

# Emerging Markets Traffic Light

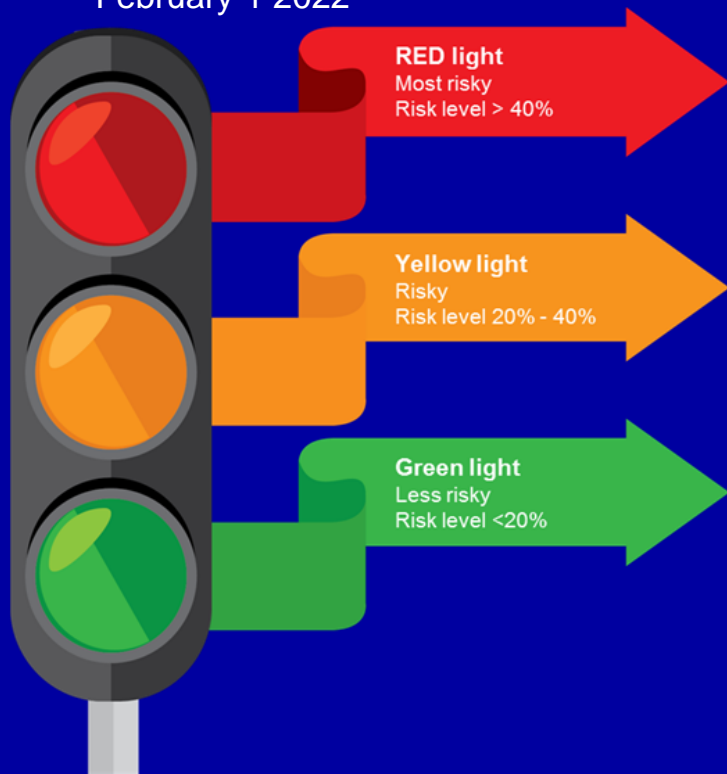
January 2022

Helene Østergaard, Assistant Analyst

Mathias Henriksen, Assistant Analyst

Phillip Mardia Madsen, Analyst

February 1 2022





## EM Traffic Light – What is it?

- It is set up along the lines of the classic early warning systems
  - finds indicators that have shown risks prior to historic periods of extreme FX pressure
  - uses those indicators to assess the risk of extreme FX pressure in the period ahead
- It uses nine risk indicators for 33 EM currencies on a monthly basis from 2000
  - Money supply growth, short-term external debt, inflation, GDP growth, capital flows, the sovereign rating, FX overvaluation, commodity prices and a measure of contagion.
- It results in risk levels for each currency
  - A probability that the currency will come under extreme pressure in at least one of the next six months, where extreme pressure compares to the worst of the last 40 months.
- It is presented as a Traffic Light
  - a red light (highly risky) implies a more than 40% probability of extreme pressure
  - a yellow light (risky) implies 20-40% probability of extreme pressure
  - a green light (less risky) implies less than 20% probability of extreme pressure
- It is one tool and does not cover all risk. Green light does not imply no risks



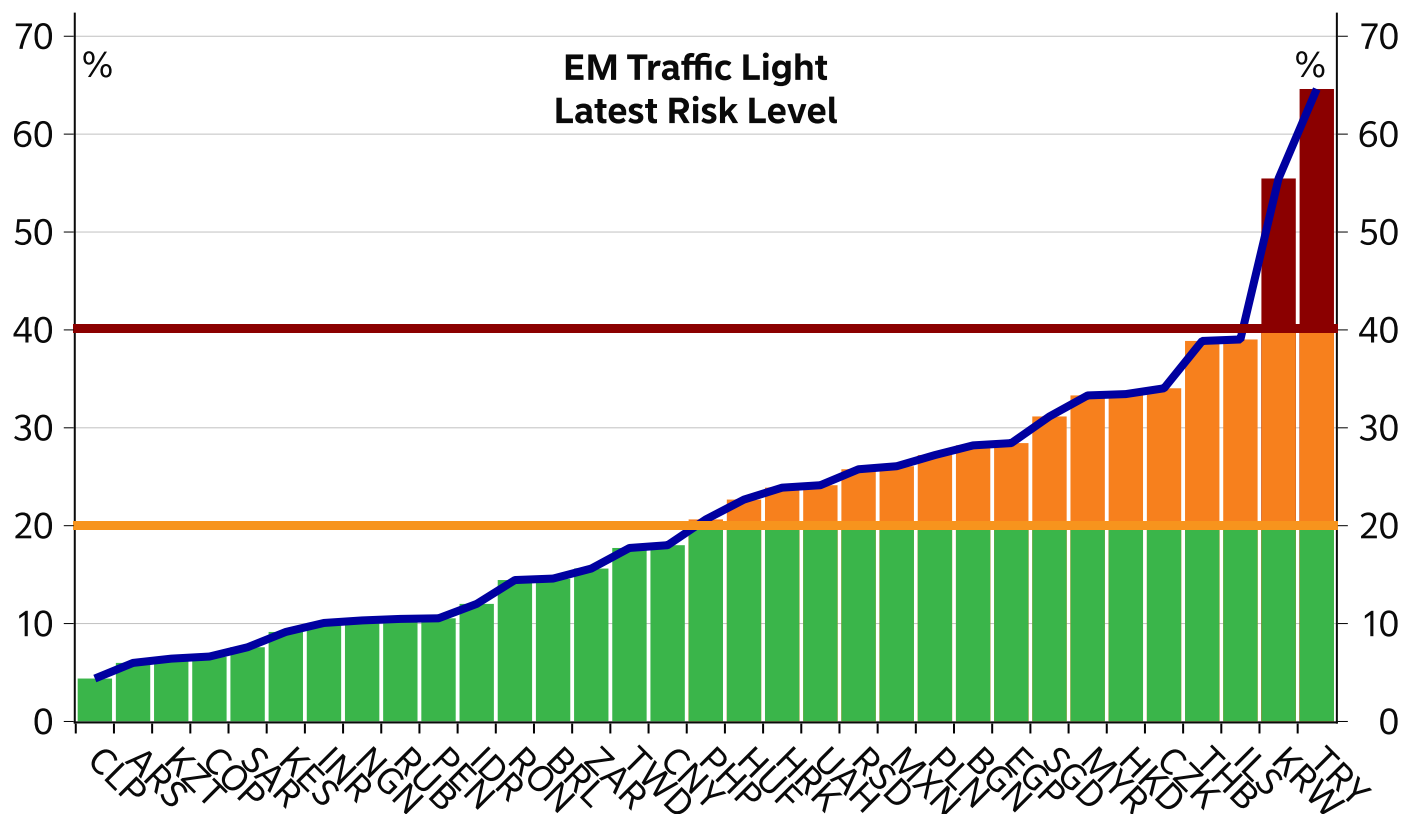
# EM Traffic Light – January 2022

ISO	Country	Risk level	Money Supply	ST external debt	Inflation	GDP	Capital flows	Rating	FX overvaluation	Commodities	Contagion
TRY	Turkey	65%									
KRW	South Korea	55%									
ILS	Israel	39%									
THB	Thailand	39%									
CZK	Czech Republic	34%									
HKD	Hong Kong	33%									
MYR	Malaysia	33%									
SGD	Singapore	31%									
EGP	Egypt	28%									
BGN	Bulgaria	28%									
PLN	Poland	27%									
MXN	Mexico	26%									
RSD	Serbia	26%									
UAH	Ukraine	24%									
HRK	Croatia	24%									
HUF	Hungary	23%									
PHP	Philippines	21%									
CNY	China	18%									
TWD	Taiwan	18%									
ZAR	South Africa	16%									
BRL	Brazil	15%									
RON	Romania	14%									
IDR	Indonesia	12%									
PEN	Peru	11%									
RUB	Russia	10%									
NGN	Nigeria	10%									
INR	India	10%									
KES	Kenya	9%									
SAR	Saudi Arabia	8%									
COP	Colombia	7%									
KZT	Kazakhstan	6%									
ARS	Argentina	6%									
CLP	Chile	4%									
EM general		17%									

Note: **The risk level** is the probability of extreme currency pressure in at least one of the next six months, where extreme is a 2 standard deviation weakening (2.5% event). **Credits(+, change)**: The change in the ratio of money supply (M2) to GDP. **Short-term external debt(+, change)**: The ratio of short-term foreign claims on domestic banks over FX reserves. **Inflation(+, change)**: Change in CPI inflation. **GDP(+, change)**: Change in real GDP growth. **Capital flows(+, level and +, change)**: The level of and change in the ratio of net foreign assets to GDP. **Rating(+, change)**: The change in the sovereign rating from S&P. **FX overvaluation(+, level)**: The strengthening of FX spot not explained by relative CPI inflation and relative productivity growth. **Commodities(+, change)**: The change in the commodities terms of trade, ie the change in export prices less the change in import prices. **Contagion(+, level)**: the number of currencies under pressure plus a recent history of pressure on the currency in question.



## EM Traffic Light – January 2022



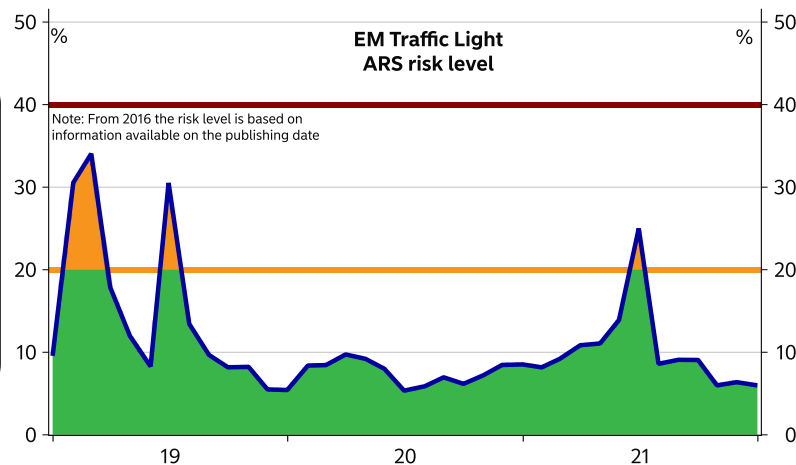
Source: Nordea estimates and Macrobond



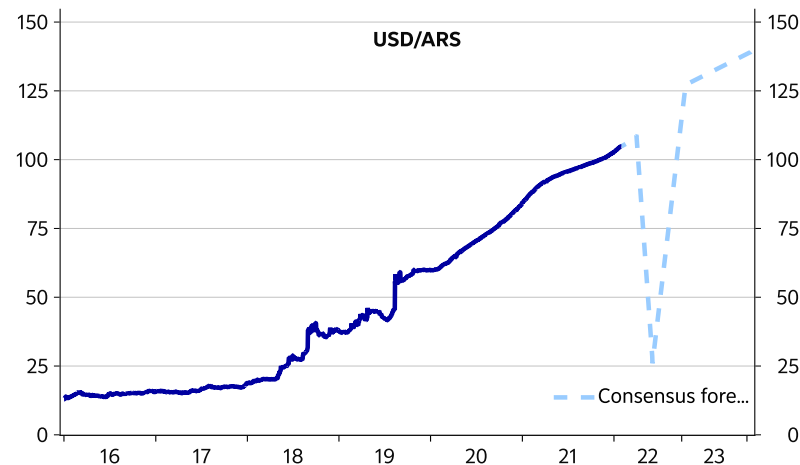


# ARS: Green Light in January

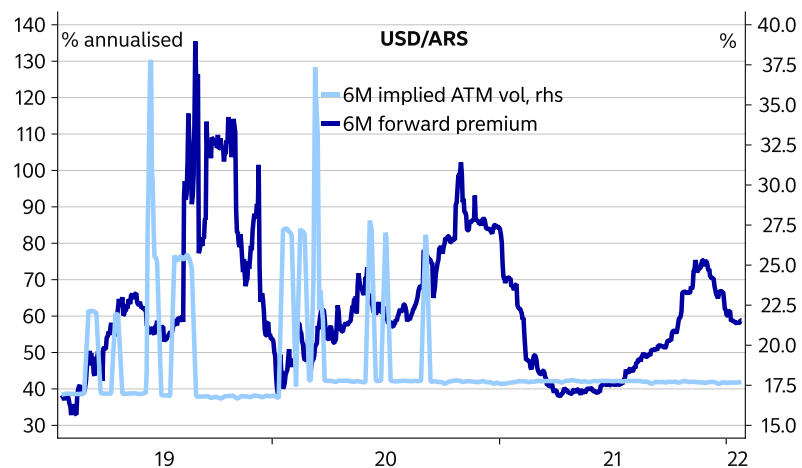
Risk level: 6% (Unchanged from December)



