



Economic Modeling and Forecasting with the COVID-19 Scenario

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The COVID-19 and the Economy

- The COVID pandemic has caused a great deal of disruption in the U.S. as well as in the Global economy.
 - Those disruptions are likely to adversely affect the existing economic analytical toolkit.
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Seasonal Distortions

- The COVID-19 will likely cloud the data (input) picture including seasonal distortions in major macroeconomics data.
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Structural Issues

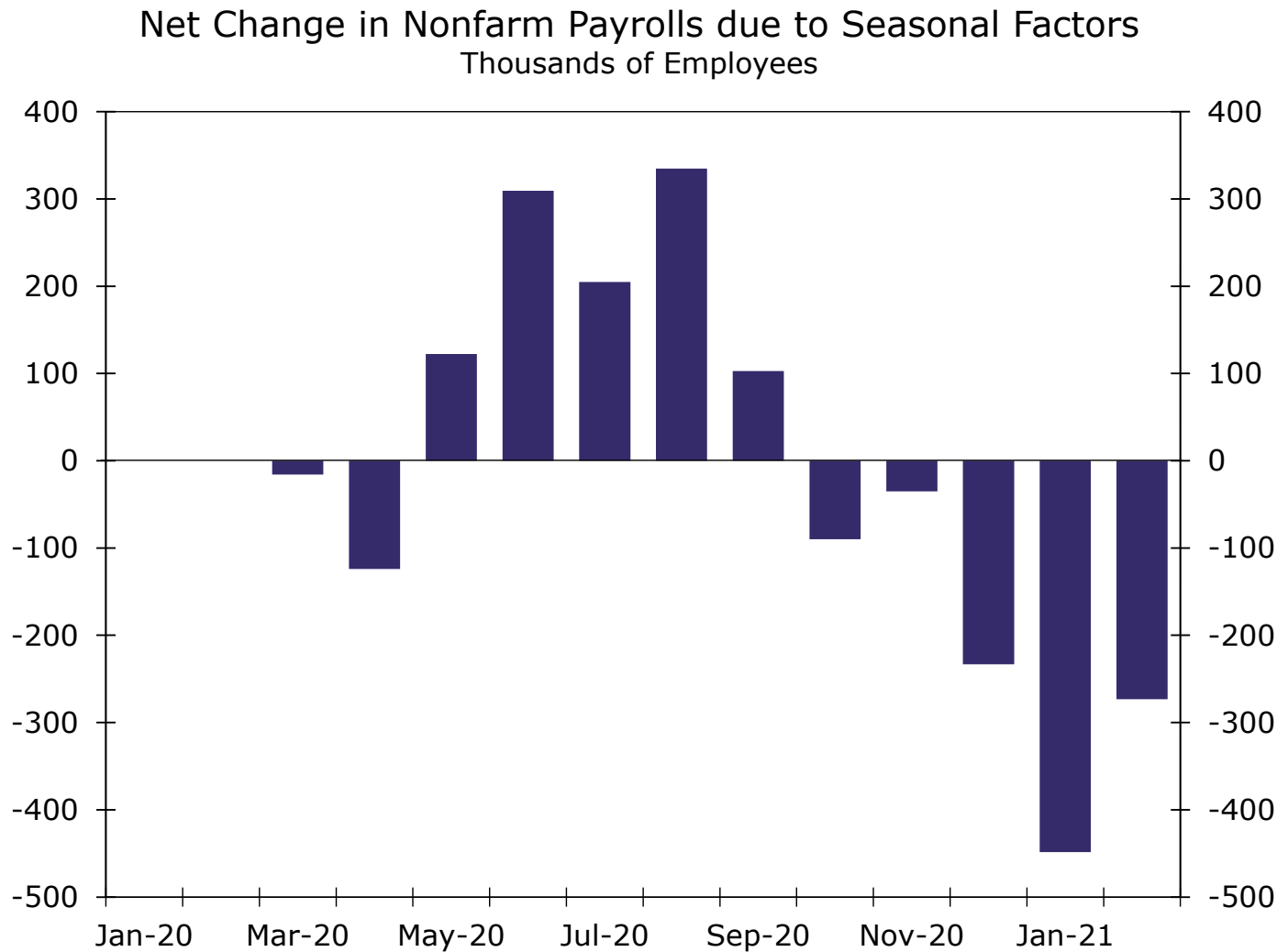
- In addition to data volatility, structural issues would pose challenges for the economic modeling and forecasting process
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Implications for an Emerging Economy

- Potential dual effects:
 - Issues related to the domestic data and structural changes
 - Economic activity in foreign countries (particularly in developed economies) could effect the modeling process
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Seasonal Distortions: An Example of U.S. Nonfarm Payrolls

It seems COVID-19 related seasonal distortions are here to stay



Structural Issues: Is This Time Different?

