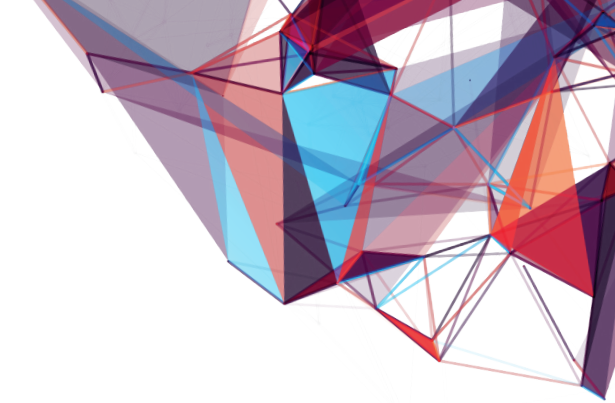


KATADATA SECTORAL INSIGHT

AUGUST 2019

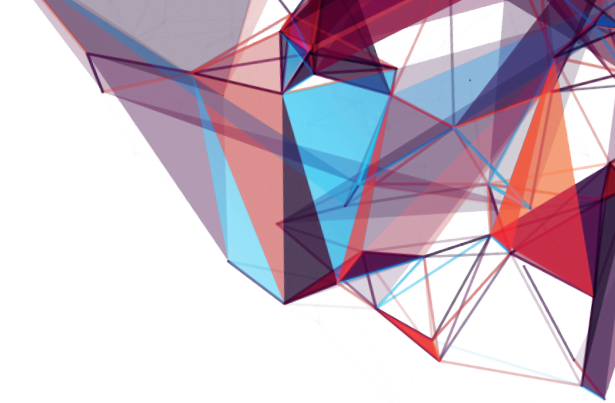




SECTORAL INDICES

	MAY		JUNE		JULY		AUGUST PREDICTION	SEPTEMBER PREDICTION
	Actual	Prediction	Actual	Prediction	Actual	Prediction		
Property, Real Estate, and Building Construction	459,02	485,22	487,72	490,97	498,86	544,94	530,25	532,12
Agriculture	1.398,72	1.352,55	1.406,77	1.317,56	1.360,10	1.324,48	1.295,75	1.216,06
Consumer Goods	2.446,56	2.641,75	2.394,67	2.741,93	2.355,42	2.804,77	2613,54	2722,77
Finance	1.253,10	1.268,93	1.306,05	1.217,75	1.323,97	1.233,19	1.320,44	1.341,74
Mining	1.649,38	1.788,43	1.715,47	1.674,75	1.635,93	1.790,15	1.699,21	1.777,01
Basic Industry and Chemicals	761,41	804,13	777,25	751,96	837,37	765,37	906,16	894,62
Trade, Services, and Investment	798,46	834,72	804,87	785,47	817,37	821,59	832,04	850,53
Miscellaneous	1.292,17	1.302,38	1.293,38	1.284,79	1.239,97	1.294,76	1.394,52	1.406,01
Infrastructure, Utilities, and Transportation	1.153,97	1.158,45	1.214,59	1.144,67	1.206,10	1.225,08	1.174,81	1.092,19
Composite	6.209,12	6.464,80	6358,63	6253,95	6.390,50	6.419,26	6.452,59	6.474,83

BACKGROUND



----- 2018 ----->----- 2019 ----->

Katadata Market Sentiment Index (KMSI) predicts bullish and bearish sentiment on Indonesia Composite Index.

Model development to predict level of 9 sectors in Indonesia Composite Index and Indonesia Composite Index itself.

Katadata Sectoral Insight (KSI) predicts level of 9 sectors and Indonesia Composite Index for the next one and two months.



METHODOLOGY

LITERATURE STUDY

Conduct studies from various research reports as references in statistical model development

SECONDARY DATA

Use variety of secondary data, including the Indonesia Composite Index, domestic and global macroeconomic indicators

MODELING

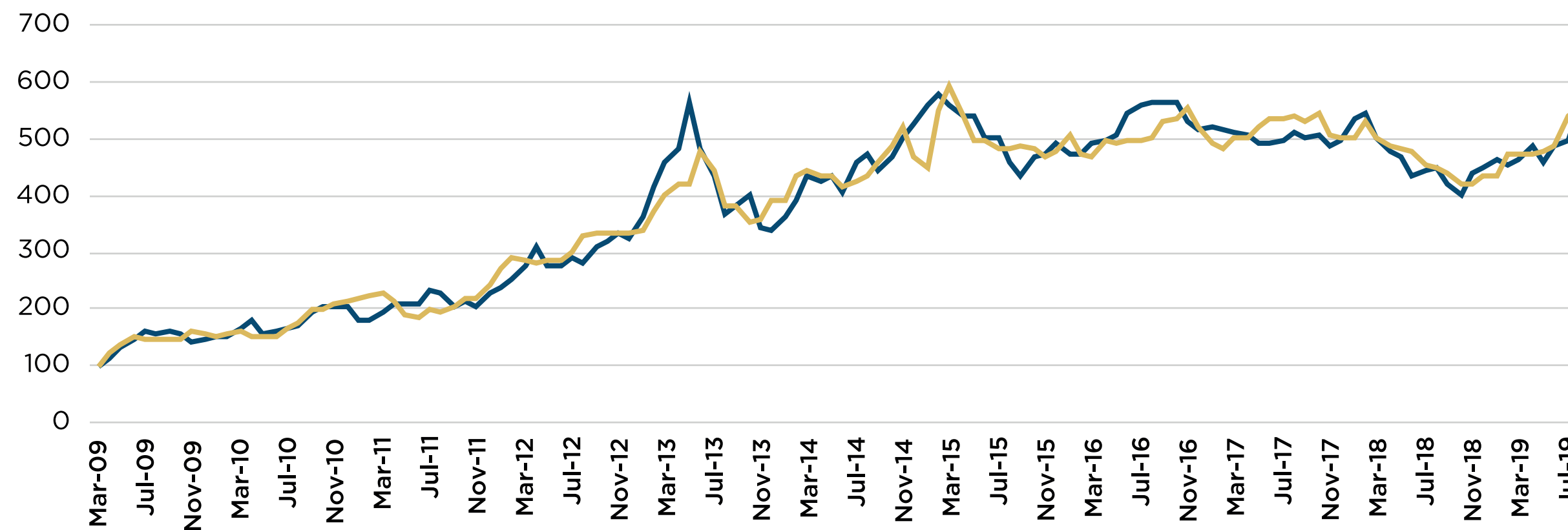
The modeling is performed in accordance to econometric principles

TESTING

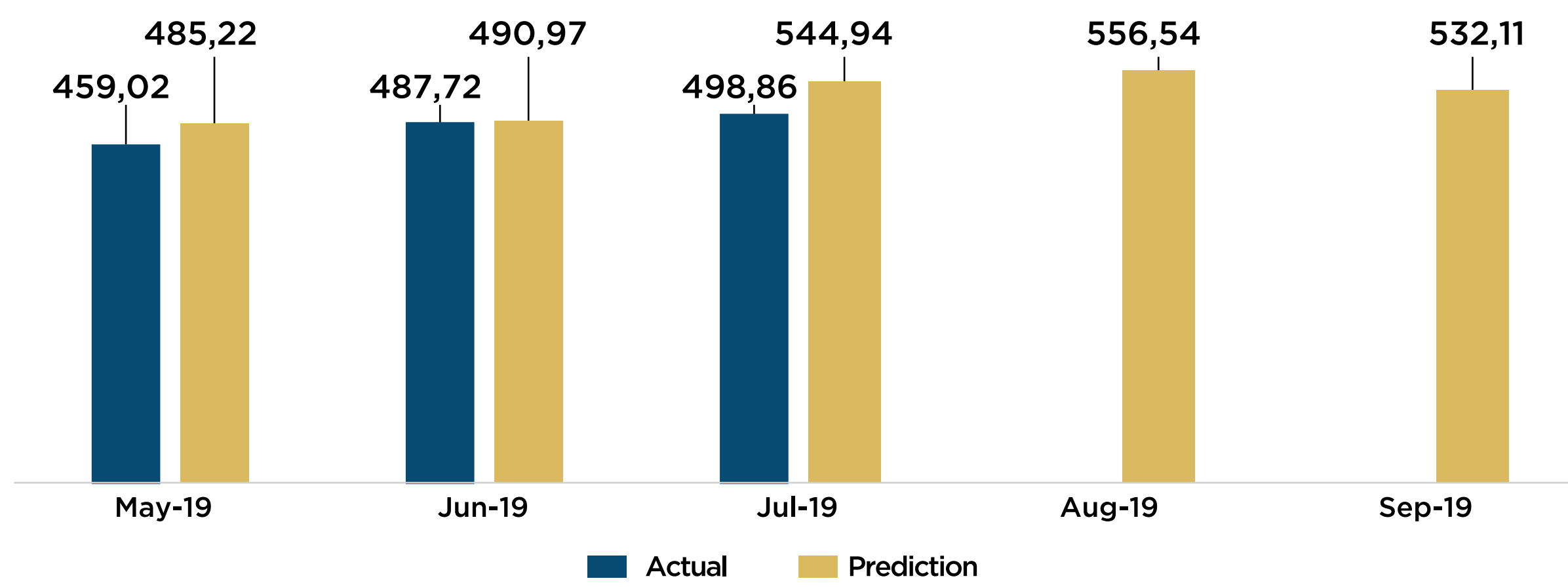
Perform model's prediction accuracy test every month to obtain the best prediction level and direction



