



# Predicting AUD/THB Currency Trends

Springboard Capstone Project Presentation

Data Science Intensive Course

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# Introduction

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- Currency exchange rates are influenced by many macro and micro economic factors.

## Macro-Economic Factors

- Major currency pairs, eg: AUD/USD
- Asia Pacific bloc, eg: THB/JPY, AUD/JPY
- Gold
- Oil
- Stock (Equity)
- Government Bonds
- Political / Social events \*

## Micro-Economic Factors

- Interest rates
- Trade balance,
- GDP
- Consumption (retail)
- CPI
- Monetary policies \*
- Central bank action \*

- For people who trade currency in the money market, or currency brokers such as banks and retail money exchangers, the ability to forecast the movement of exchange rates is challenging; even with the use of modern computer modelling techniques.
- Whilst the ability to forecast currency rates using the macro and micro economic factors is already complex, money trading is also influenced by human and emotional aspects of the money traders themselves.
- If it was easy to forecast currency rates, everyone will be doing it and become rich.

# Objective

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- For the money market layperson, like most of us, our interest in currency exchange rates is occasional - such as when we are travelling abroad, making overseas investments and purchase, and perhaps, the need to regularly remit money overseas for family support.
- Unlike professional money traders, the layperson do not have the time or resources to understand the technical and human complexities of what is causing the day-to-day, even minute-to-minute changes in currency rates at the money market.
- However, it would be useful if the layperson can have some guide, rather than being dumbfounded by the complexities and myths of what may have impacted the price movements of the currency rates they are interested in.
- Hence, the objective of this study is:  
To provide some reliable indicators for the layperson to predict the AUDTHB currency trend.

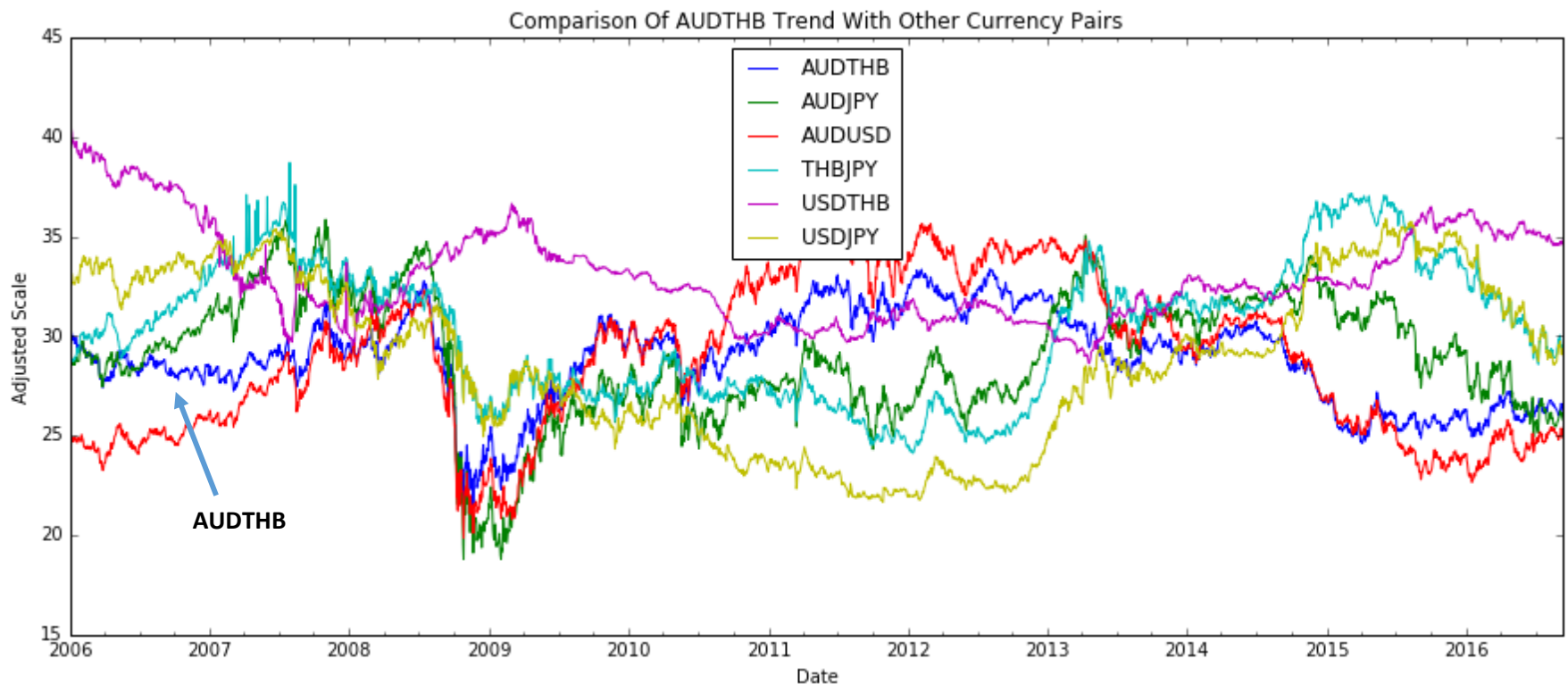
# What is the Use Case?

