

CHAPTER1 INTRODUCTION

1.1 Introduction

Predicting future foreign exchange rate is quite significant for most transnational enterprises and even for domestic central banks. First of all, foreign exchange means currency exchange between different countries. There are many factors that affect foreign exchange rate such as inflation, interest, balance of payment, relevant risks and so on.

However, CPI (inflation) is a basic factor and won't influence FOREX (Foreign Exchange Rate) clearly under 10%(CPI).

Interest is a major factor which affects it obviously. Based on analysing history data from interest, CPI and balance of payment, including considering domestic risks and rate of national debt, it will make a predictable data model to forecast the future Forex situation.

1.2 Problem Background

According to the 2022 financial report of Google and Apple, we can clearly find the fact: Google lost approximately 1.511 billion dollars and Apple lost 1.836 billion dollars because of foreign exchange. Additionally, speaking about Forex, you have to mention Argentina. Because of the rapid devaluing of Argentina Pesos (compared with USD), Argentina's poverty rate has recently climbed significantly, reaching over 52.9% (25.7% in 2018) in the first half of 2024, impacting roughly 25 million people. (report from UCA Social Debt Observatory)

1.3 Problem Statement

1. Normally, many people face the problem of lacking valuable financial knowledge, rather than the Forex market. A useful and efficient data predicting models benefit their interest.

2. International businesses face Forex risk in nearly every transaction, which can decrease interest and increase costs if exchange rates shift unstably. This uncertainty leads companies to rely on hedging strategies, which can be costly and complex. Developing improved methods for managing currency risk, especially for small and medium-sized

enterprises , is a critical issue in maintaining global trade efficiency.

1.4 Research Question

1.What are the major primary macroeconomic factors influencing the CNY/USD exchange rate from 2000 to 2024?

2.Which models of machine learning are most suitable in predicting short-term and long-term of the CNY/USD exchange rate?

3.How has the CNY/USD exchange rate exhibited for responding to global economic crises, such as the 2008 financial crisis or the COVID-19 pandemic?

1.5 Aims and Objectives

Aimes:

This project aims to build a CNY-USD Forex predicting model which can help Chinese people to address currency events when they are facing exchange foreign rate problems.

Objectives:

To identify those data from Forex within decade years and collect these data by using data mining.

To establish a analysis model to address these data and find strong foreign exchange rate's relationship with factors,
and then forecast the future trending based on those data.

1.6 Scope

This project only involves the Forex changing data from between CNY and USD.

To ensure the accuracy of the analysis model, the project will adopt data from 1970 to 2023.This large scale time will significantly implement the success and stability of the model.

This project will engage in Machine Learning to analyse the data and the result will be displayed by Power BI.

1.7 Significance of Research