(JCI:PROPERTY) PROPERTY, REAL ESTATE, AND BUILDING CONSTRUCTION



— Actual — Prediction

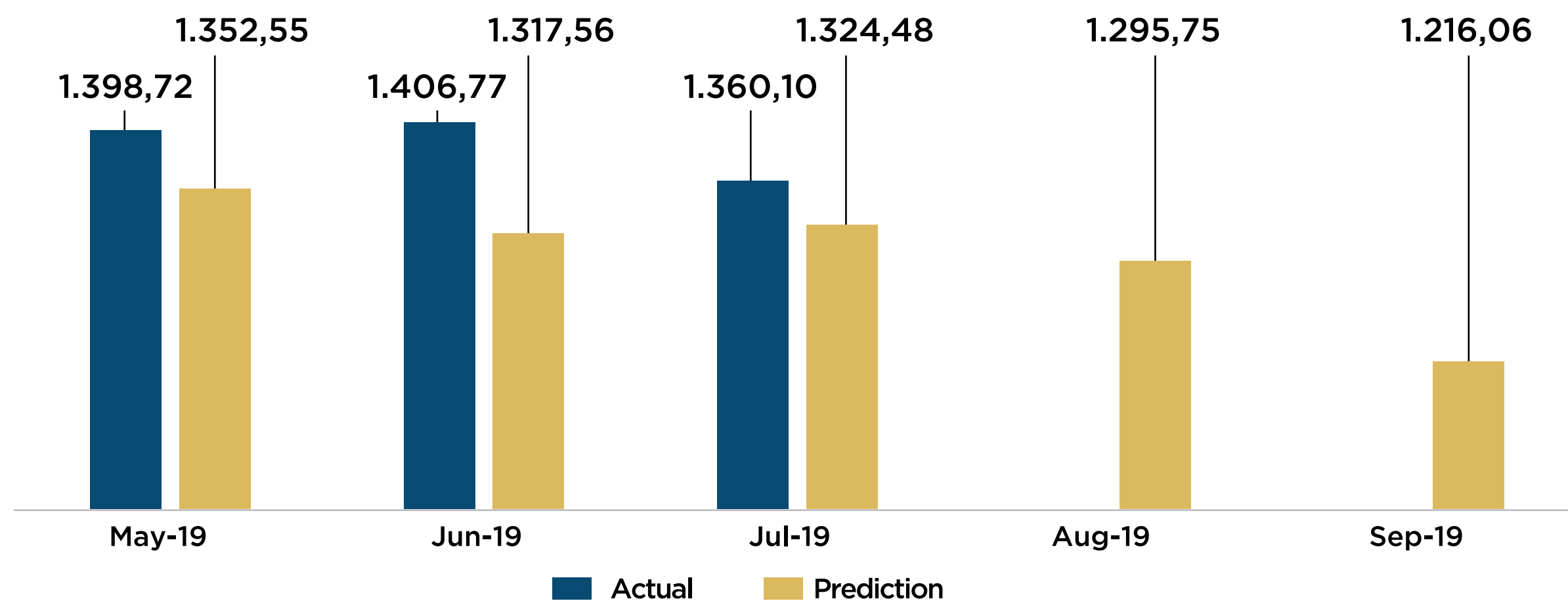
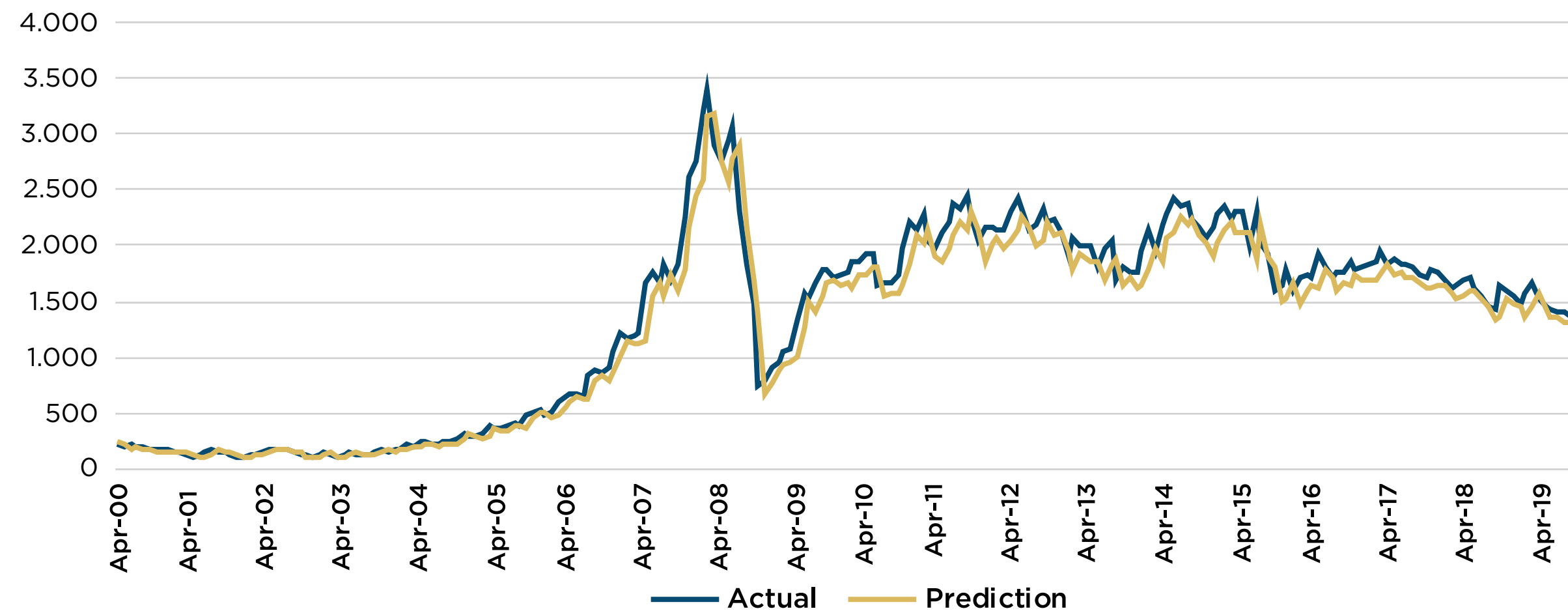


■ Actual ■ Prediction

MODEL PERIOD	January 2009 $\xrightarrow{s/d}$ August 2019
R-SQUARED	97%
MODEL SIMULATION	January 2018 $\xrightarrow{s/d}$ March 2019
Prediction Accuracy	87%

Property, Real Estate, and Building Construction sector is highly affected by consumer purchasing power toward housing. If consumer purchasing power improved, it is likely to also improve company's sales in this sector. Besides, the sector also depends on global financial stability. One of the factor affects the stability is interest rate of some countries. When interest rate in large economy countries go up, then Indonesia interest rate is likely to follow the increase which caused property sector to weakened.

