ROBERT GORDON UNIVERSITY ABERDEEN
SCHOOL OF COMPUTING SCIENCE AND DIGITAL MEDIA

MSc Business Analytics

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Project Title: Predicting Sri Lanka's Inflation Using Machine Learning	
	Start Date: 21st January 2023
	Submission Date: 9th May 2023

CONSENT

X I agree
☐ I do not agree

That the University shall be entitled to use any results, materials or other outcomes arising from my project work for the purposes of non-commercial teaching and research, including collaboration.

DECLARATION

I confirm:

- **That the work contained in this document has been composed solely by myself and that I have not made use of any unauthorised assistance.**
- **That the work has not been accepted in any previous application for a degree.**
- **All sources of information have been specifically acknowledged and all verbatim extracts are distinguished by quotation marks.**

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Abstract

Inflation has been a persistent economic problem for Sri Lanka over the years. The country has experienced high and volatile inflation rates, which have had severe effects on the economy, including reduced purchasing power, increased interest rates, and reduced economic growth. As such, predicting inflation has become a critical task for policymakers, investors, and other stakeholders in the economy. This research paper aims to develop a predictive model for inflation in Sri Lanka that considers a range of economic indicators and other relevant factors.

The study adopts a quantitative approach, using data from various sources to develop the model. The data includes macroeconomic indicators such as GDP, money supply, exchange rates, interest rates, and other relevant factors that are known to affect inflation. The analysis involves exploring the relationship between these variables and inflation using statistical methods such as regression analysis.

The study finds that there is a significant relationship between inflation and the selected economic indicators. In particular, the money supply, GDP growth, and interest rates were found to be the most significant predictors of inflation. Furthermore, the study finds that the inclusion of external factors such as oil prices and global economic conditions can significantly improve the predictive accuracy of the model.

The research also investigates the impact of inflation on various sectors of the economy, including the labor market, housing, and financial markets. The study finds that inflation has a significant impact on these sectors, with the labor market being the most affected. Specifically, the study finds that inflation reduces real wages, leading to a decline in purchasing power and increased unemployment. In the housing market, inflation results in higher mortgage rates, reducing the affordability of housing for consumers. In the financial markets, inflation increases interest rates, reducing the attractiveness of stocks and other investments.

The study also considers the role of monetary policy in controlling inflation in Sri Lanka. The research finds that monetary policy can be effective in controlling inflation, especially when implemented through interest rate adjustments. However, the study cautions that policymakers should be mindful of the impact of monetary policy on other sectors of the economy, particularly the labor market.

In conclusion, this research paper develops a predictive model for inflation in Sri Lanka that considers a range of economic indicators and external factors. The study finds that the money supply, exchange rates, and interest rates are the most significant predictors of inflation in Sri Lanka. The study also finds that inflation has a significant impact on various sectors of the Sri Lankan economy, and that monetary policy can be effective in controlling inflation. The research provides valuable insights for policymakers, investors, and other stakeholders in the Sri Lankan economy who seek to predict and manage inflation effectively.