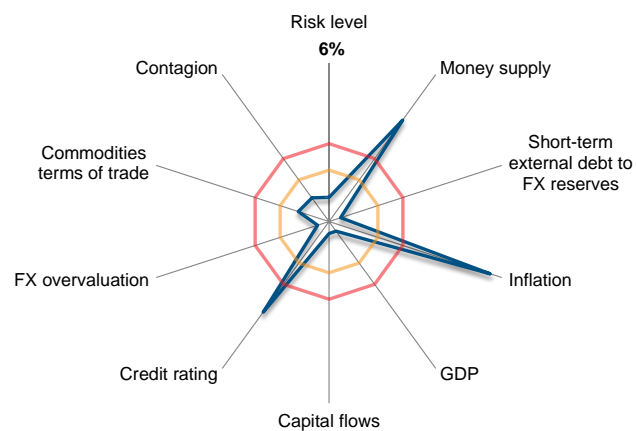
Source: Nordea Markets and Macrobond



Source: Nordea Estimates and Macrobond



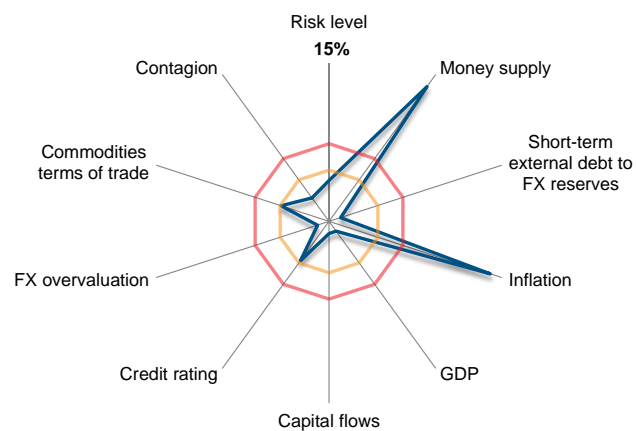
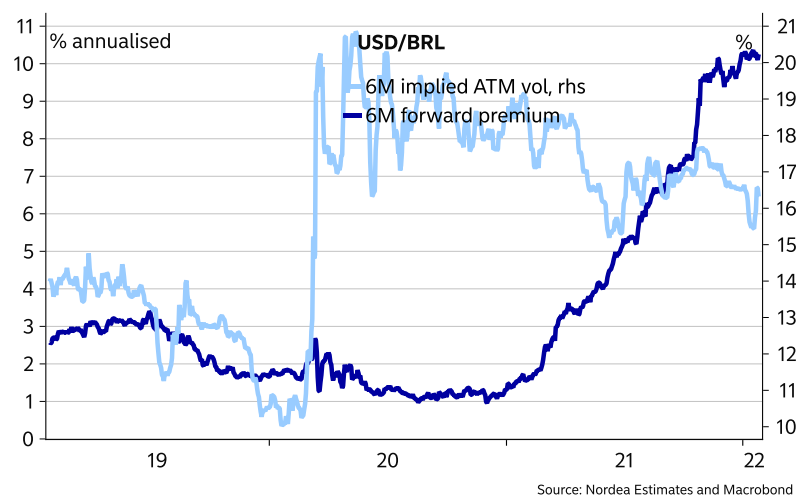
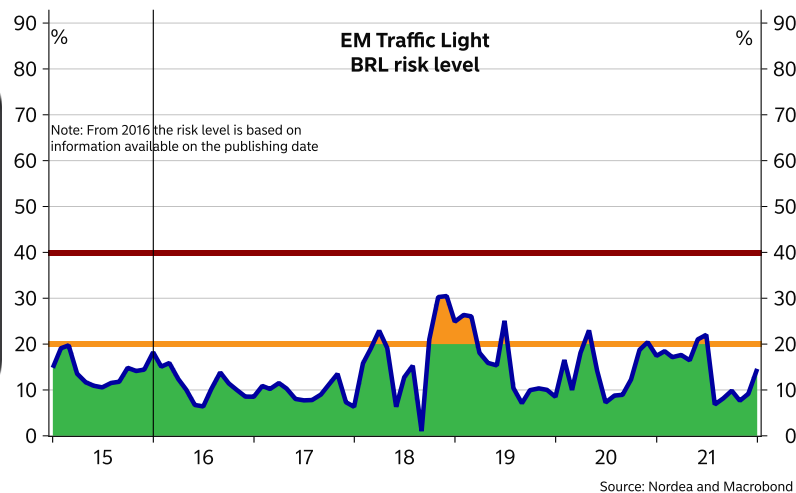
Source: Nordea Estimates and Macrobond





# BRL: Green Light in January

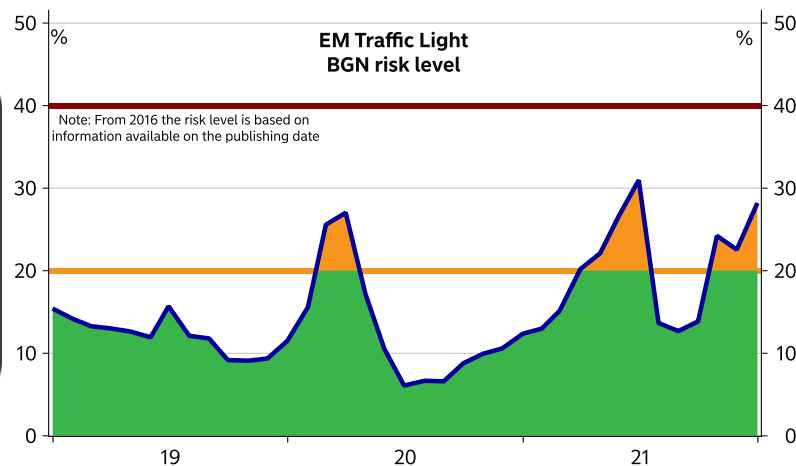
Risk level: 15% (+6% points from December)



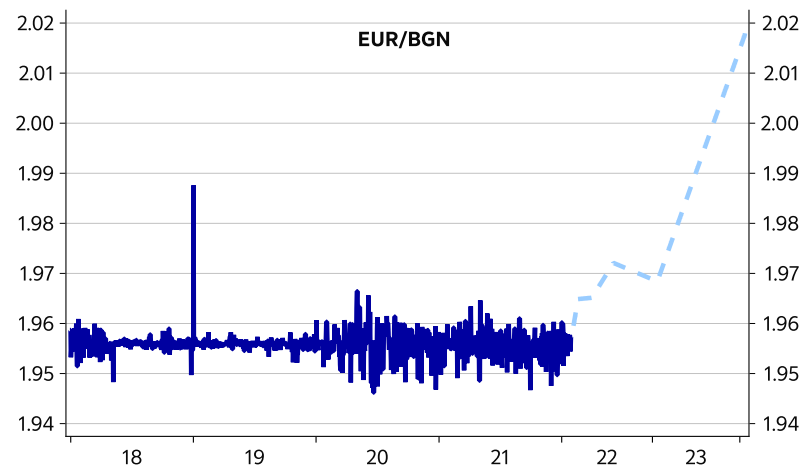


# BGN: Yellow Light in January

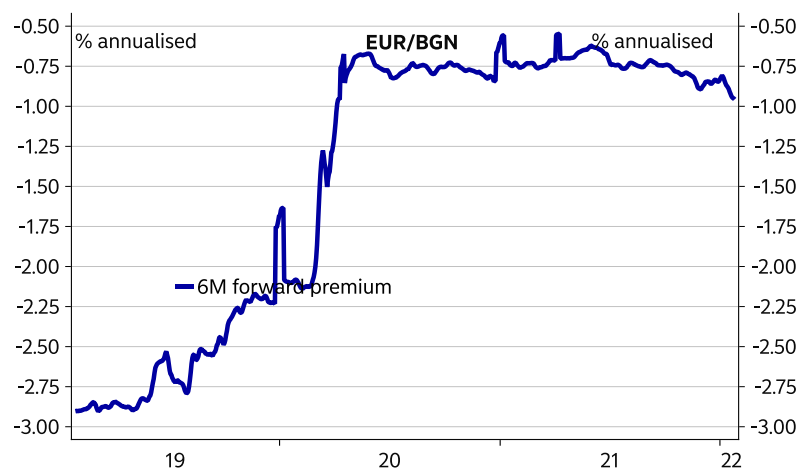
Risk level: 28% (+5% points from December)



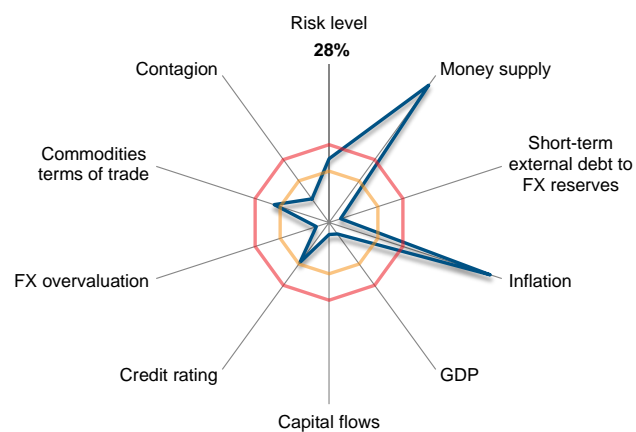
Source: Nordea Markets and Macrobond



Source: Nordea Estimates and Macrobond



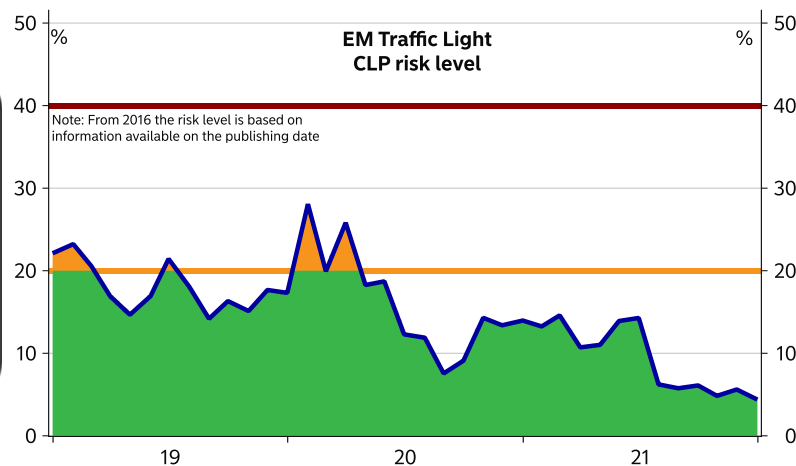
Source: Nordea Estimates and Macrobond





# CLP: Green Light in January

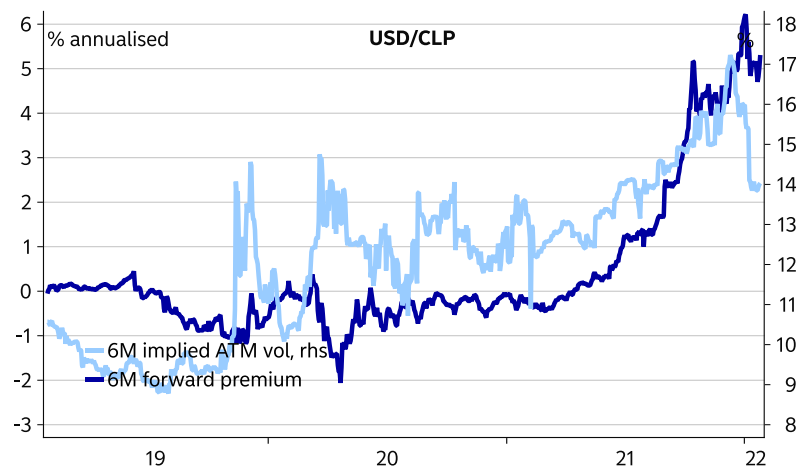
Risk level: 4% (-2% points from December)