(JCI:AGRI) AGRICULTURE



MODEL PERIOD

January 2000 $\xrightarrow{\text{s/d}}$ August 2019

R-SQUARED

97%

MODEL SIMULATION

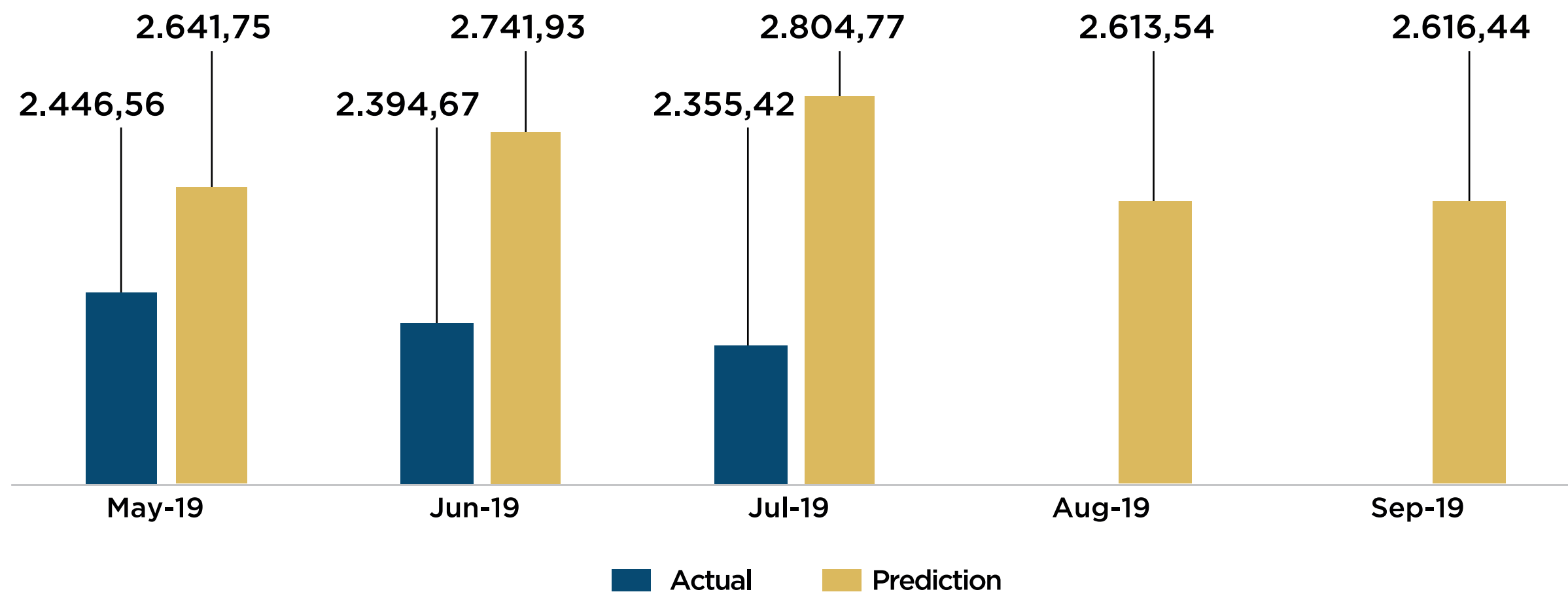
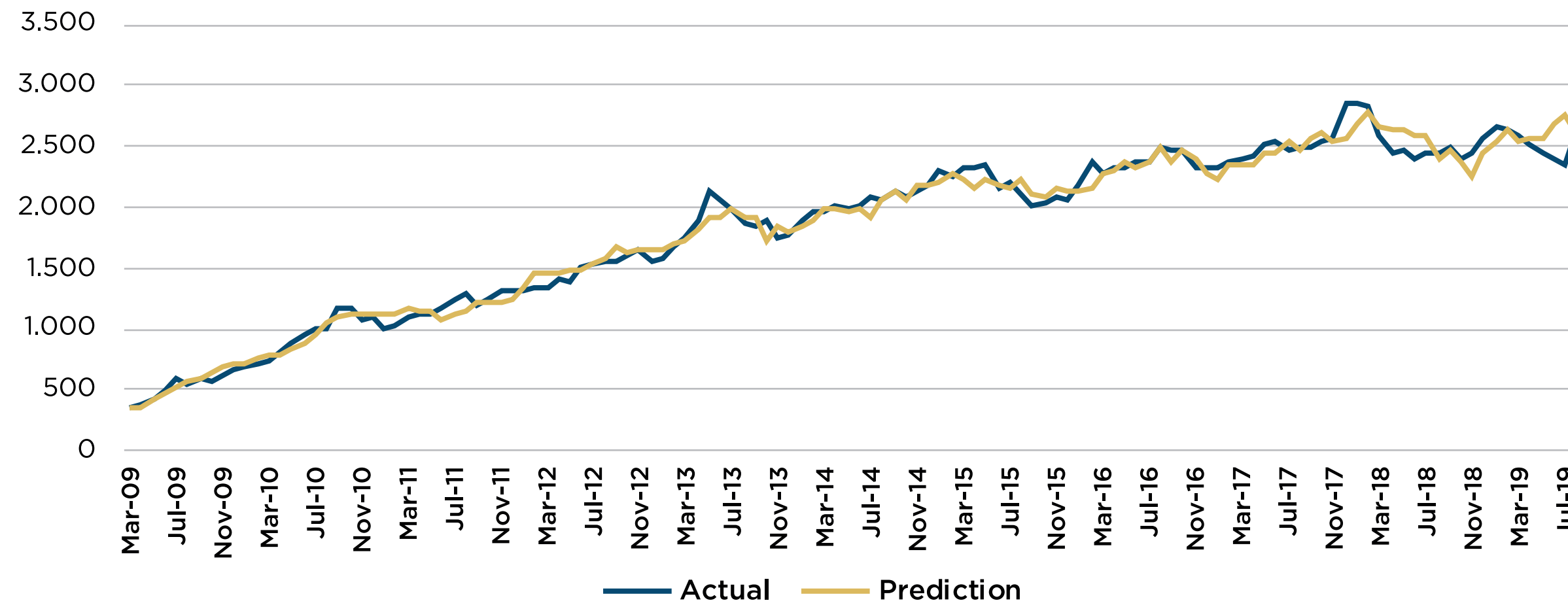
April 2018 $\xrightarrow{\text{s/d}}$ April 2019

Prediction Accuracy

83%

Agriculture sector is highly affected by inflation rate. However, as long as it is controlled, a price increase could bring a good effect to companies in this sector. Energy commodity prices also has an effect. If the prices become too high, there's a possibility the energy demand will shift to substitution resources, such as Crude Palm Oil (CPO) that could be processed into diesel fuel.

(JCI:CONSUMER) CONSUMER GOODS



MODEL PERIOD

January 2009 $\xrightarrow{s/d}$ August 2019

R-SQUARED

99%

MODEL SIMULATION

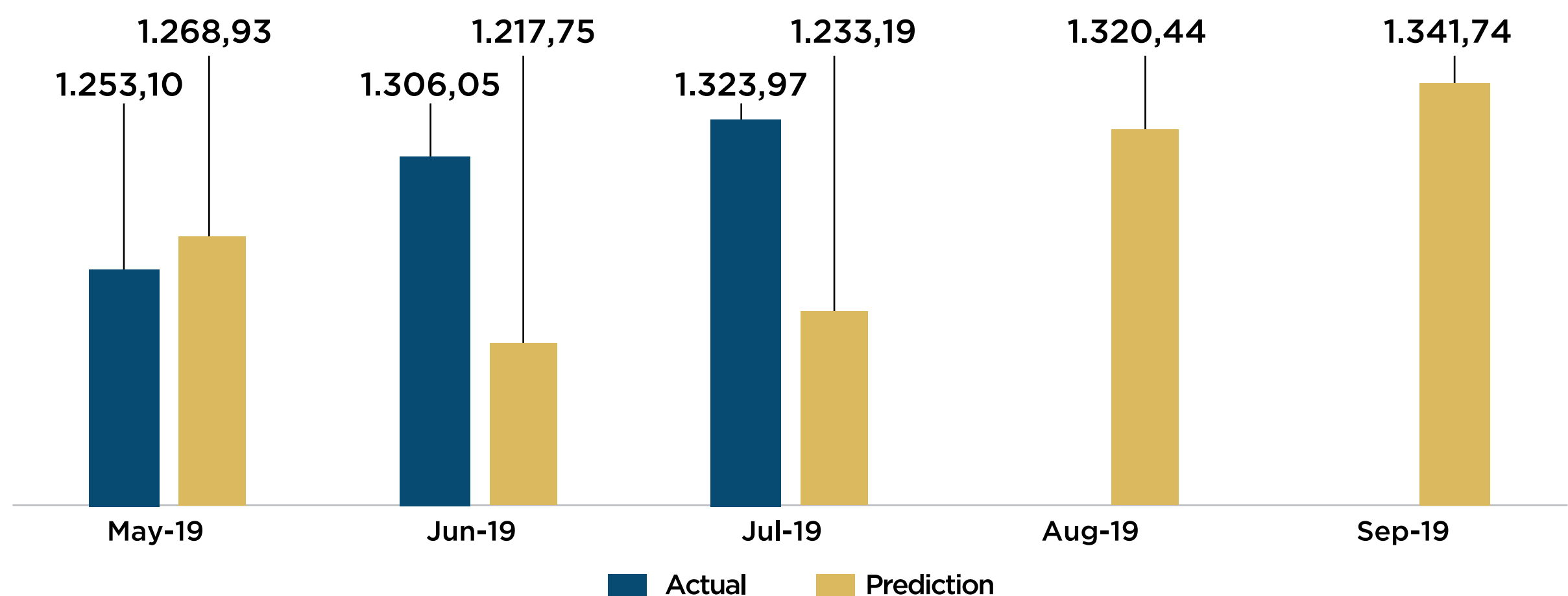
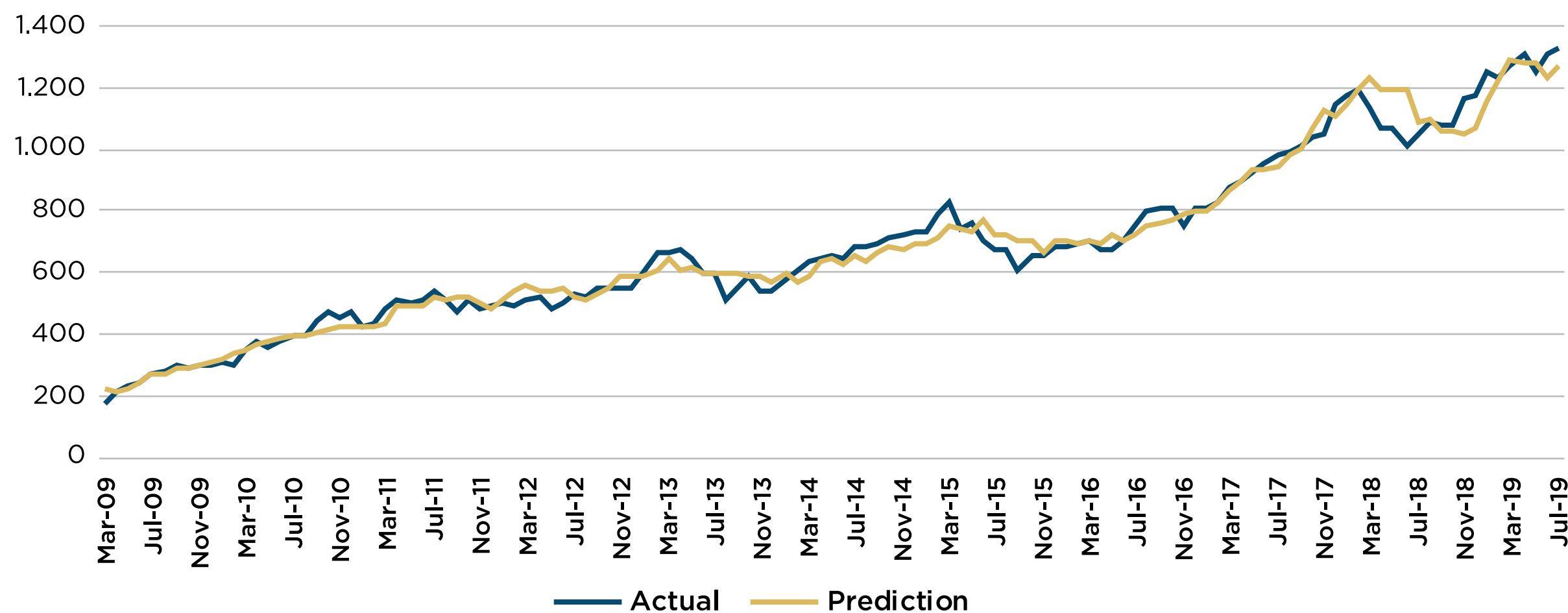
January 2018 $\xrightarrow{s/d}$ March 2019