Is this time different for the economic recovery?
Is this the end of the weaker-recovery-trend?

	Quarters from Trough to Potential			
	1990-1991	2001	2007-2009	2020*
Real GDP Crossed Potential GDP	22	12	34	4**
UR Drops Below Natural UR	21	14	30	9**

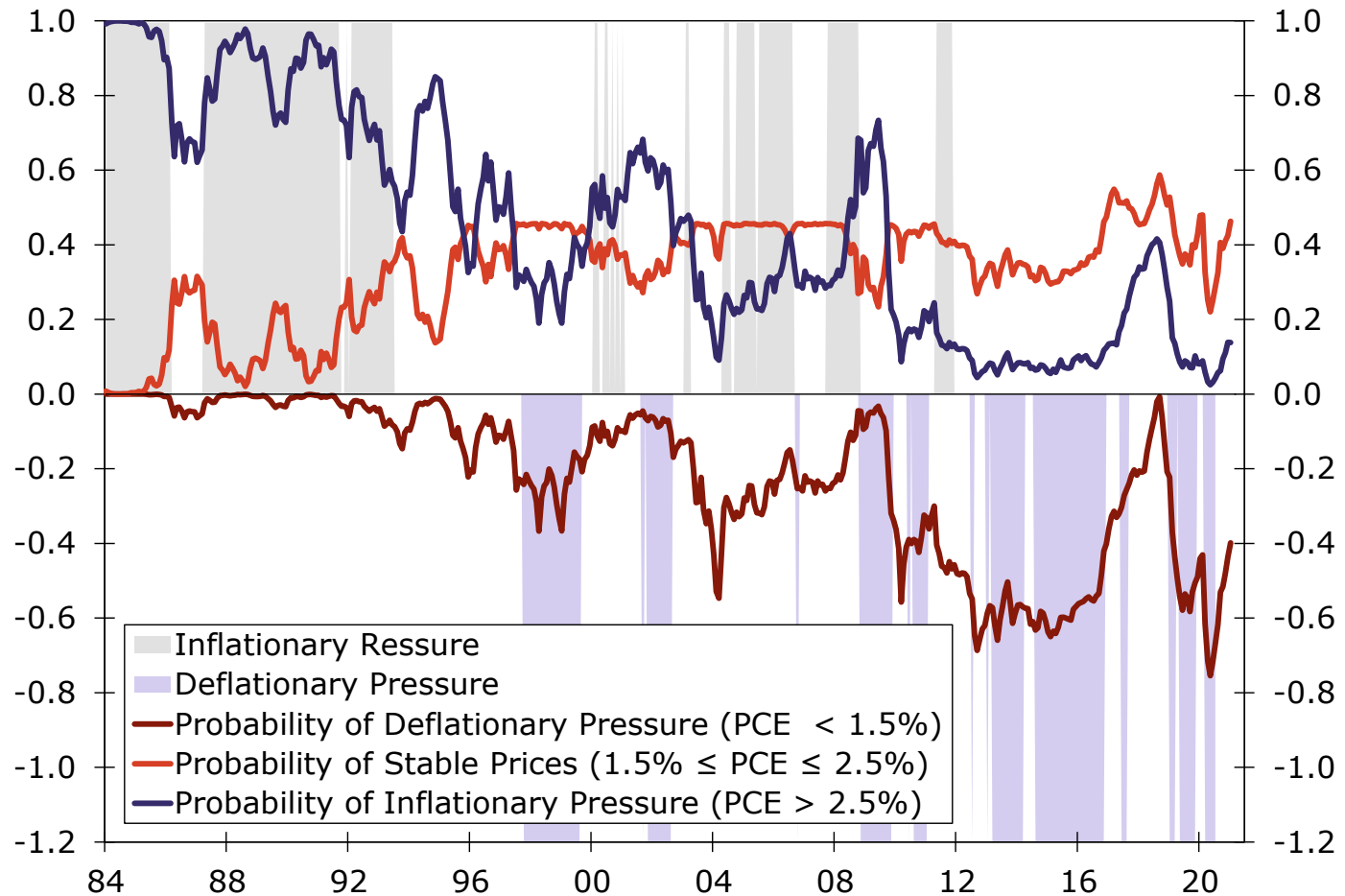
*NBER has yet to declare a trough for the 2020 Recession

**Based on Wells Fargo Economics Forecast

A Trillion Dollar Question: Is Inflation Coming?