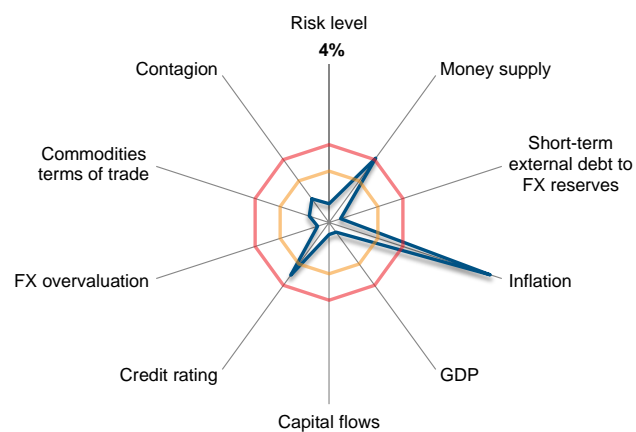
Source: Nordea Markets and Macrobond



Source: Nordea Estimates and Macrobond



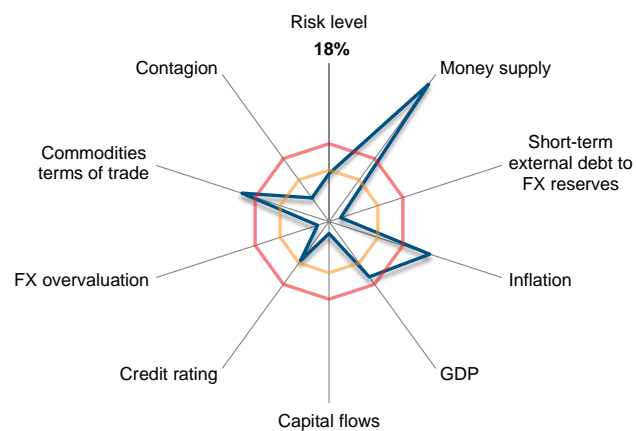
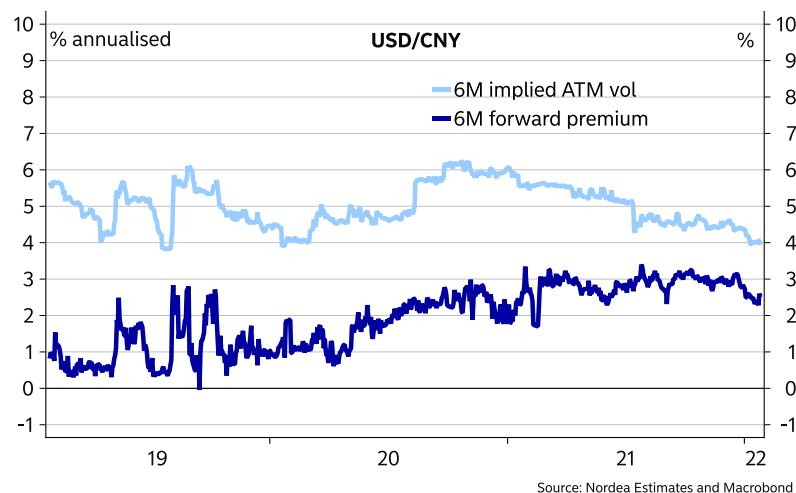
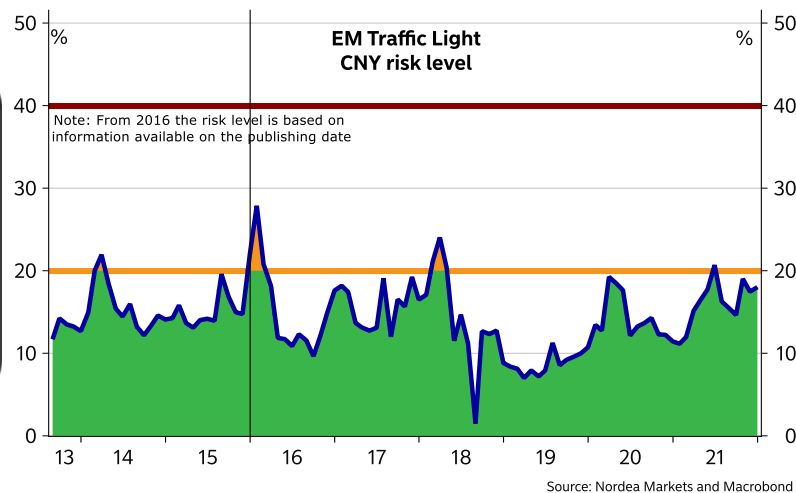
Source: Nordea Estimates and Macrobond





# CNY: Green Light in January

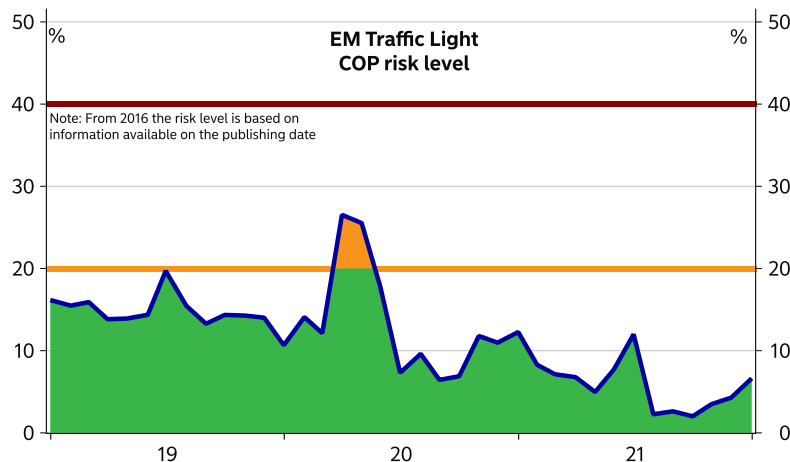
Risk level: 18% (-1% point from December)



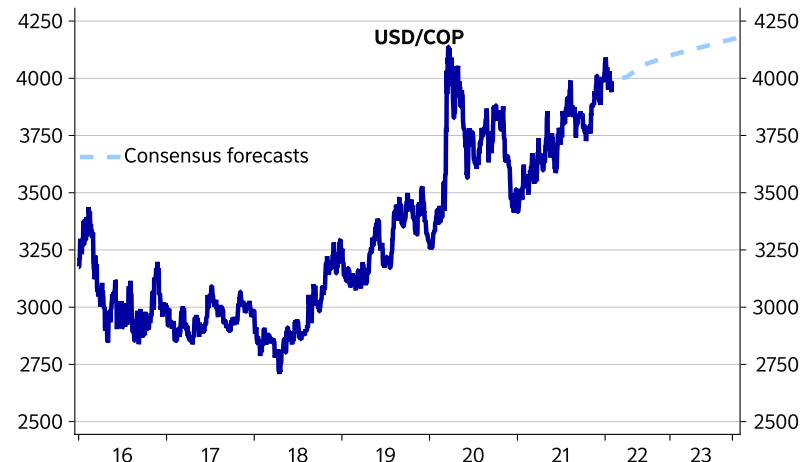


# COP: Green Light in January

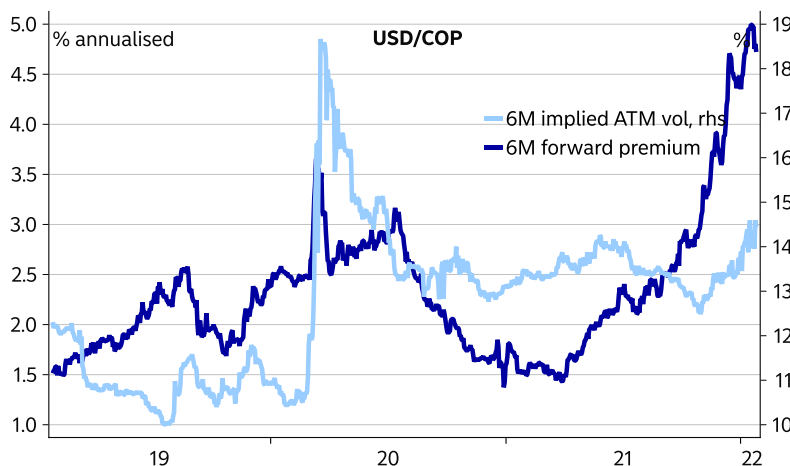
Risk level: 7% (+3% points from December)



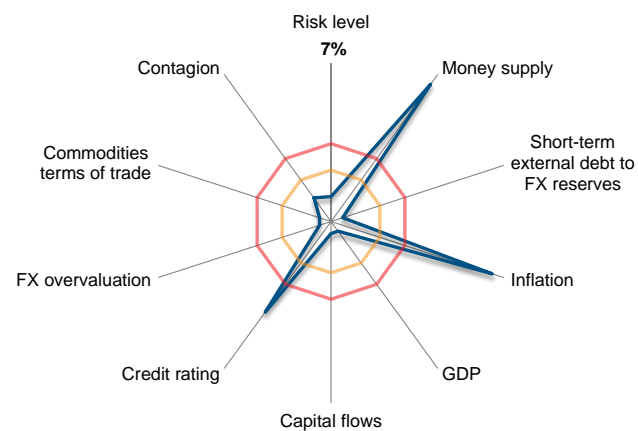
Source: Nordea Markets and Macrobond



Source: Nordea Estimates and Macrobond



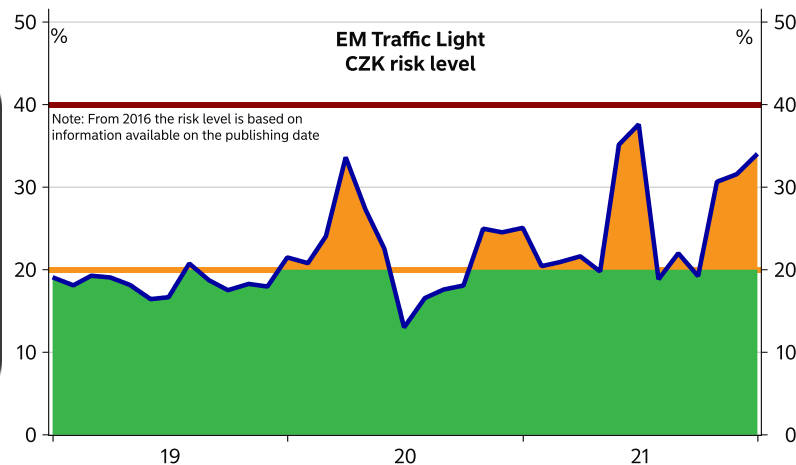
Source: Nordea Estimates and Macrobond





# CZK: Yellow Light in January

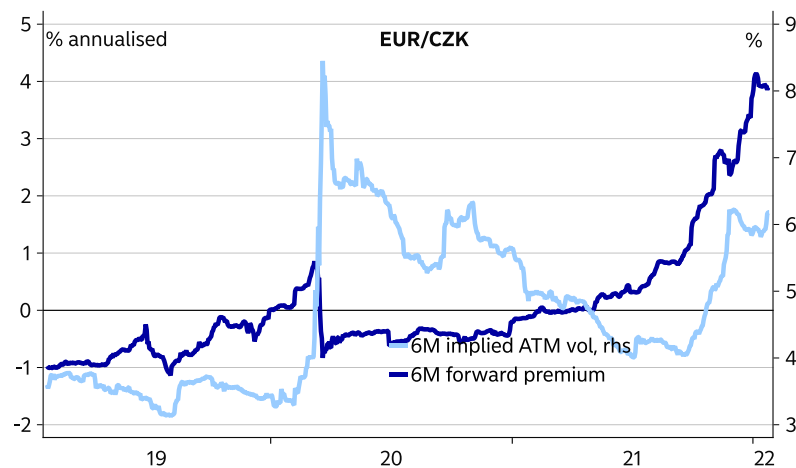
Risk level: 34% (+2% points from December)