Prediction Accuracy

80%

Consumer goods sector is mainly affected by domestic economy which could be reflected by consumer purchasing power on food. Company performance in this sector is likely to increase when consumer ability to buy foods upsurge. External factors also contributed to this sector's level movement, such as economic conditions of developed countries, particularly Indonesia trading partners. Those includes China, Japan, the United States, and European countries.

(JCI:FINANCE) FINANCE



MODEL PERIOD

January
2009

s/d

August
2019

R-SQUARED

98%

MODEL SIMULATION

December
2017

s/d

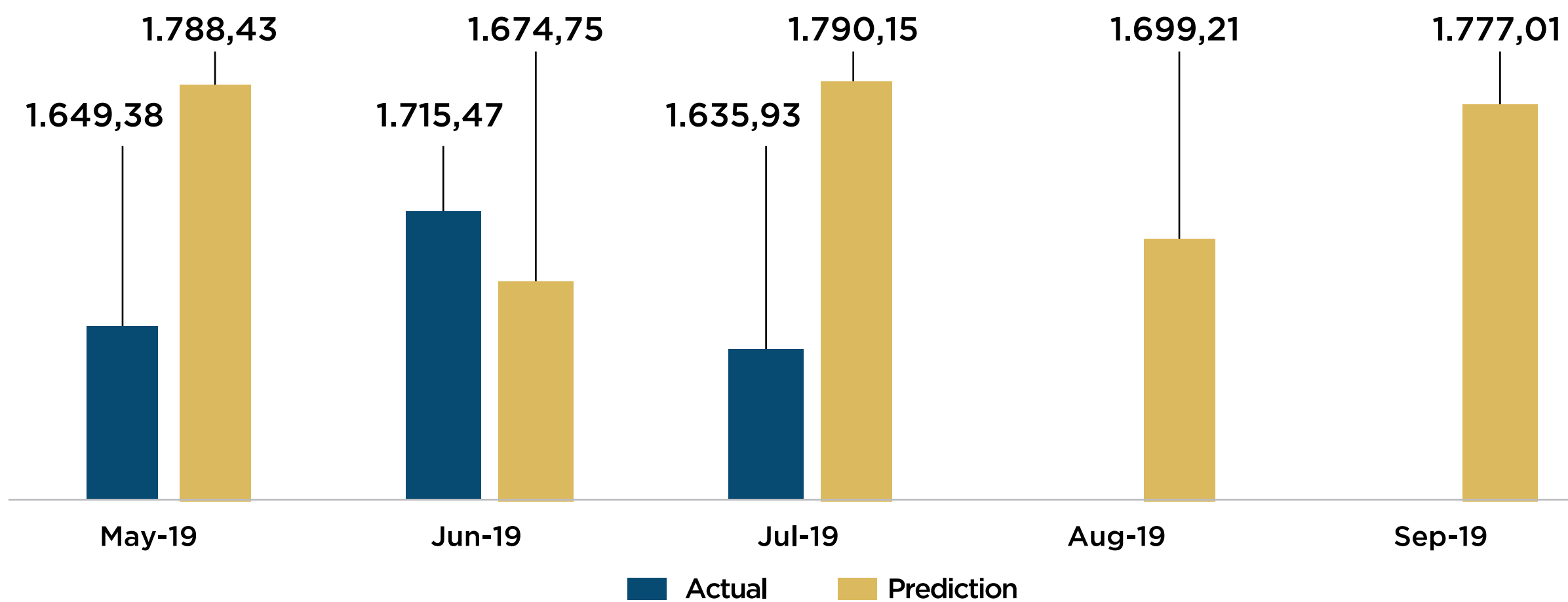
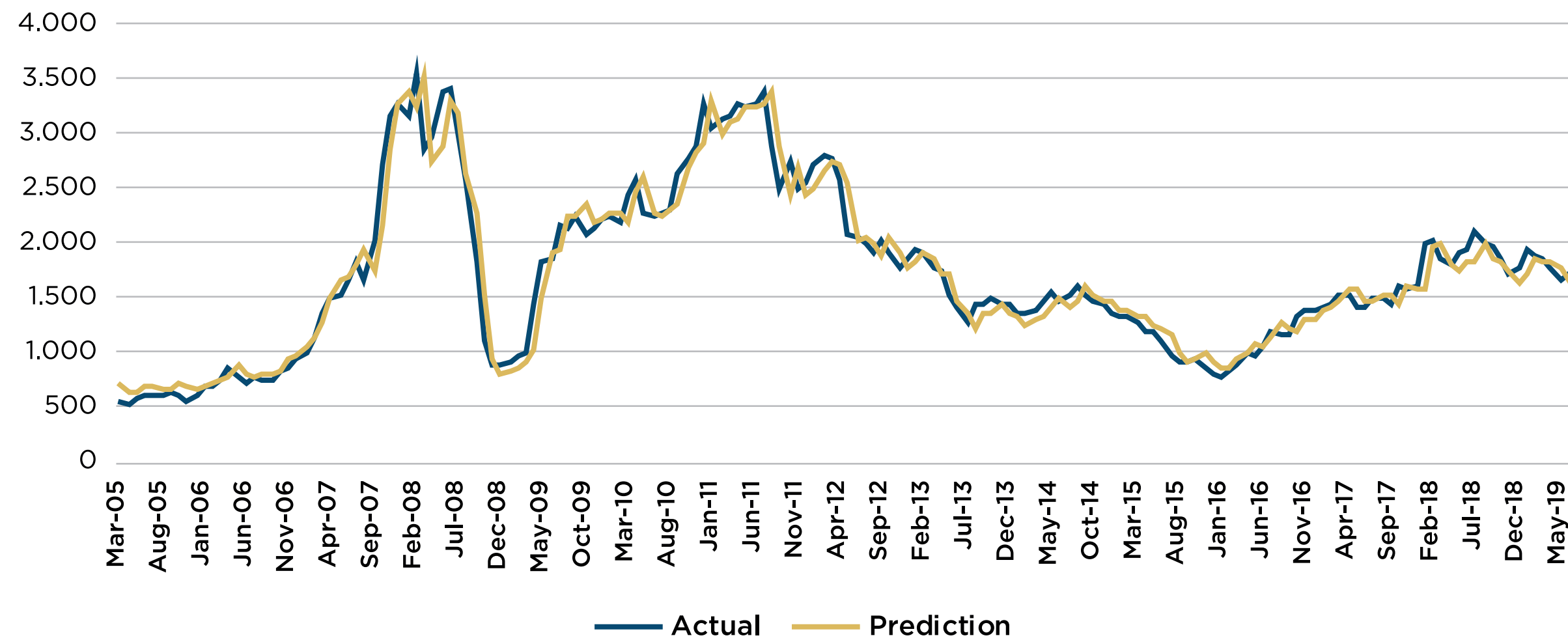
December
2018