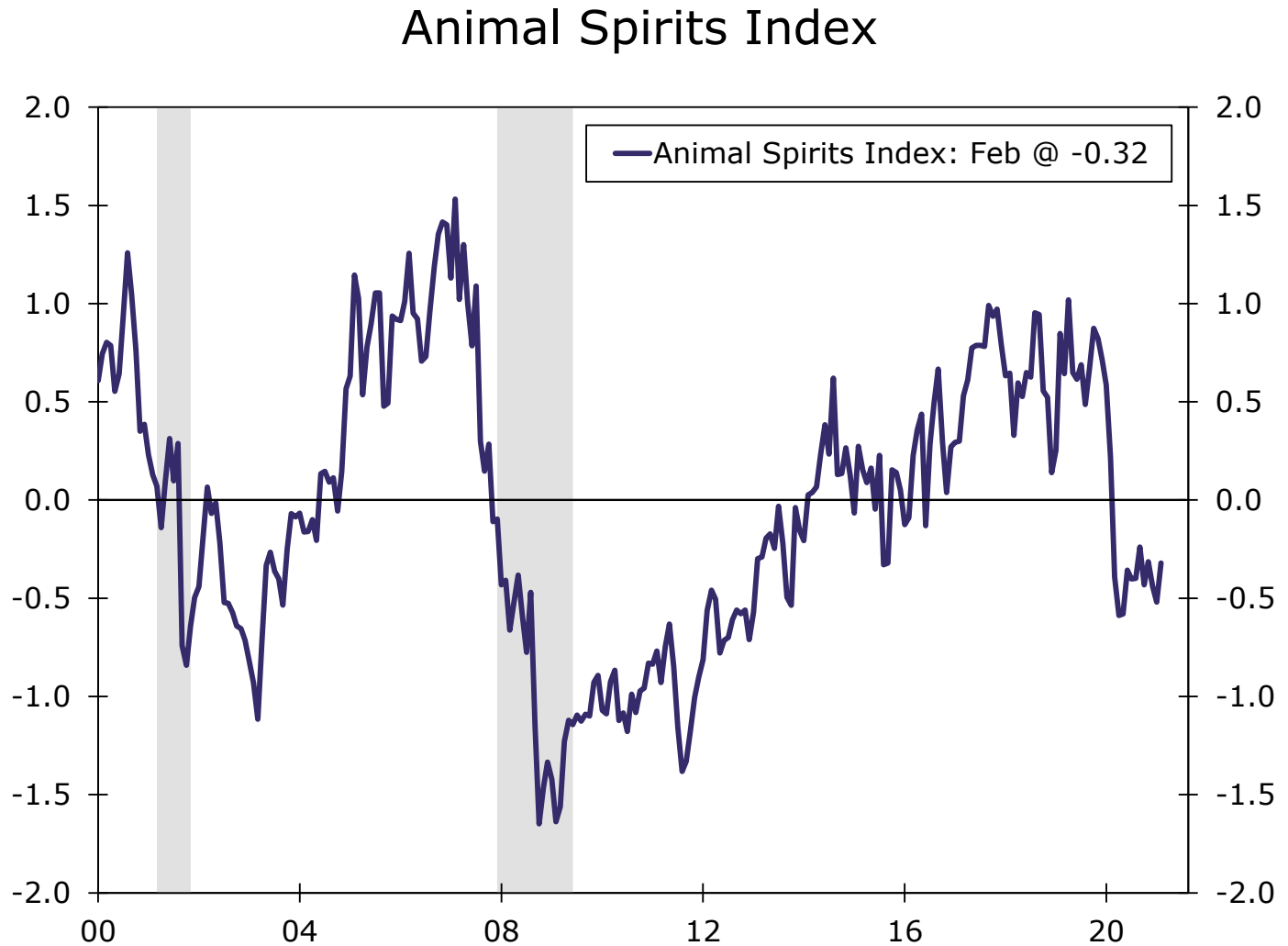
A scenario-based analysis would help to gauge potential inflation outlook

6-Months Ahead Inflation Scenarios



Don't Forget the Animal Spirits

The Animal Spirits
Index remains
negative



The COVID-19 and Emerging Economies

How Sensitive are Emerging Markets to Rising Yields?

