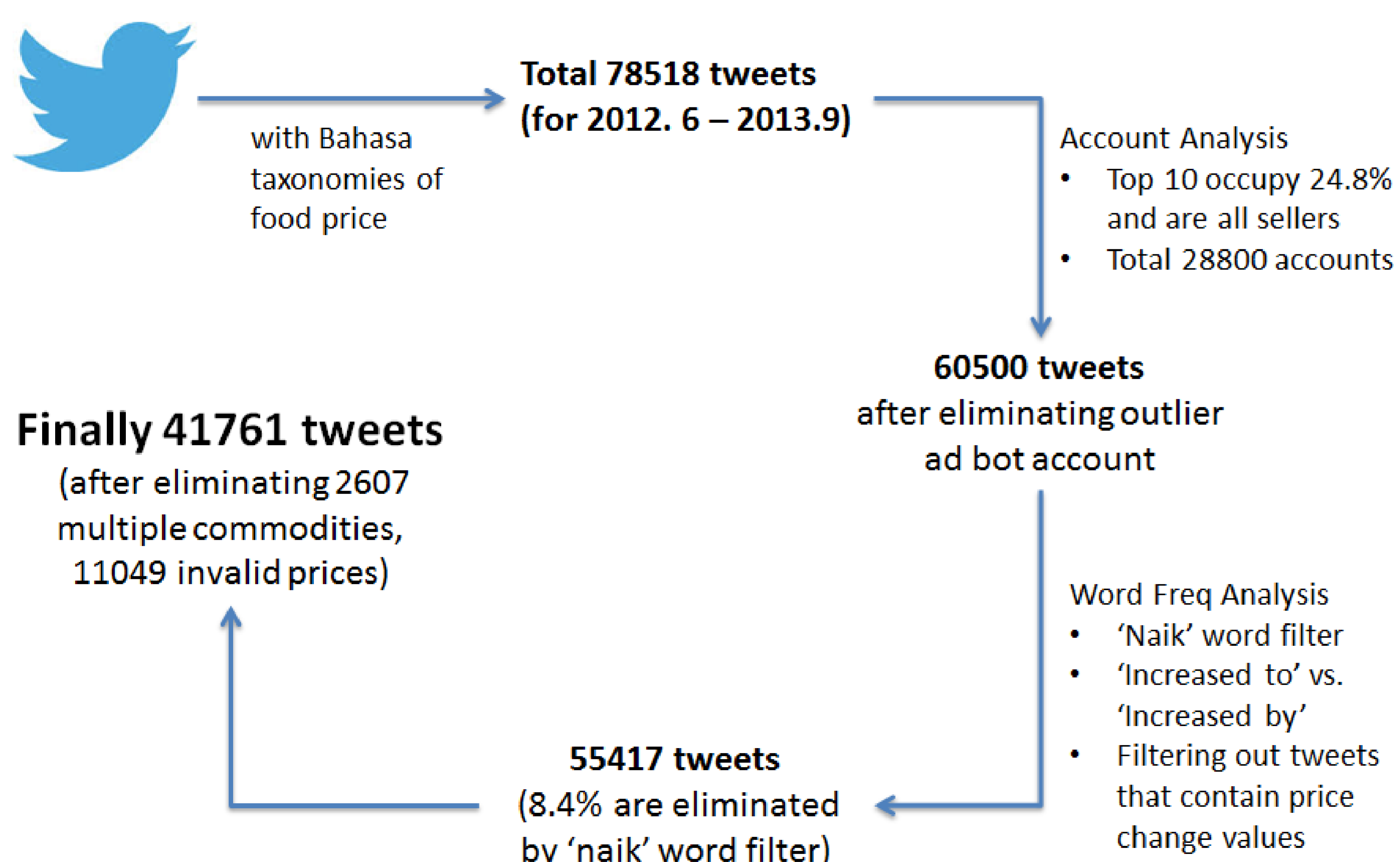
## Framework of the Nowcast Model



## Performance Test with 15-month Tweets



## Data Collection



## Conclusion

- This study provides insights into building an affordable and efficient proxy to assist offline surveys, which are costly and time-consuming.
- Given the volatile economy of developing countries and their less established monitoring systems, online big data help address the limitation of traditional official statistics by allowing fine-grained prediction of economic trends.

***If you have more interests in this study, please check our project page!***

<http://nowcasting.unglobalpulse.org/>