Prediction Accuracy

75%

Macroeconomic stability greatly affects the finance sector and rupiah exchange rates is one of the indicator of macroeconomic stability. The exchange rate has multiplier effect including monetary policy, i.e., interest rate benchmarks. Then it has an impact on the banking interest rates which would later impact finance sector performance. Foreign monetary policies such as in the United States, China and Japan also influence Central Bank of Indonesia to decide the interest rate, or in other words, would affect the finance sector.

(JCI:MINING) MINING



MODEL PERIOD

January
2005

s/d

August
2019

R-SQUARED

95%

**MODEL
SIMULATION**

April
2018

s/d

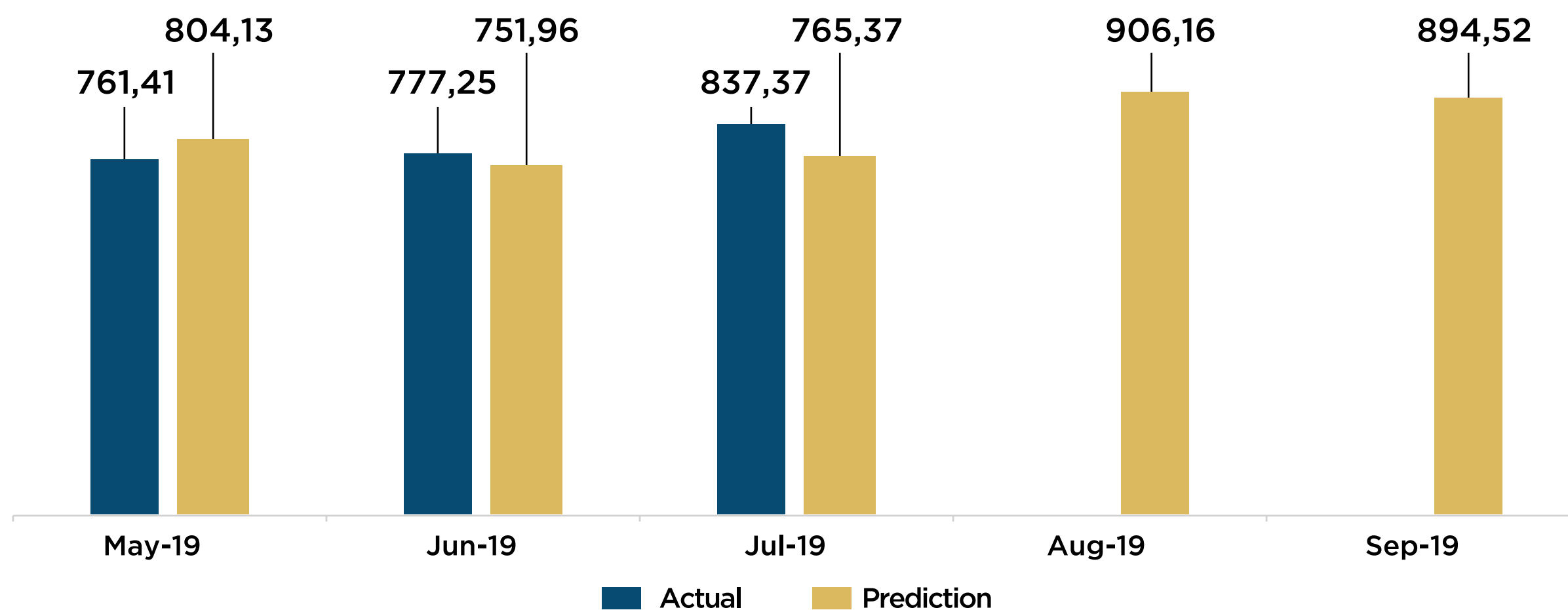
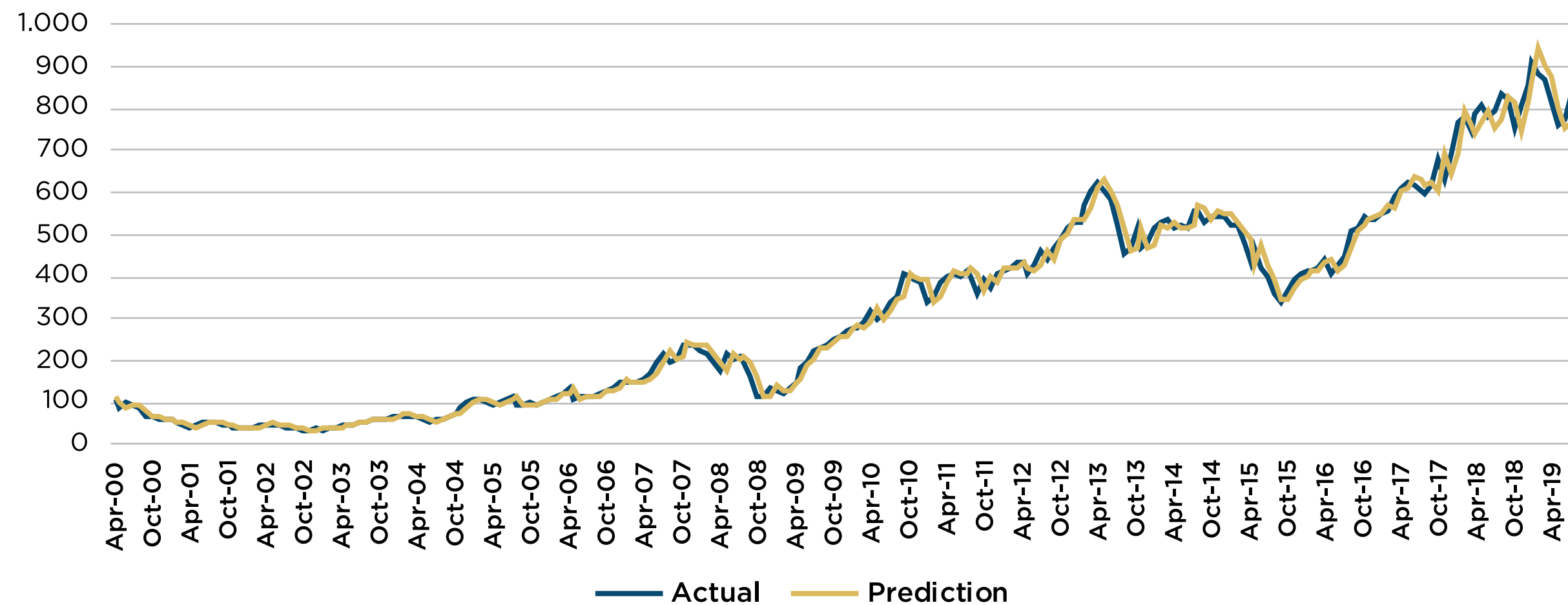
April
2019

Prediction Accuracy

67%

Global commodity prices, mainly oil and coal, strongly drive this sector. Large economy countries also affect the sector. This is because they have big influence on commodity prices volatility that later affect the mining sector.