Where Do the Sensitivities Lie?

Country	2021 Sov. Yields Sensitivity ^{1 2}	Fiscal Balance (% of GDP)	Foreign Part. In LCY Debt (% of LCY Debt)	FX Debt (% of Gov't Debt)	FX Vulnerability
Region					
Asia					
Latin America					
EMEA					
Country					
South Africa					
Peru					
Indonesia					
Mexico					
Russia					
Colombia					
Hungary					
Turkey					
Poland					
Brazil					
India					
China					
Korea					
Thailand					

¹ Red suggests "High Sensitivity"; Orange suggests "Moderate Sensitivity"; Green suggests "Low Sensitivity"

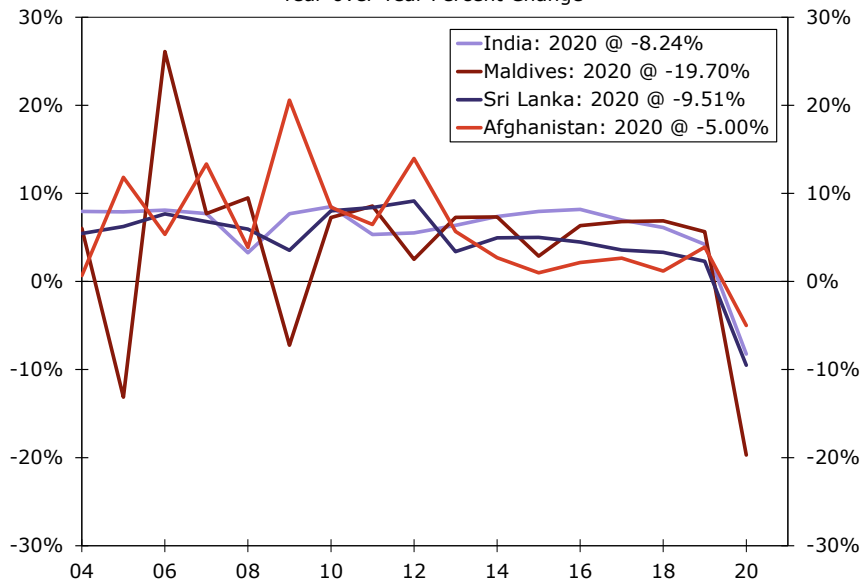
² High sensitivity suggests sovereign yields could move >200 bps; Moderate sensitivity 100 - 200 bps; Low sensitivity 0 - 100 bps