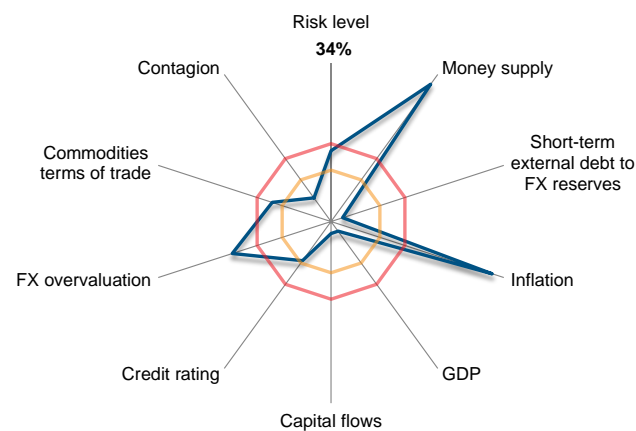
Source: Nordea Markets and Macrobond



Source: Nordea Estimates and Macrobond



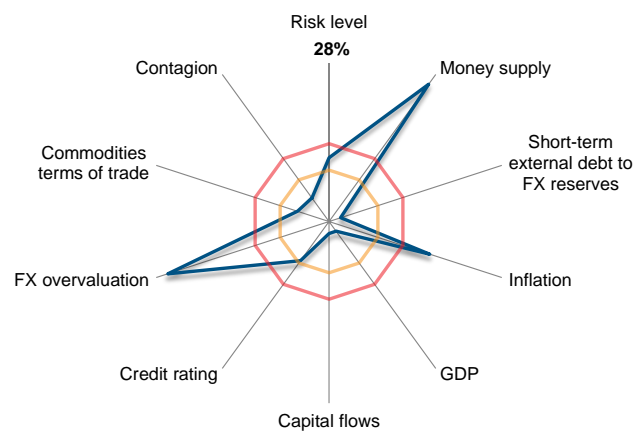
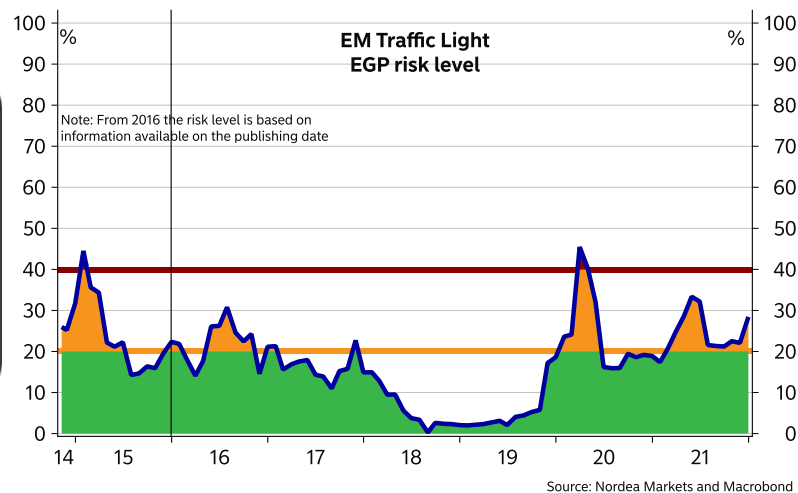
Source: Nordea Estimates and Macrobond





# EGP: Yellow Light in January

Risk level: 28% (+6% points from December)

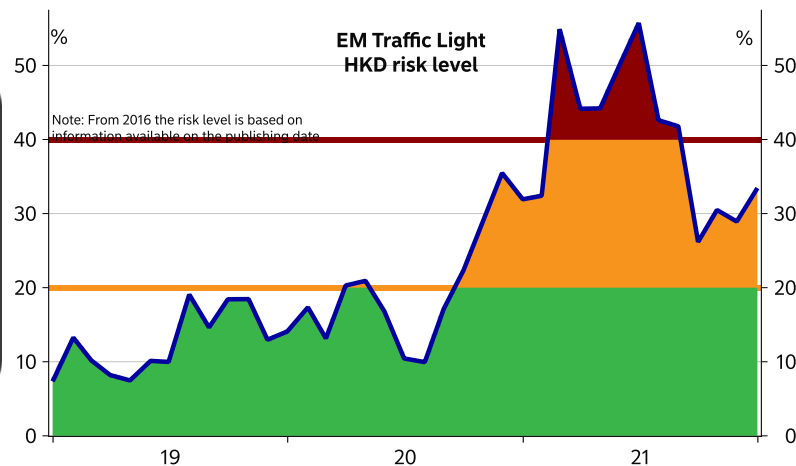




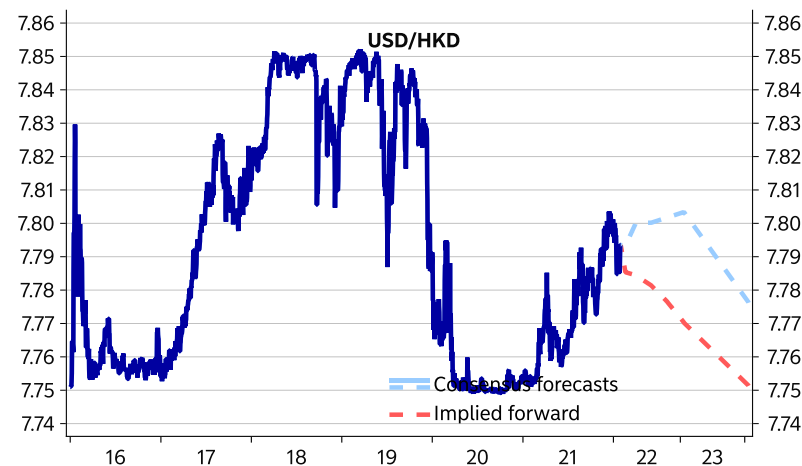


# HKD: Yellow Light in January

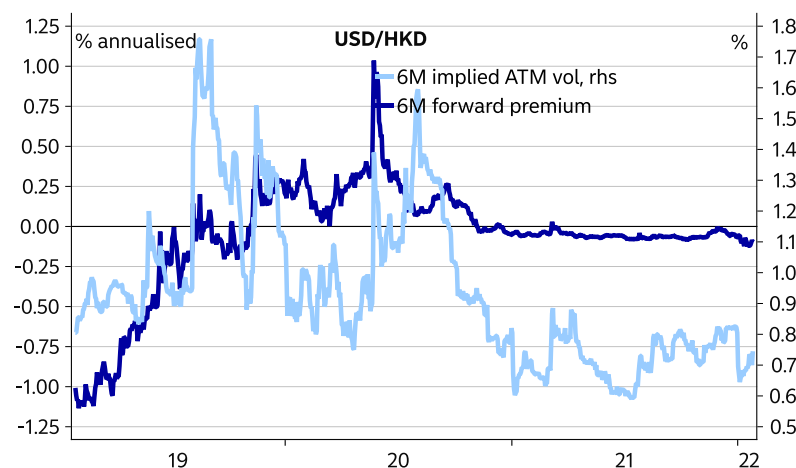
Risk level: 33% (+4% points from December)



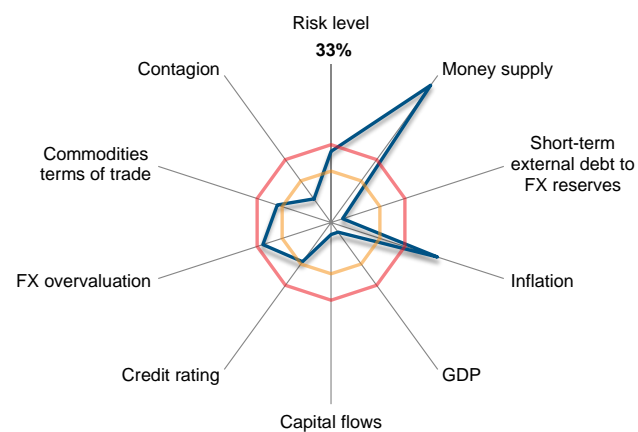
Source: Nordea Markets and Macrobond



Source: Nordea Estimates and Macrobond



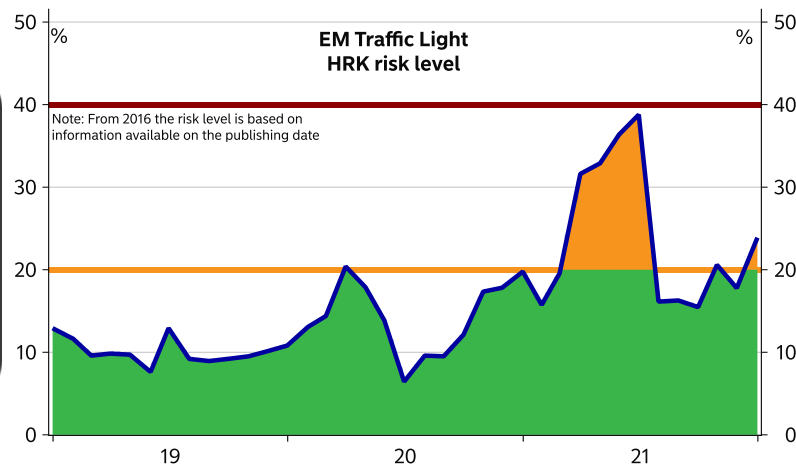
Source: Nordea Estimates and Macrobond





# HRK: Yellow Light in January

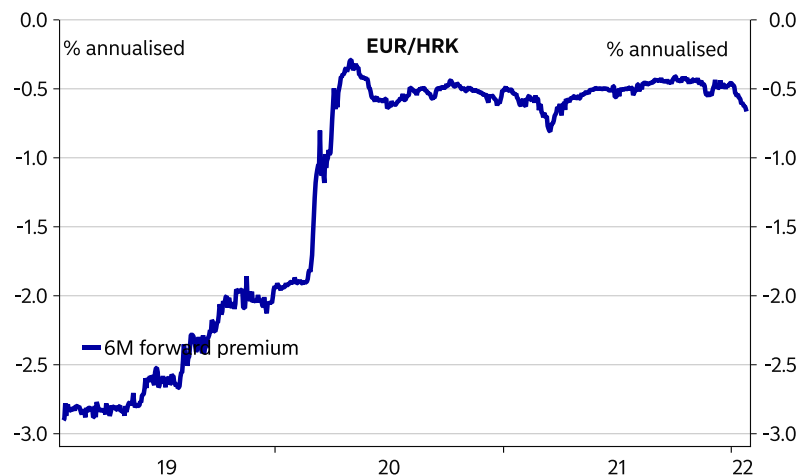
Risk level: 24% (+6% points from December)



