

Regression and Time Series Analysis

Project Proposal

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“Analysis and Prediction of Varied Financial Indexes post the Russia – Ukraine War”

The one event that shaped 2022 into the year it's been was undoubtedly Russia's invasion of Ukraine on the 7th of February, with over 200,000 soldiers. This marked the decline of our current supply chain management as Ukraine was responsible for a major portion of the EU's trade. Being in the top 5 of the world's top exporters of grain and food items, Ukraine's collapse of crop supply affected trade across the world. The EU as a whole was significantly affected by the war, as Russia halted access to major oil pipelines and blew up important trade routes at the borders it shared with Ukraine. These events demonstrably changed major stock markets and indexes across the world.

Our aim with this project is to explore this change in the stock markets and indexes. We plan to exercise tested time-series analyses and regression models to understand the markets and indexes in its current form, analyze the events throughout this year that shaped up these indexes to present day, and present our own prediction based on historical data for the next financial quarter. For this, we would be using a routine stock index dataset containing information about the daily stock indexes of companies – including their low, high, open and close price, their stock volume and an adjusted close value for extra measure.

	A	B	C	D	E	F	G
1	Date	Low	Open	Volume	High	Close	Adjusted Close
5588	1/2/2022	138.4499969	140.5299988	1655900	141.2700043	141.0299988	140.3171234
5589	2/2/2022	140.7799988	140.9900055	1475700	144.7599945	144.2400055	143.5108948
5590	3/2/2022	141.0099945	142	914300	143.7799988	141.7899933	141.0732727
5591	4/2/2022	139.6699982	141.4799957	1087400	142.3500061	141.1199951	140.406662
5592	7/2/2022	139.8099976	141.5	1444100	142.4900055	140.3699951	139.6604462
5593	8/2/2022	138.2899933	139.1100006	1515400	141.4100037	140.8099976	140.0982361
5594	9/2/2022	142.1499939	142.7299957	1216900	145.1000061	144.4400024	143.7098846
5595	10/2/2022	140.5800018	141.5599976	1063700	144.0399933	141.6600037	140.943924
5596	11/2/2022	136.2400055	141.1199951	1321900	142.5099945	137.1999969	136.5064697
5597	14-02-2022	134.1000061	136.9600067	2205300	137.6900024	135.2100067	134.5265503
5598	15-02-2022	134.7299957	137.25	2368200	138.0599976	135.9100037	135.2229919
5599	16-02-2022	132.1100006	135.5500031	3187500	135.6000061	135.1499939	134.4668274
5600	17-02-2022	129.7100067	134.6399994	2577800	134.6399994	130.25	129.5915985

A snapshot of our dataset

Programming Language

R programming

Technologies Used

Time Series Analysis
Linear Regression