(JCI: BASIC-IND) BASIC INDUSTRY AND CHEMICALS



MODEL PERIOD

January
2000

s/d

August
2019

R-SQUARED

99%

**MODEL
SIMULATION**

April
2018

s/d

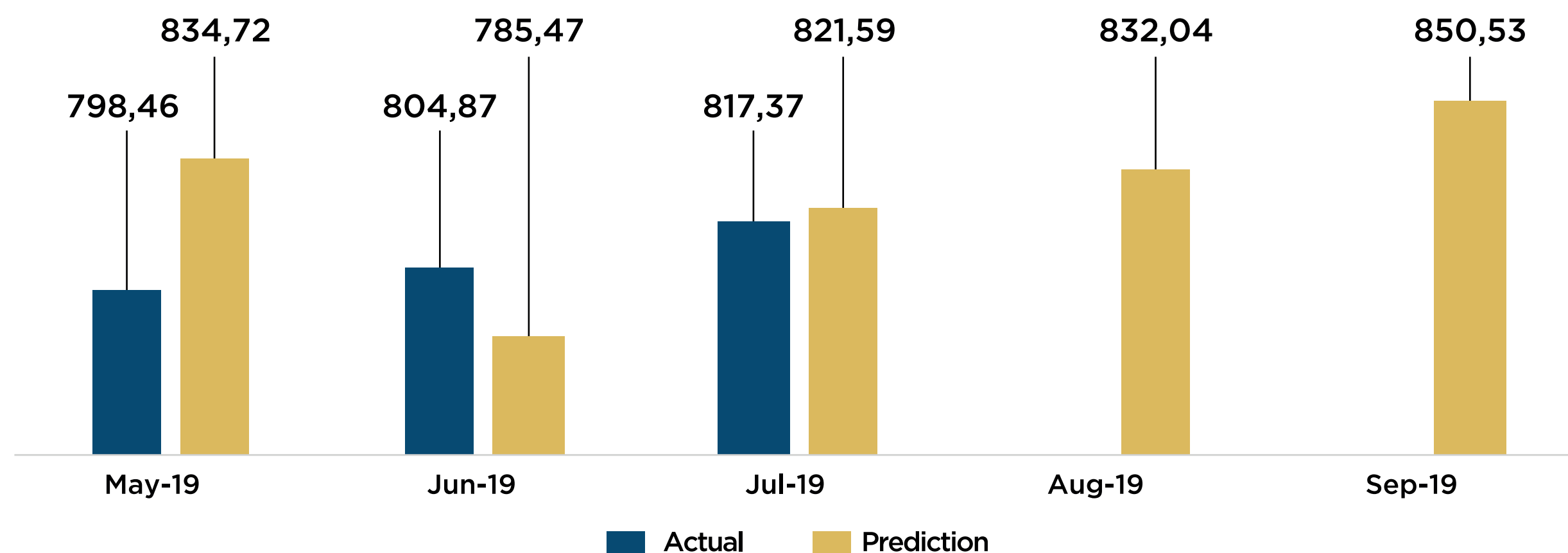
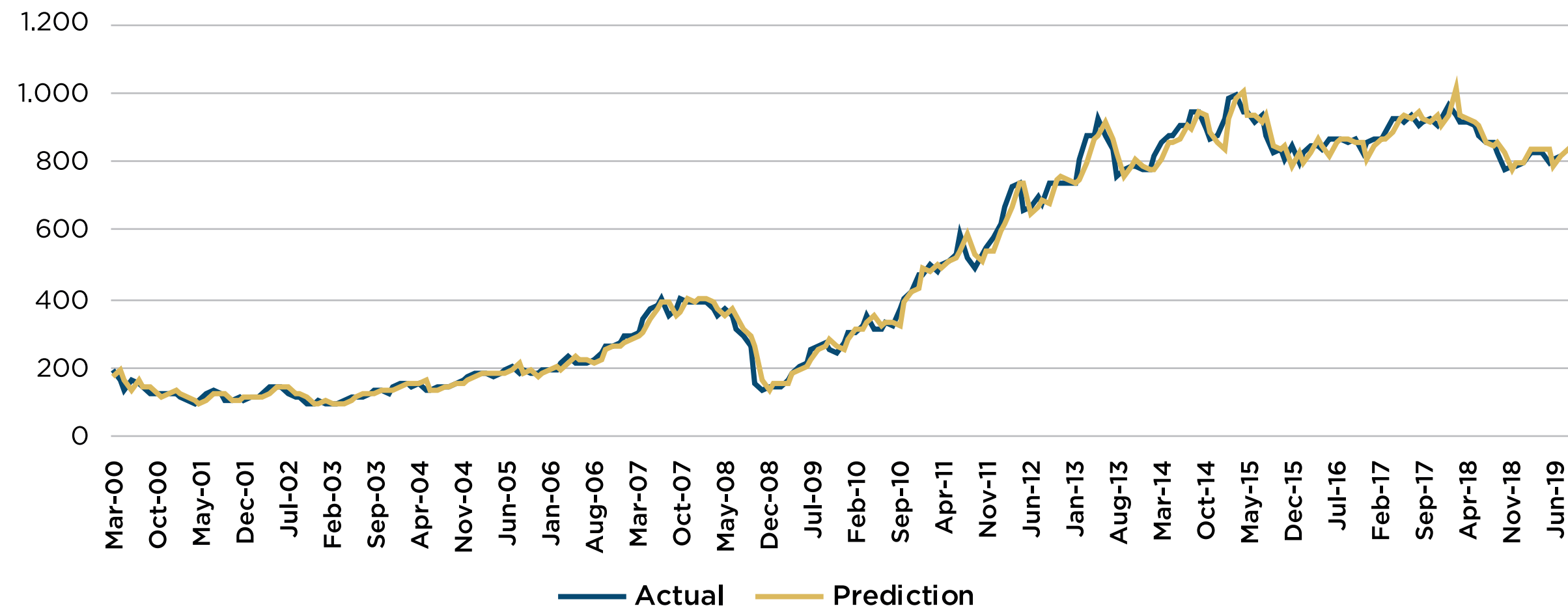
April
2019

Prediction Accuracy

67%

Basic industry and chemicals sector is likely to be affected by domestic and some trade partners economy, especially China and the United States. Historically, a drift occurred when trade partners economy improve, it will improve stocks performance in this sector.

(JCI:TRADE) TRADE, SERVICES, AND INVESTMENT



MODEL PERIOD

January 2000 $\xrightarrow{s/d}$ August 2019

R-SQUARED

99%

MODEL SIMULATION

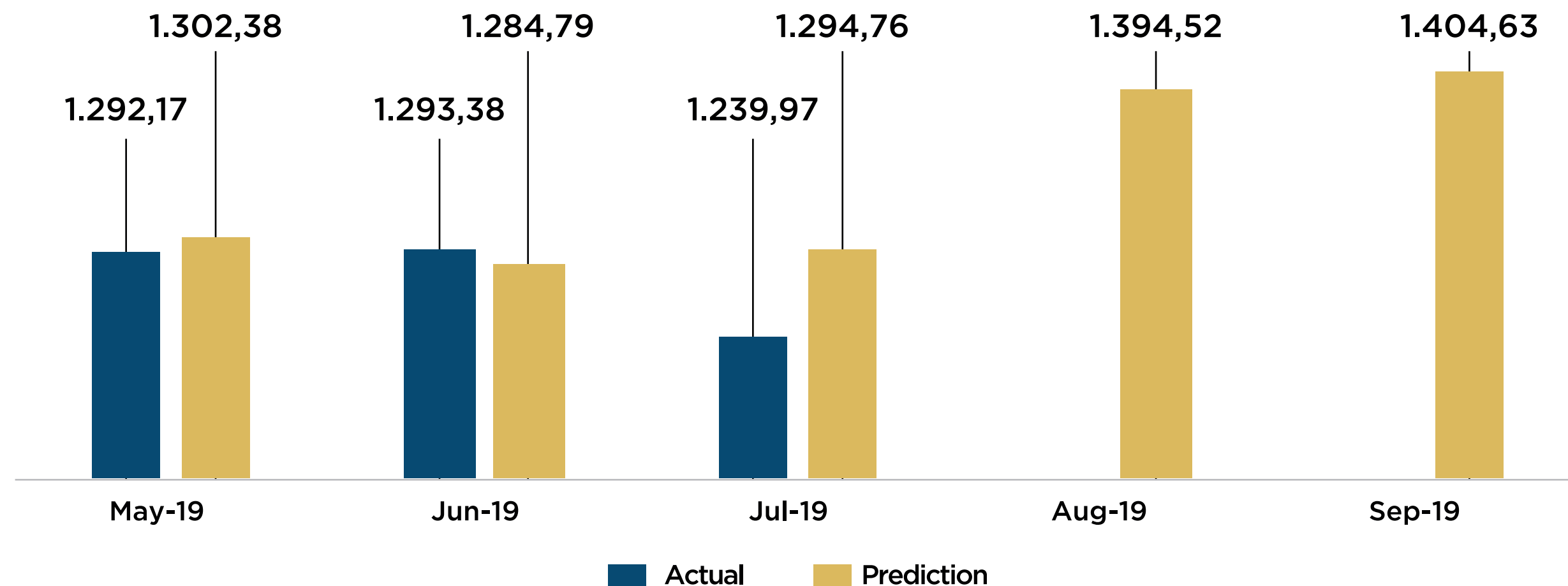
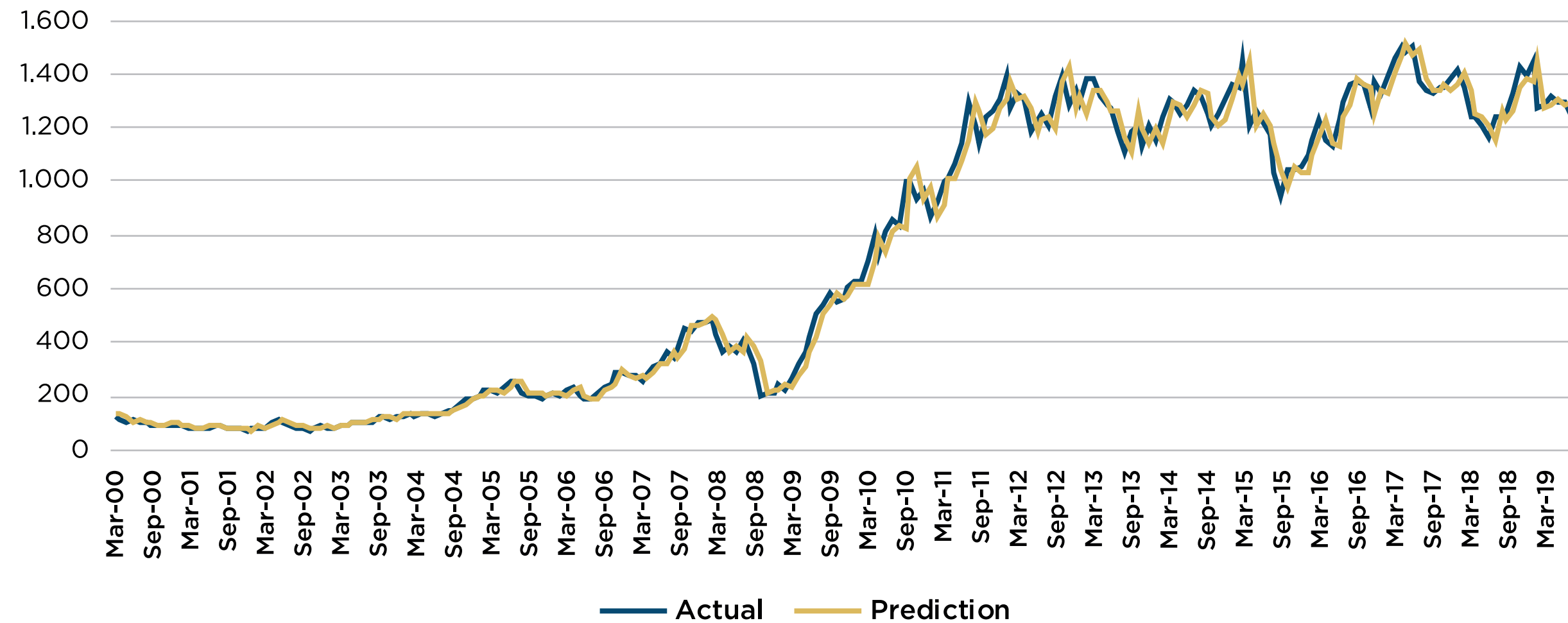
January 2018 $\xrightarrow{s/d}$ May 2019