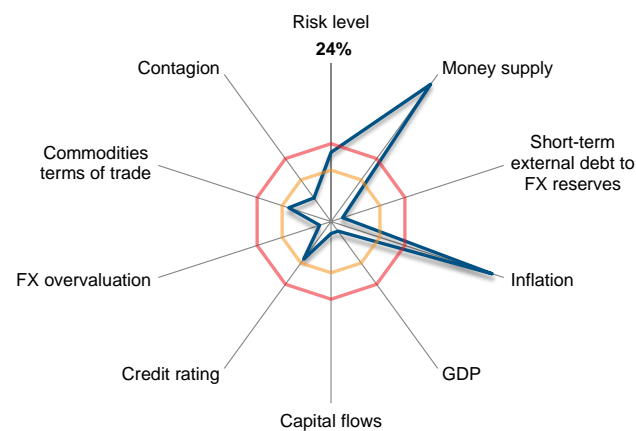
Source: Nordea Markets and Macrobond



Source: Nordea Estimates and Macrobond



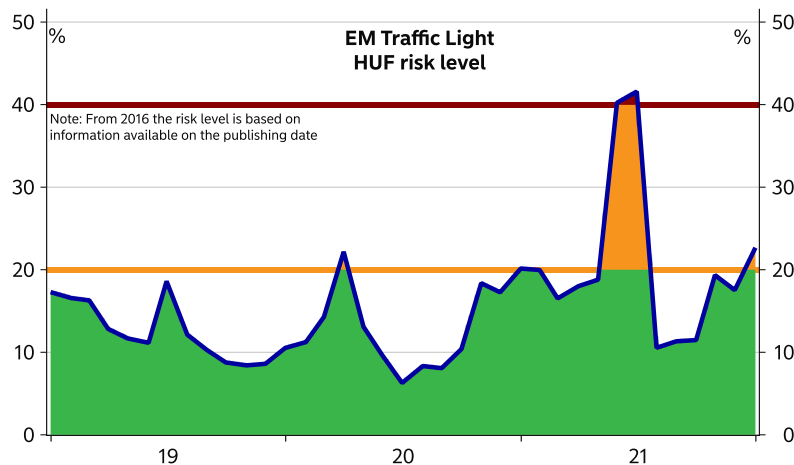
Source: Nordea Estimates and Macrobond



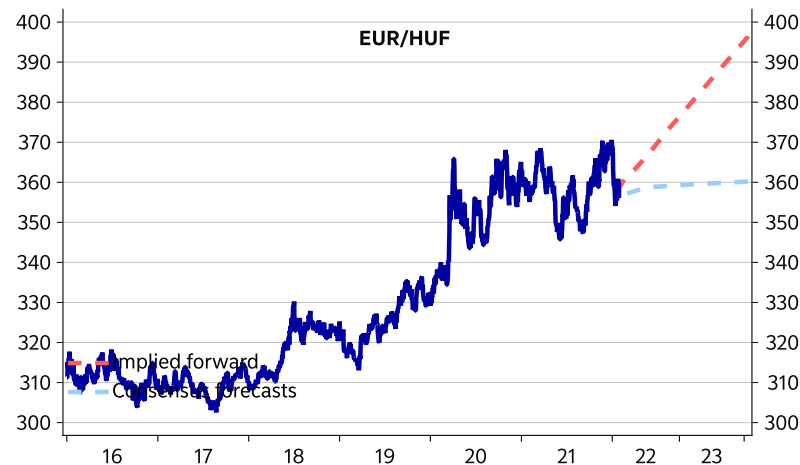


# HUF: Yellow Light in January

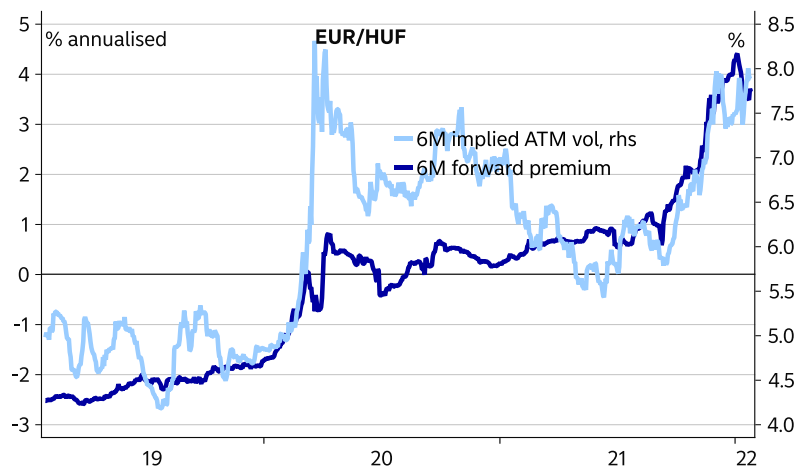
Risk level: 23% (+5% points from December)



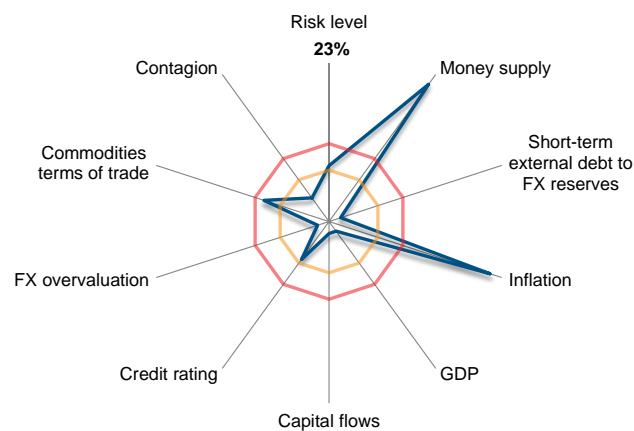
Source: Nordea Markets and Macrobond



Source: Nordea Estimates and Macrobond



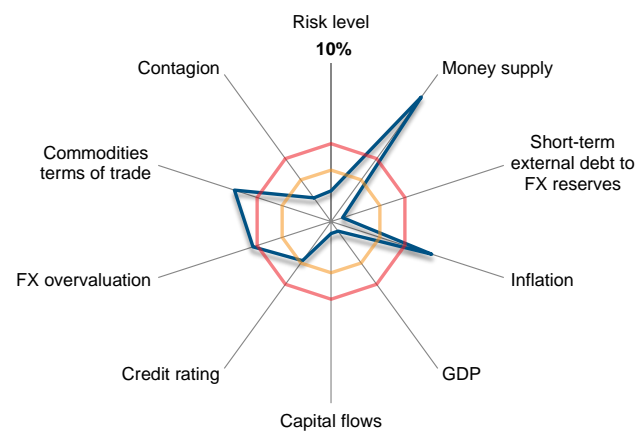
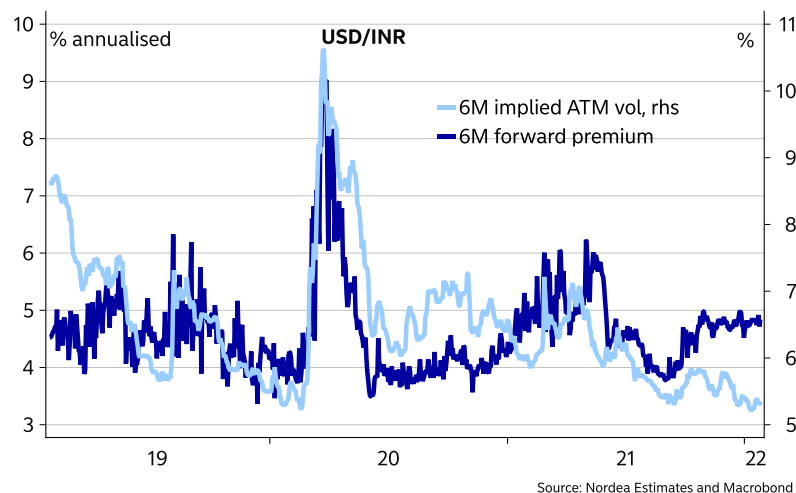
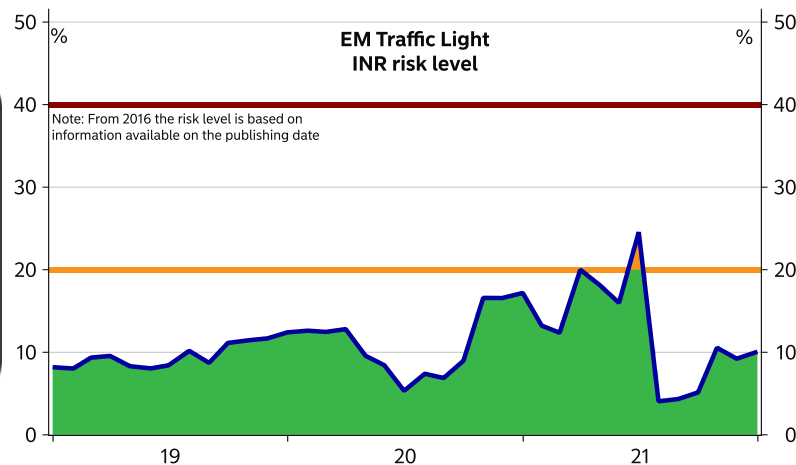
Source: Nordea Estimates and Macrobond





# INR: Green Light in January

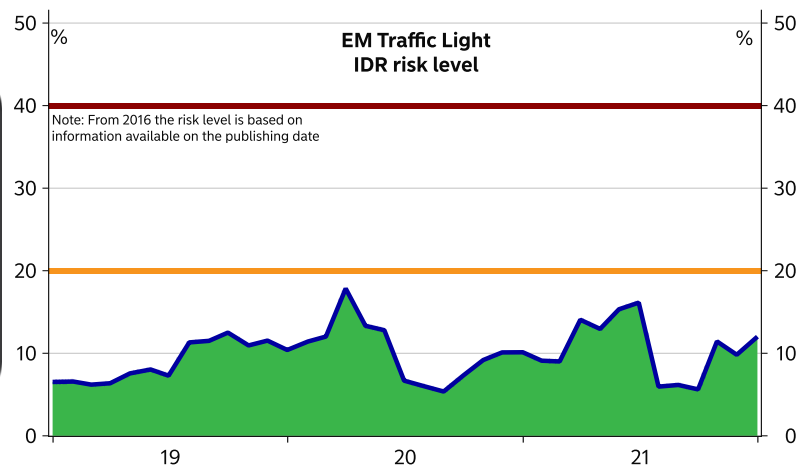
Risk level: 10% (+1% point from December)



