

Forecasting inflation using Big Data

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Abstract

Big Data is a revolutionary phenomenon which is one of the most frequently discussed topics in the modern age, and is expected to remain so in the foreseeable future. In this paper given a review of using Big Data for forecasting inflation by identifying and reviewing problems. Forecasting inflation during the transition period was given special importance. The government, business entities and the population are interested in forecast calculations. The results of the forecasts form the basis for developing measures and making management decisions.

Keywords: Big Data, forecasting, inflation, statistics, economics, data sources, new technologies

1 Introduction

Big Data is a term that denotes technologies for processing structured and unstructured data of huge volumes to produce useful and human-readable results. The volume of data on the most diverse aspects of life is growing, and at the same time, the possibilities for storing information are growing. Most experts agree that accelerating the growth in the volume of data is an objective reality. Social networks, mobile devices, data from measuring devices, business information are just a few types of sources capable of generating huge amounts of information [1].

The Big Data paradigm defines three basic types of tasks:

1. Storing and managing the amount of data in hundreds of terabytes or petabytes, which conventional relational databases cannot effectively use.
2. Organization of unstructured information consisting of texts, images, videos and other types of data.
3. Analysis of Big Data, which raises the question of how to work with unstructured information, the generation of analytical reports, as well as the introduction of forecast models [2].

But how can we apply data analytics and Big Data to predict inflation, or any of a number of other economic variables.

2 Main content

Big Data and data analytics have already been applied to other fields. For example, the American company Gracenote, which specializes in the processing of large data, has calculated the most likely version of the medal offset of the Olympics in Rio.

Given this breakthrough in other fields, how can the same methods be applied to economics and finance? There are some reasons why Big Data technologies still do not applied for forecasting inflation. They are as follows:

- 1) The economics is a complex system.

Economics is a 'complex system' - basically that many relationships exist between parts of the system, its whole, and its environment, and those relationships are not easily represented or modeled.

- 2) Fear of using new technologies.

The government and large corporations are moving much slower and are wasting time implementing these technologies. One of the reasons is that the most "modern analytical methods of data analysis" can be good for predicting, in the sense of understanding the underlying "function" or "templates" of data, but sometimes prediction is not useful without a prescription.[4] That is sometimes it is better to use a simpler model that is more understandable so that you can focus on the possibilities of improvement.

- 3) Most believe that a certain way of doing things as "right" does not make it a "best" way of doing things.

The reality in the trenches is that economic forecasting, strategic planning, the financial budget and many opportunities that require forecasting are largely managed by the staffs of economists and statisticians who rely heavily on their own way of working and their ideas [5].

- 4) The creation and implementation of new technologies is complex and expensive

The work aimed at getting exactly what you need will turn it into a useful form, safely preserve it, provide reliable property and responsibility for it, integrate it with other data warehouses, model, test, and integrate into organizational processes.

- 5) Big Data tools are already used in many sectors in the economics

Races for analytics for many years existed among us in those industries where the prognostic line is translated into direct and immediate value. This will continue very quietly, because if something really provides a competitive advantage, and the analyst does well, it is in the interests of the organization itself not to let anyone know [6].

The above affect in a bad way the implementation of the Big Date technology for forecasting inflation. But, there are

some examples that perfectly demonstrate that forecasting with Big Data very efficient and effective. For instance, a young company from San Francisco, Premise Data, has created an application for a smart phone that is already used by more than seven hundred people from twenty-five developing countries. Most of these people are students and housewives. With the help of the application, they earn by photographing goods.

Each photo brings its author from eight to ten cents and represents significantly more value for Premise. Analyzing the dynamics of prices for daily goods by the new photos, Premise employees build the inflation index practically in real time. The idea is quite simple: having current information and sufficient processing power for processing, you can find new patterns and relationships between different types of data [3].

3 Conclusions

Today, we need to use resources more efficiently. To do this, you always need to keep up to date and try new tools and

References

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technologies to solve specific problems. In the same way, more and more companies from different countries of the world use the Big Data tools to predict inflation. Despite the complexity of the application, the effectiveness of using the Big Data tool is greater.

We can continue to make predictions in the old manner - based on the usual retrospective analysis. For example, evaluate the sales of ice cream last summer and prepare for the same volume in the coming season. However, today there are better tools.

Big Data analysis allows us to take into account when predicting dozens of third-party factors - from climatic features to the number of other events. It is possible that the sales of specific goods are significantly influenced by them - or some other, by no means obvious factor. Identify such a correlation is possible only according to Big Data technologies.

Big Data shed light on the market situation and give the opportunity to respond more quickly. Soon it will become a regular business based on forecasting.