Prediction Accuracy

65%

The Trade, Services, and Investment sector is affected by consumer purchasing power, as when it increases, it is likely to boost a company's sales in this sector, including retail companies. In addition to domestic factors, economic conditions in trading partner countries, including China and the United States, also have a significant effect on this sector.

(JCI:MISC-IND) MISCELLANEOUS



MODEL PERIOD

January
2000

s/d

August
2019

R-SQUARED

99%

**MODEL
SIMULATION**

January
2018

s/d

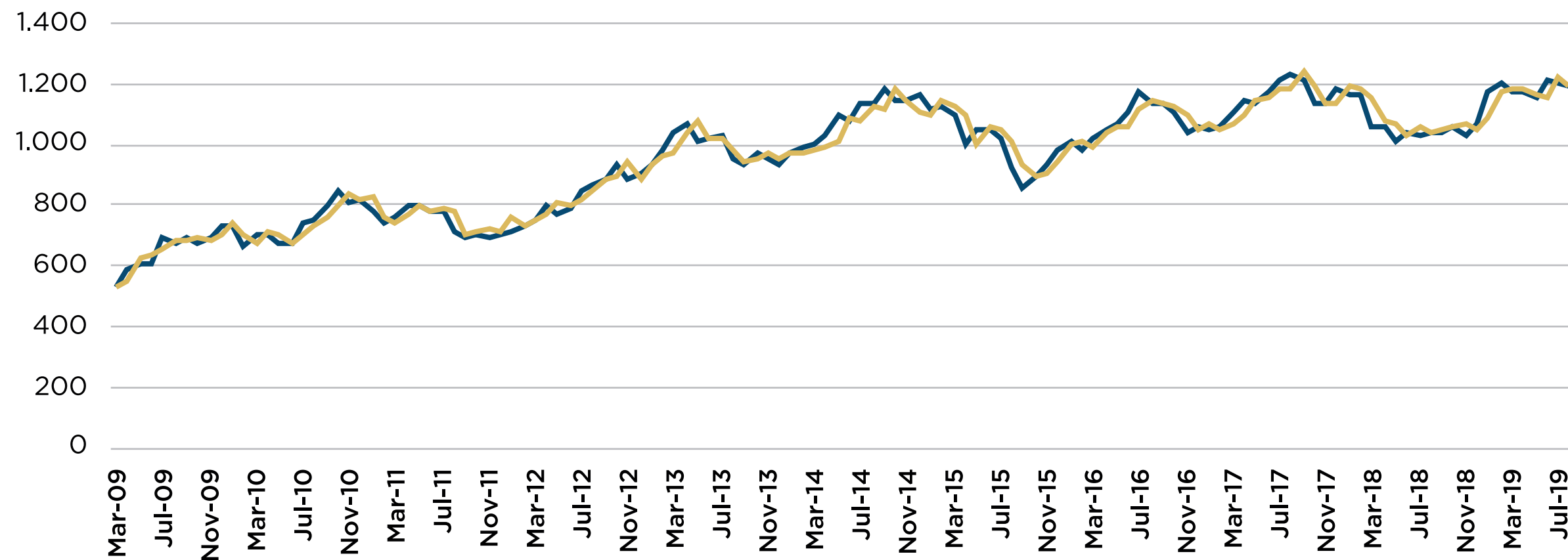
April
2019

Prediction Accuracy

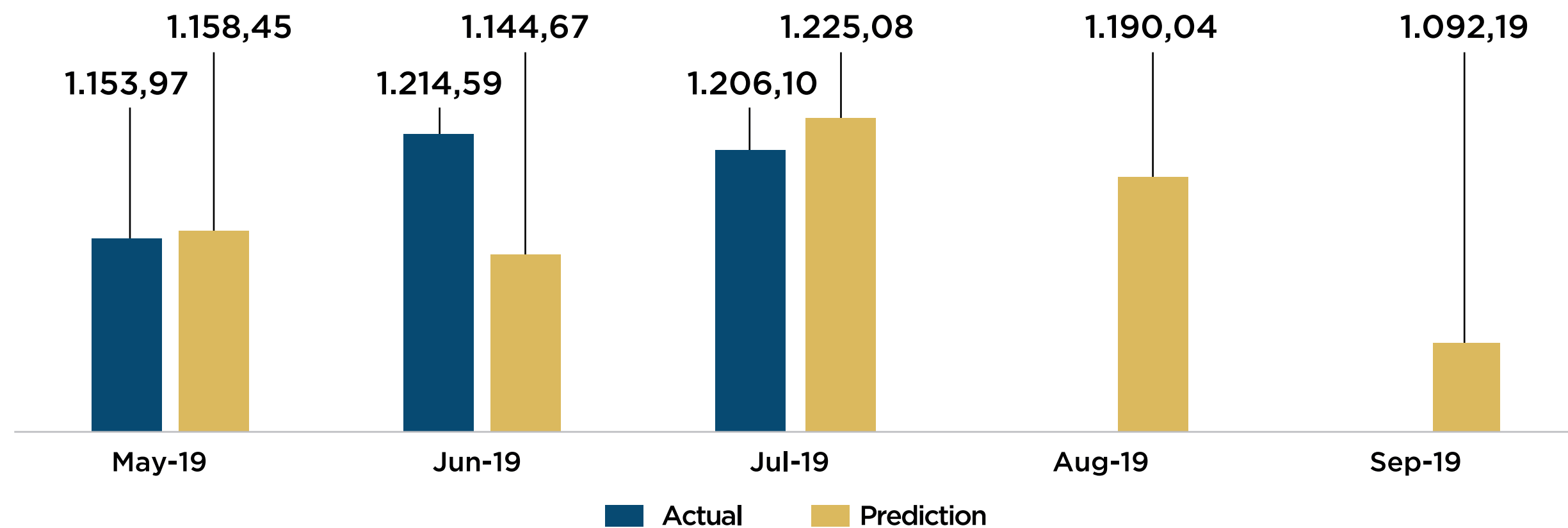
62,5%

Domestic economic condition, which could be reflected by consumer purchasing power and car sales, has high influence on Miscellaneous sector. Automotive company dominates this sector, hence the car sales have a direct impact on company's revenue in this sector.