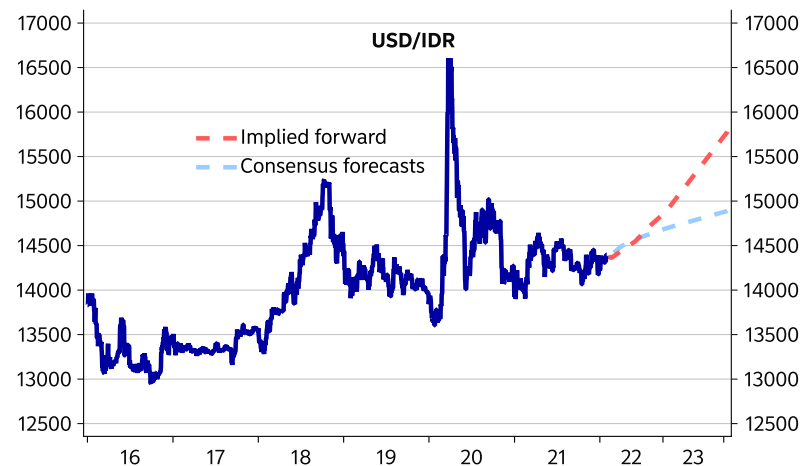


# IDR: Green Light in January

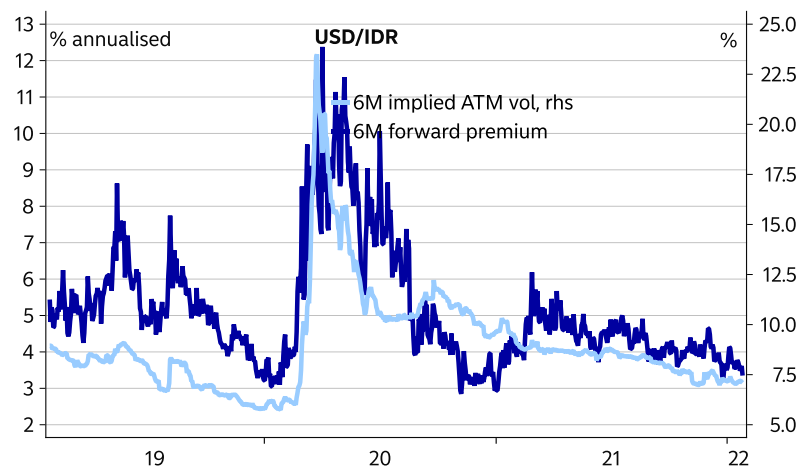
Risk level: 12% (+2% points from December)



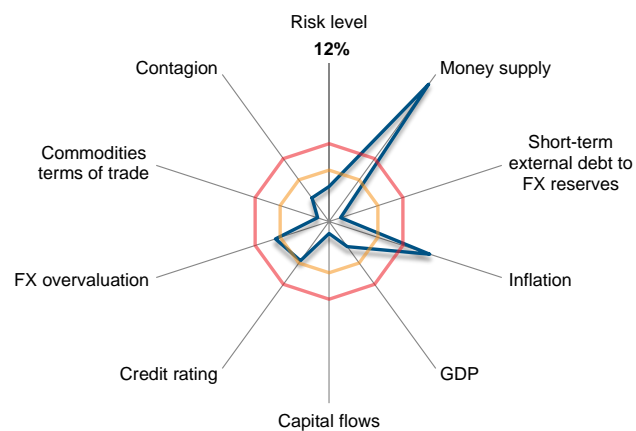
Source: Nordea Markets and Macrobond



Source: Nordea Estimates and Macrobond



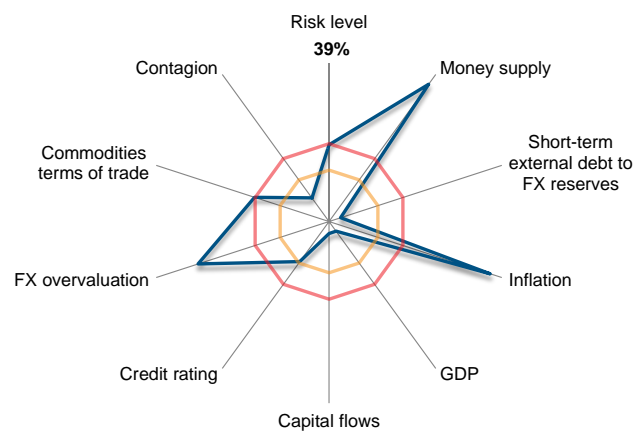
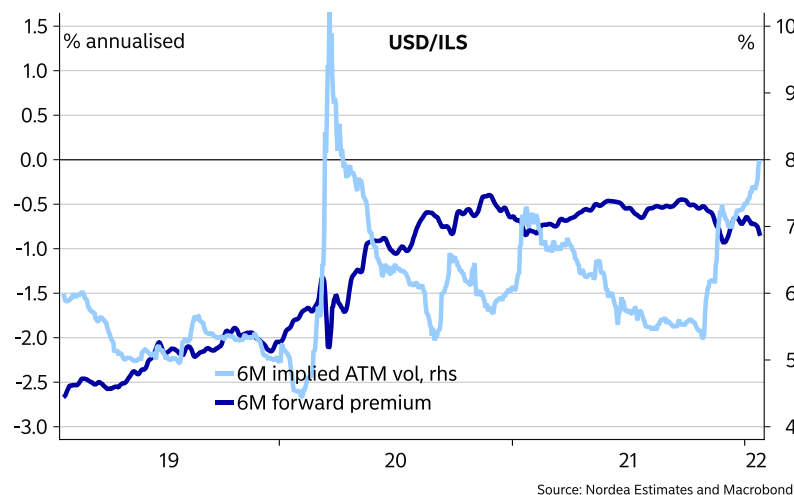
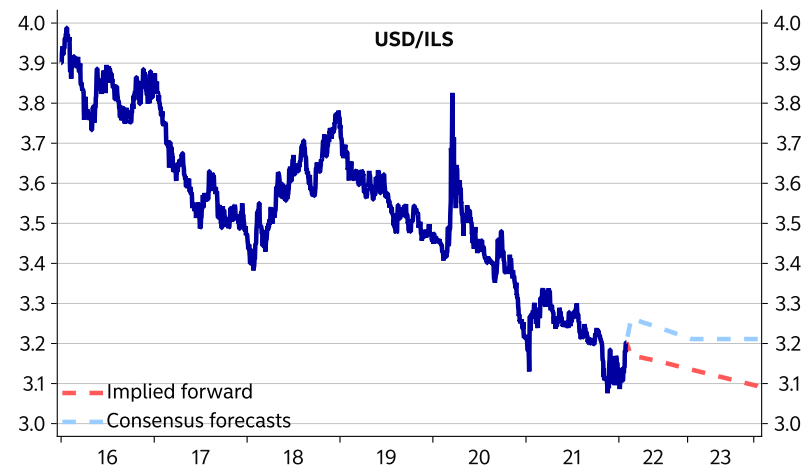
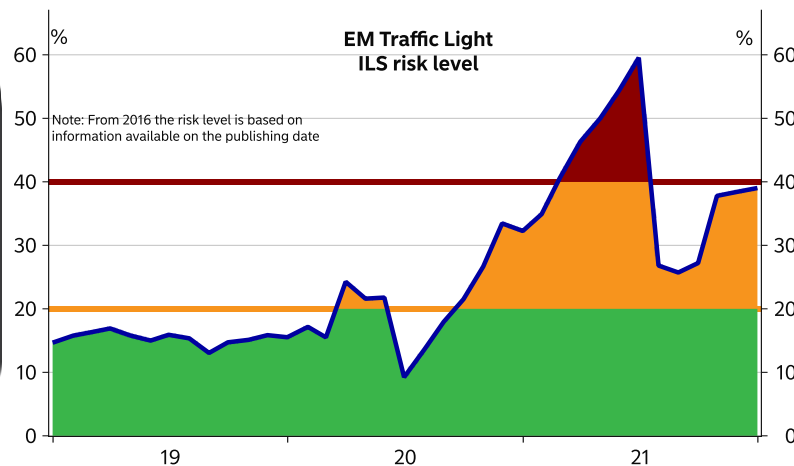
Source: Nordea Estimates and Macrobond





# ILS: Yellow Light in January

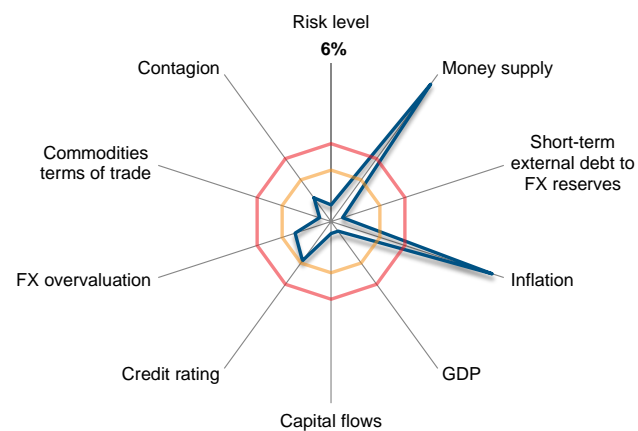
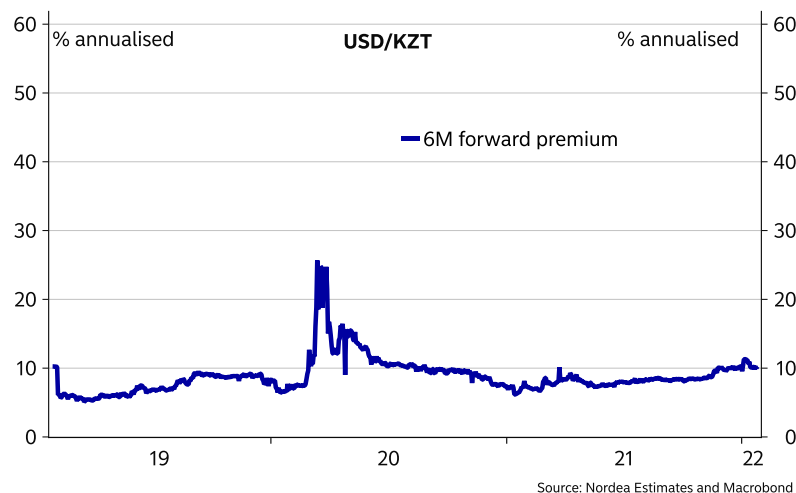
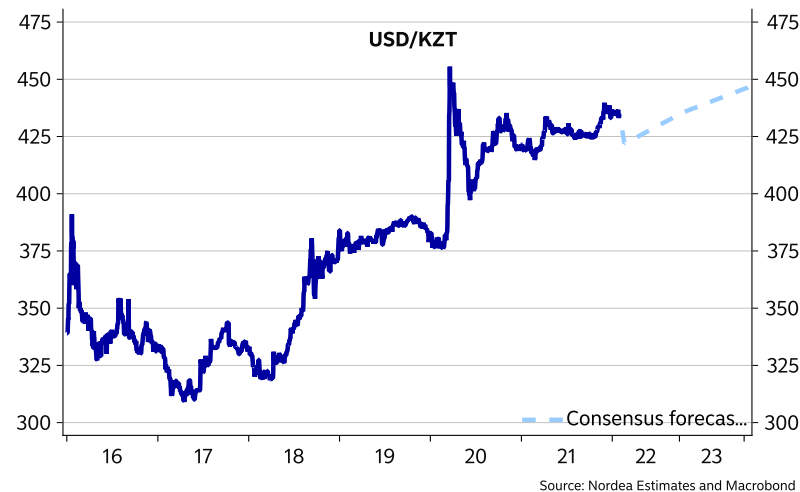
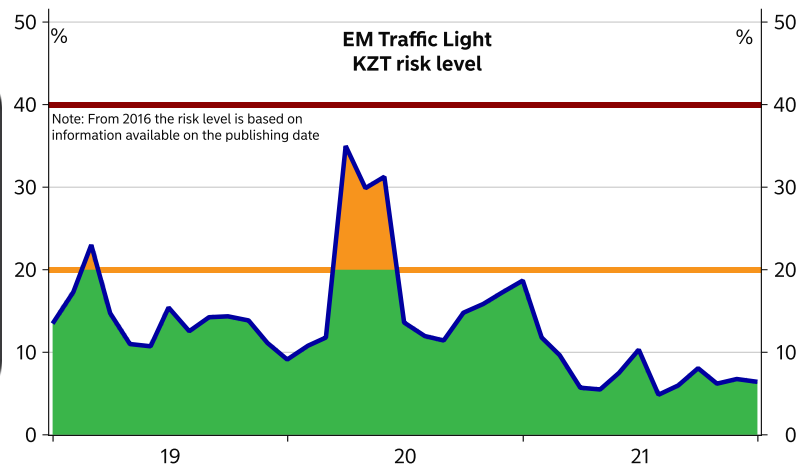
Risk level: 39% (+1% point from December)