SAARC Economies: GDP Growth Rates

The COVID-19 effects on SAARC economies: Asymmetric effects

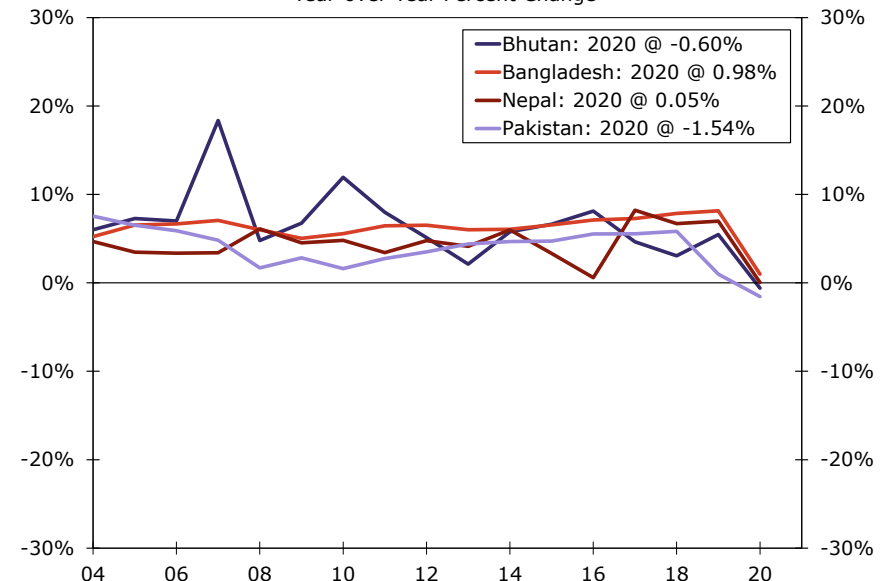
Real Gross Domestic Product

Year-over-Year Percent Change



Real Gross Domestic Product

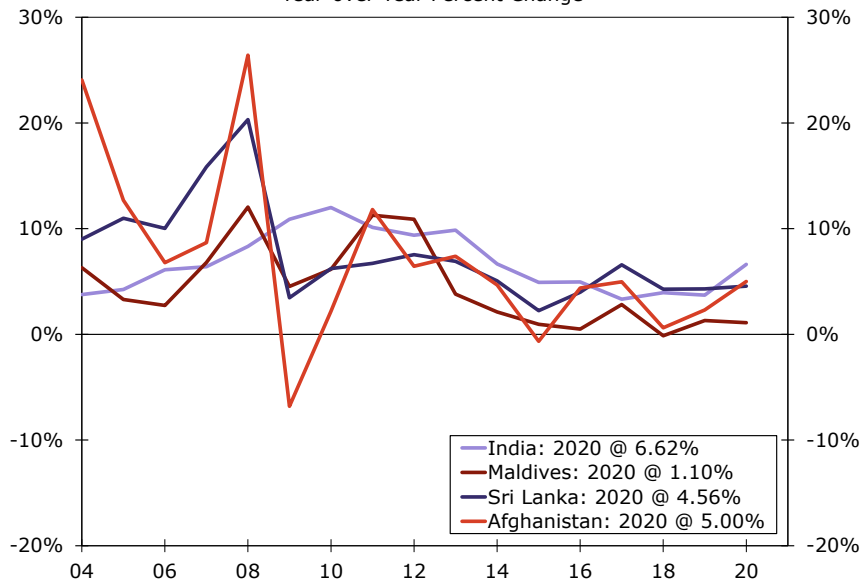
Year-over-Year Percent Change



Inflation dynamics also vary by country.

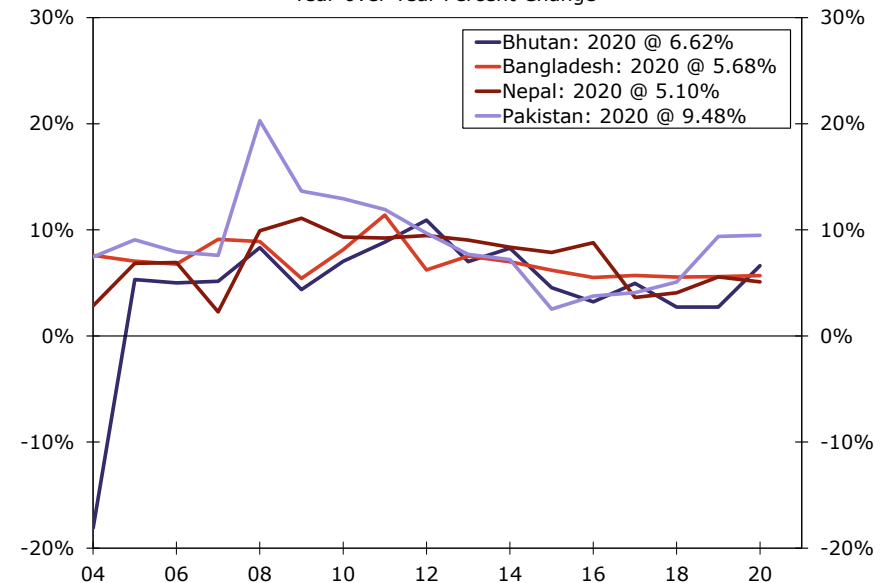
Consumer Price Index

Year-over-Year Percent Change



Consumer Price Index

Year-over-Year Percent Change



The COVID-19 and the Economy

- The COVID-19 related disruptions has affected our analytical toolkit.
 - Potential Effects are still emerging and need to incorporate in the modeling and forecasting.
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Seasonal Distortions

- Seasonal Distortions are here to stay.
 - In addition to study residual seasonality, analysts should re-evaluate characteristics of the underlying data to obtain a reliable picture of a sector/economy.
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Structural Issues

- It seems the current economic recovery may be different.
 - The “new” trend may pose challenges for decision makers
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Implications for an Emerging Economy

- An analyst must consider internal (domestic) and external (foreign economies) factors in the modeling process.
 - In addition to the domestic data/structural issues, economic activities in the developed economies are potential factors which influence forecasting process of an emerging economy.
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