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- The target audience of this study is the large Thai community of overseas students, workers and business people living in Australia.
- As a current practice, they go to several privately licensed Thai agencies operating in Sydney/Melbourne, where the AUDTHB exchange rates are better than what most banks and public money traders offer.
- Large sums of money are exchanged daily, e.g.:
  - Overseas students receiving money from parents in Thailand
  - Workers sending money back to Thailand for family support
  - Business people investing in Thailand, and vice versa.
- Hence, the ability to predict AUDTHB trends would help the Thai community demystify the possible influences on the AUDTHB price. They can then make better judgements on the timing of their currency exchange and make better savings or to minimise loss.

# What does the AUDTHB trend look like?

- The chart below shows the AUDTHB trend during the past 10 years (1Jan06 to 9Sep16)
- There is a lot of up and down movements in the currency exchange price.
- The chart also shows that the trends of other key currency pairs that are quite different from the AUDTHB pattern.
- These other currency pairs may or may not help to explain the price movements of AUDTHB.



# Project Approach

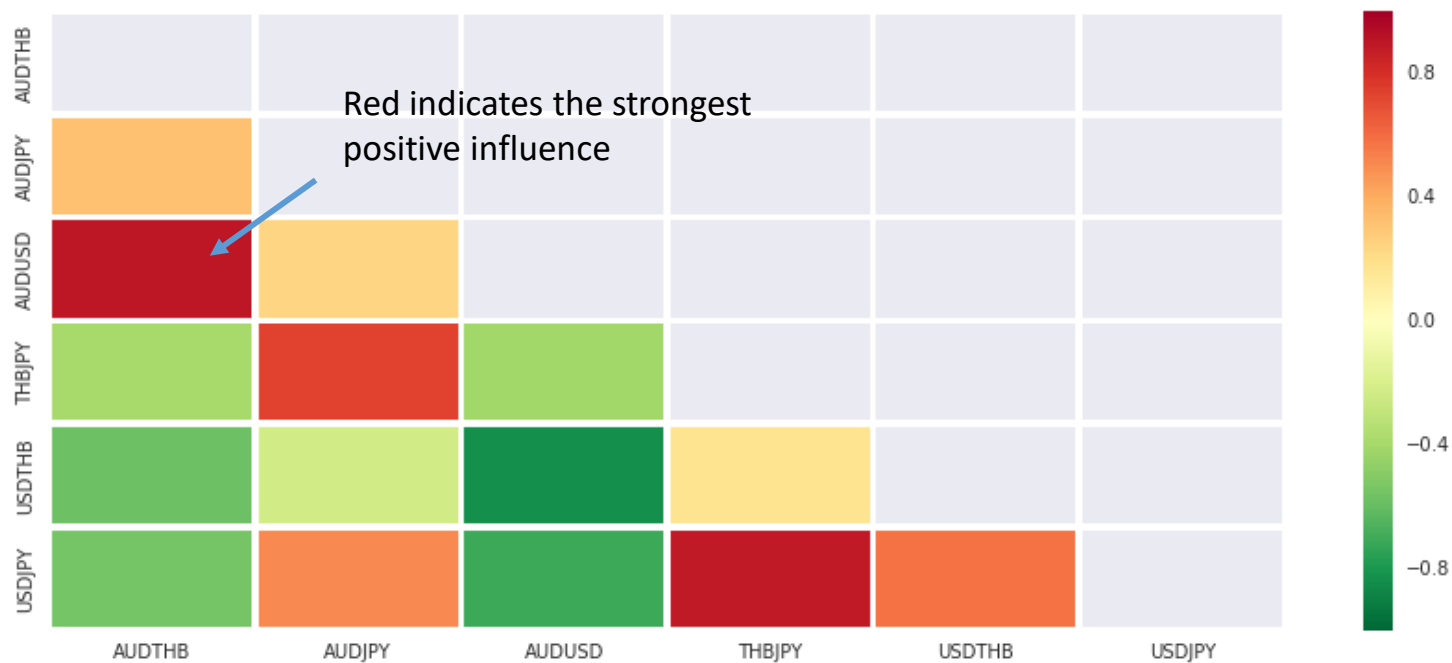
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The approach to this study is to:

1. Collect the historical data of AUDTHB.
2. Collect the historical data of macro and micro economic factors that may influence the behavior of AUDTHB.
3. Perform the required statistical analysis on the data collected, in order to determine what are the strongest and most reliable factors that could be used to predict the AUDTHB trend.
4. Plot the results to show which are the strong AUDTHB trend indicators, in comparison with other factors.
5. Make recommendations to the Thai community in Australia who would benefit from this study.