# KZT: Green Light in January

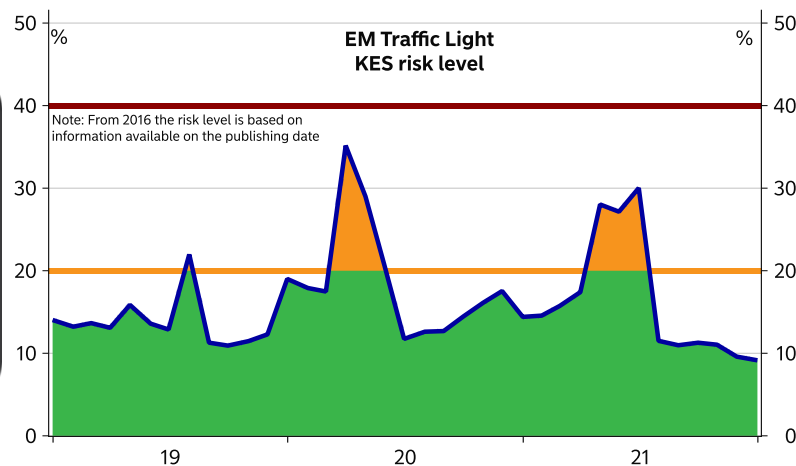
Risk level: 6% (+1% point from December)



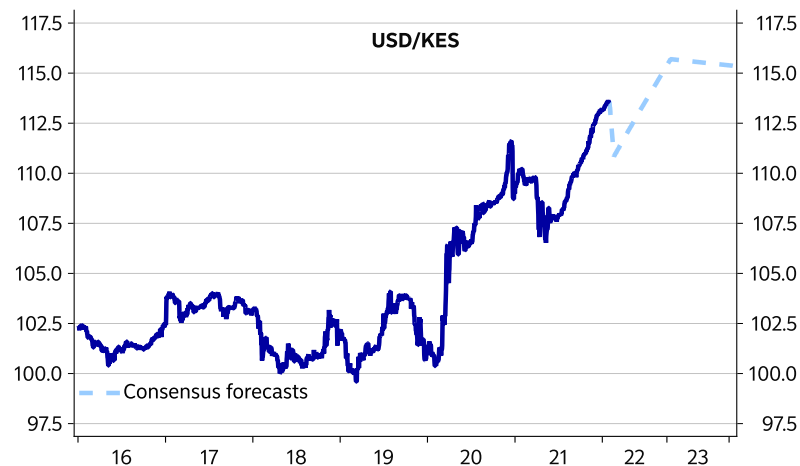


# KES: Green Light in January

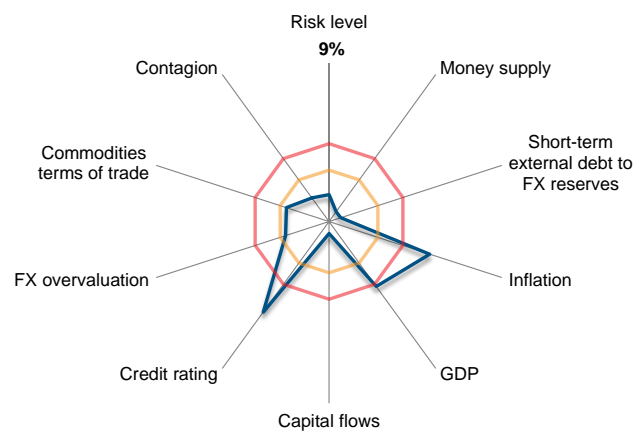
Risk level: 9% (-1% point from December)



Source: Nordea Markets and Macrobond



Source: Nordea Estimates and Macrobond

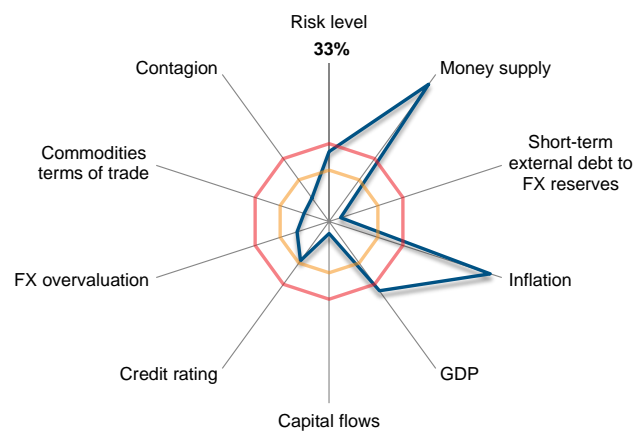
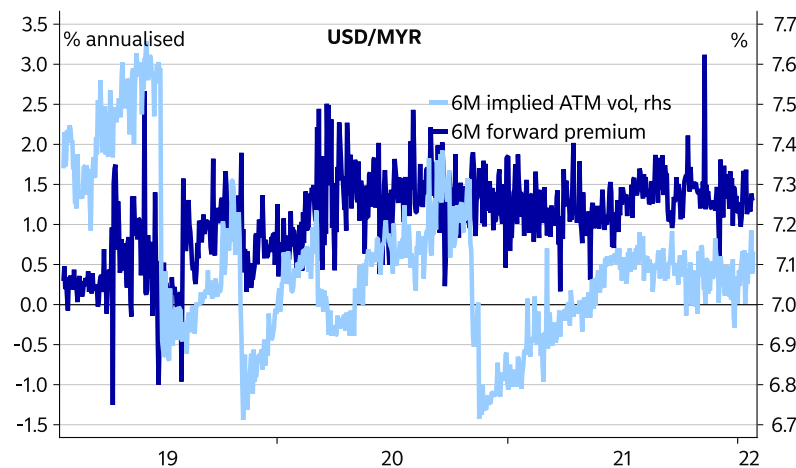
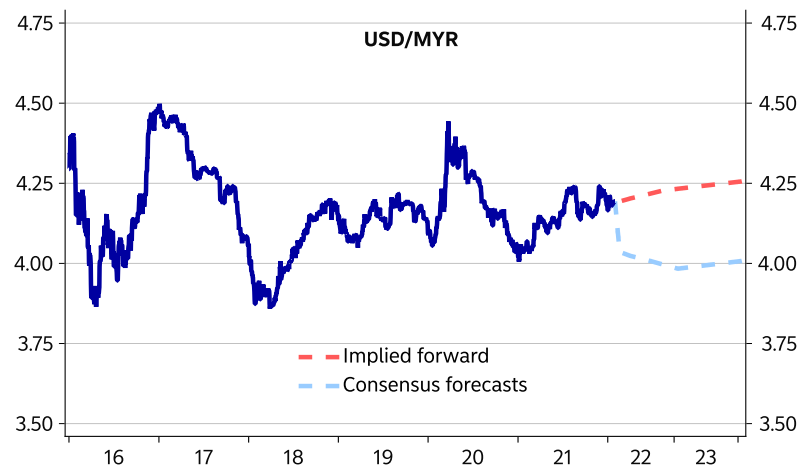
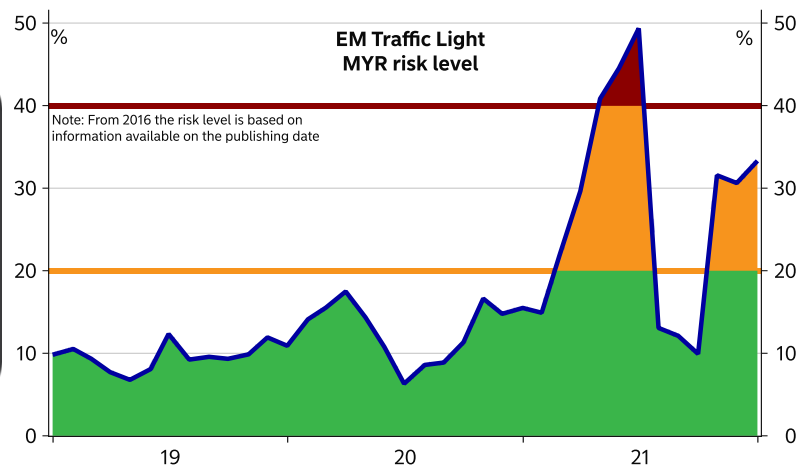






# MYR: Yellow Light in January

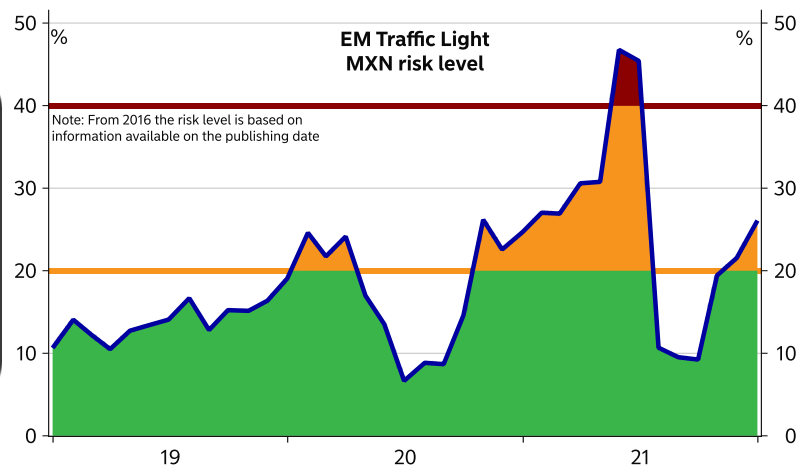
Risk level: 33% (+2% points from December)





# MXN: Yellow Light in January

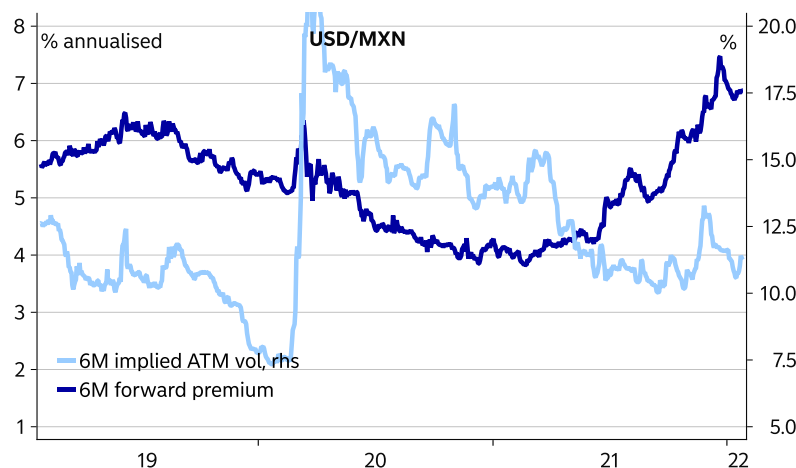
Risk level: 26% (+4% points from December)