(JCI:INFRASTRUCTURE) INFRASTRUCTURE, UTILITIES, AND TRANSPORTATION



— Actual — Prediction

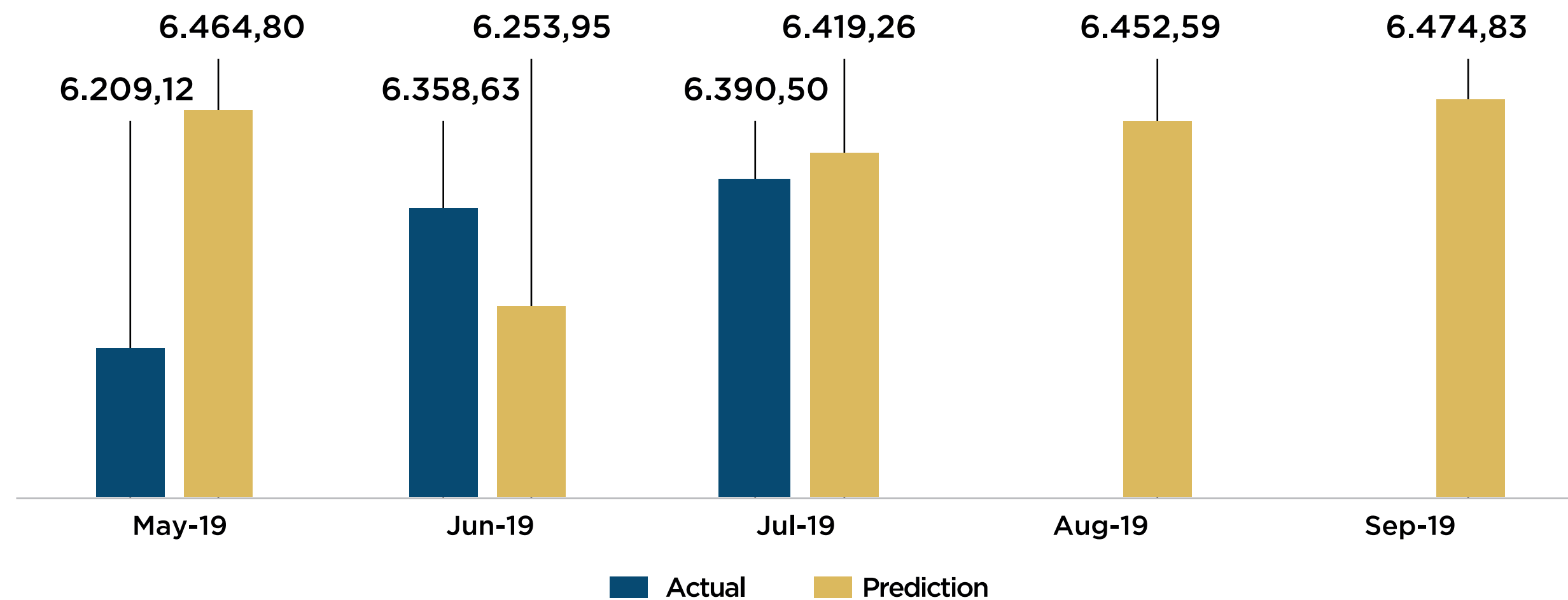
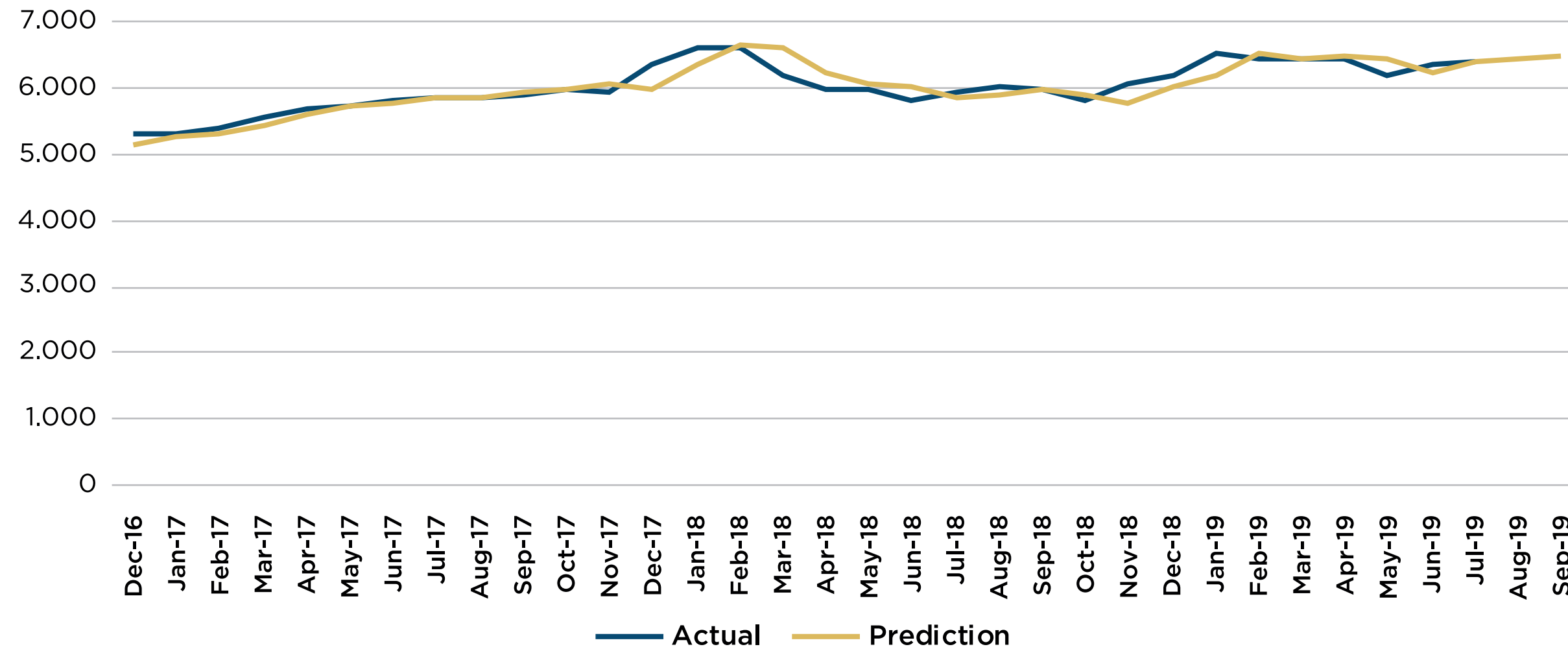


■ Actual ■ Prediction

MODEL PERIOD	January 2009 $\xrightarrow{s/d}$ August 2019
R-SQUARED	97%
MODEL SIMULATION	January 2018 $\xrightarrow{s/d}$ May 2019
Prediction Accuracy	60%

The main driver on this sector is the availability of funds through lending, channeled to support infrastructure projects. Countries with high investment in infrastructure projects in Indonesia such as China and Japan, also strongly affect this sector. It leads to the sector also dependent to economic condition in those countries.

(COMPOSITE) INDONESIA COMPOSITE INDEX



The calculation of JCI level prediction uses market capitalization and prediction level data. Based on prediction simulation in the period of December 2016 to July 2019, it results in predictive power of

64,52%.

TEAM OF EXPERTS KATADATA SECTORAL INSIGHT



Damhuri Nasution

Damhuri Nasution recognized for modeling, forecasting and developing an early warning system for the Indonesian and global economy. Mr. Nasution is the Head of PT Danareksa Research Institute. Prior to that, he served as a Research Analyst at PT Pemeringkat Efek Indonesia. In his earlier carrier, Mr. Nasution spent 7 years as a Researcher and Lecturer at the Institute for Economic and Social Research (LPEM) Faculty of Economics, University of Indonesia.

He conducted a number of research projects both macro and micro economic at the institute. Mr. Nasution received a Bachelor of Statistics from the Bogor Institute of Agriculture. He attended internship program in the Department of Economics, Brown University, Providence, Rhode Island, USA.



Stevanny Limuria

As a Deputy Head of Research and Analysis in Katadata, Stevanny Limuria is experienced as a financial analyst at a number of public companies and research institutes for more than 8 years. The holder of Master degree in Management from Tarumanegara University is experienced in identifying and analyzing problems faced by companies, analyzing financial models, reviewing financial statements, and analyzing the budgeting and forecasting of a project. Stevanny and the team will lead the market study to identify the potential market and analyze the data.

Analyst: Franklin Michael

Statistician: Lulu Mahdiyah Sandjadirja

Statistician: Puspa Indah



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