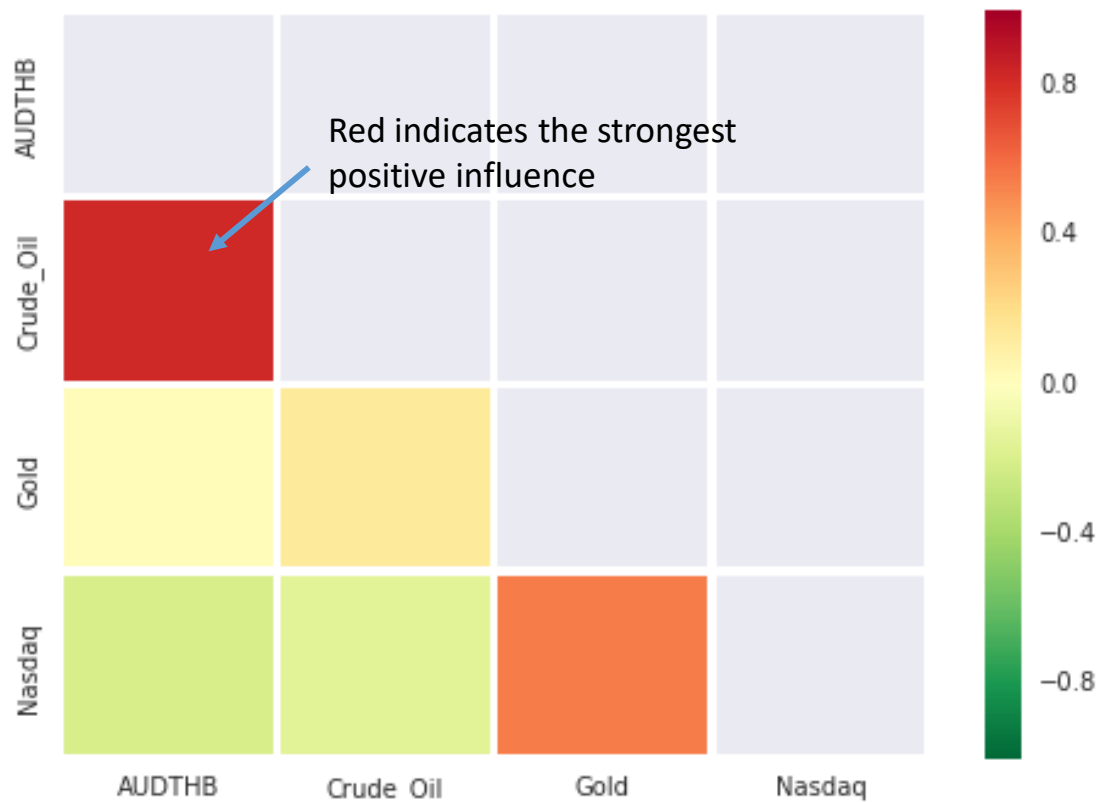
# Results #1

- The currency pairs that were selected for testing included combinations of AUD, THB, USD and JPY.
- AUDTHB is strongly (red) influenced by AUDUSD.
- THBJPY is also strongly influenced by USDJPY



## Results #2

- Gold, crude oil and Nasdaq stock prices were also chosen to test against AUDTHB
- AUDTHB is strongly influenced (red) by Crude Oil prices.
- Gold and stock prices are poor indicators of AUDTHB trend.





# Recommendations

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- 1 We can predict AUDTHB trend by observing AUDUSD prices
  - *AUDUSD is a highly reliable indicator*
  - *When USD goes up, AUDTHB price will trend down*
  - *When USD goes down, AUDTHB price will trend up*
- 2 We can predict AUDTHB trend by observing Crude Oil prices
  - *Crude Oil price is also a good indicator.*
  - *When Crude Oil prices goes up, AUDTHB price will trend up.*
  - *When Crude Oil prices goes down, AUDTHB price will trend down.*
- 3 Gold and Stock market prices does not have any influence on AUDTHB
  - *Do not waste time watching gold or stock prices to determine when to buy/sell AUDTHB*
- 4 AUDTHB does not follow the trend of other Asian currencies
  - *Other AsiaPac currency pairs may be strongly influenced by JPY*
  - *But AUDTHB trend is not influenced by JPY, because Australia has stronger ties with US than with Japan.*