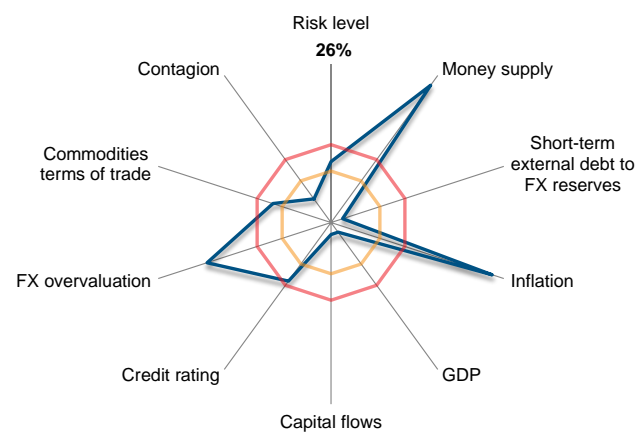
Source: Nordea Markets and Macrobond



Source: Nordea Estimates and Macrobond



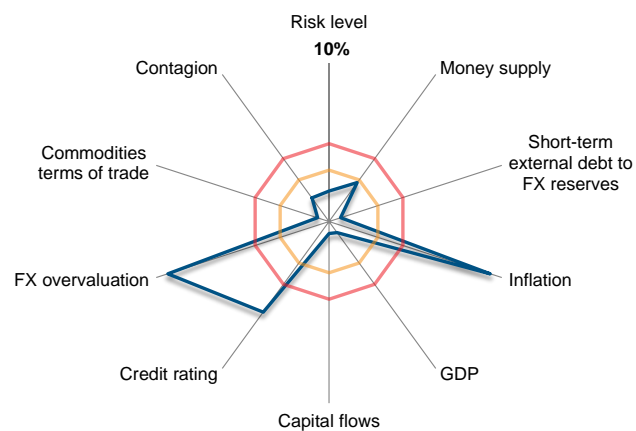
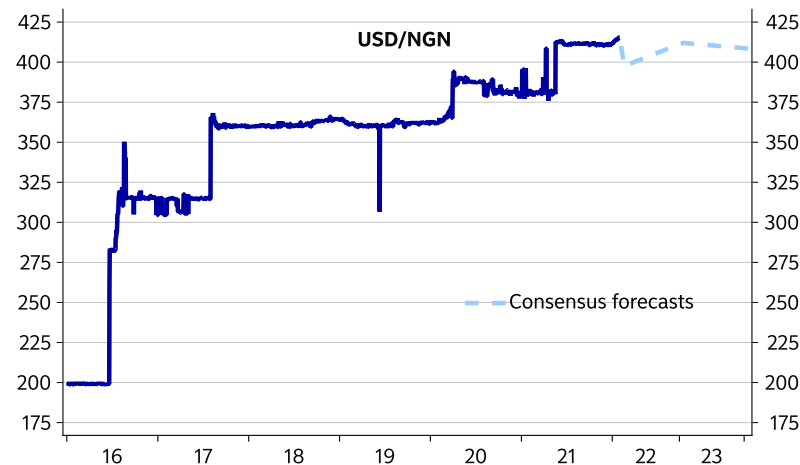
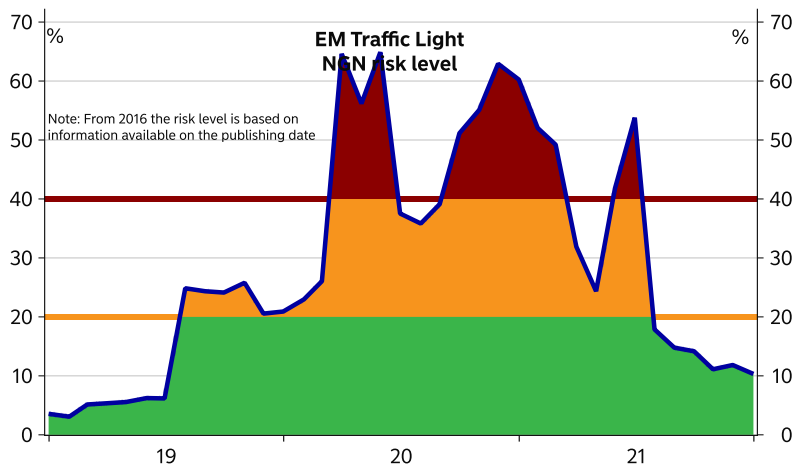
Source: Nordea Estimates and Macrobond





# NGN: Green Light in January

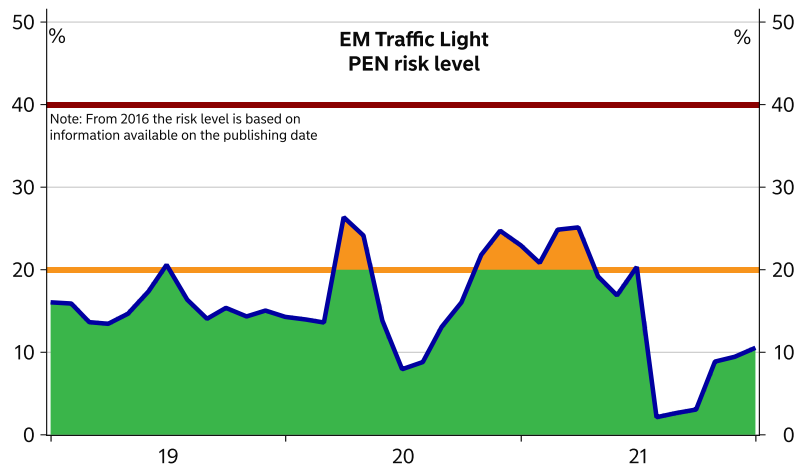
Risk level: 10% (+2% points from December)



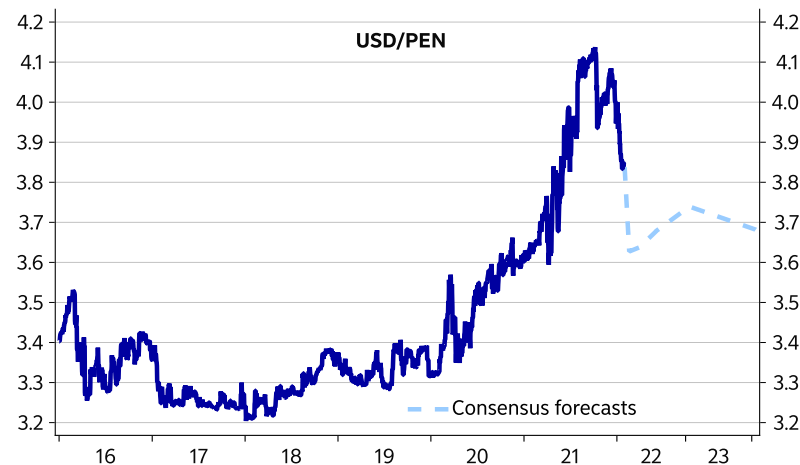


# PEN: Green Light in January

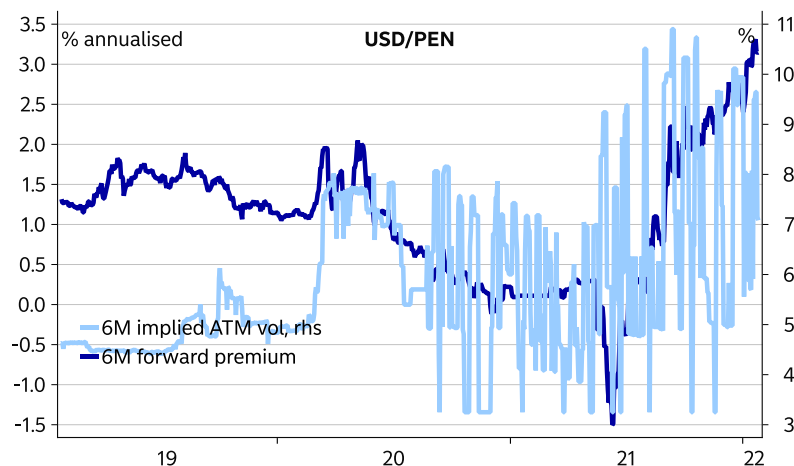
Risk level: 11% (+2% points from December)



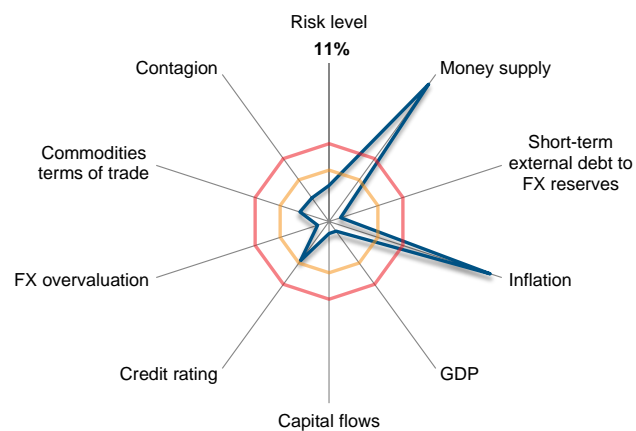
Source: Nordea Markets and Macrobond



Source: Nordea Estimates and Macrobond



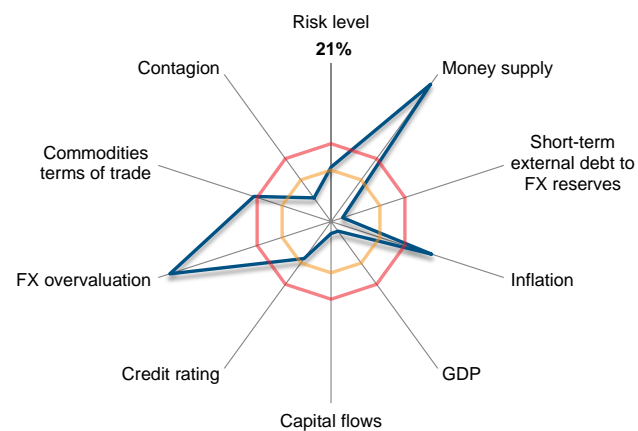
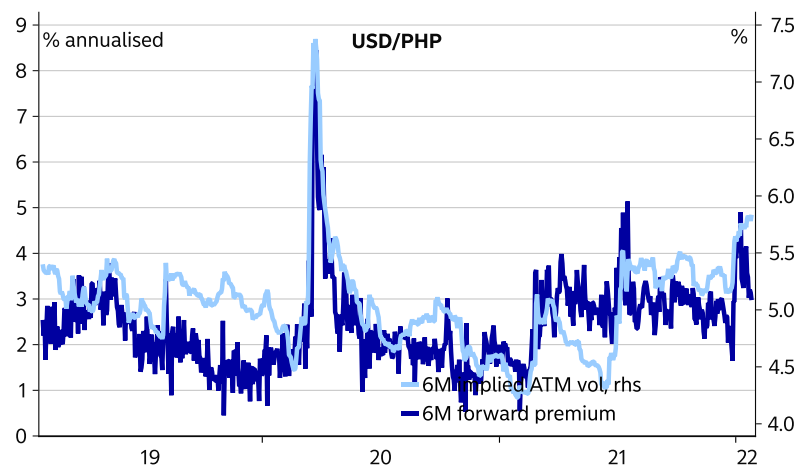
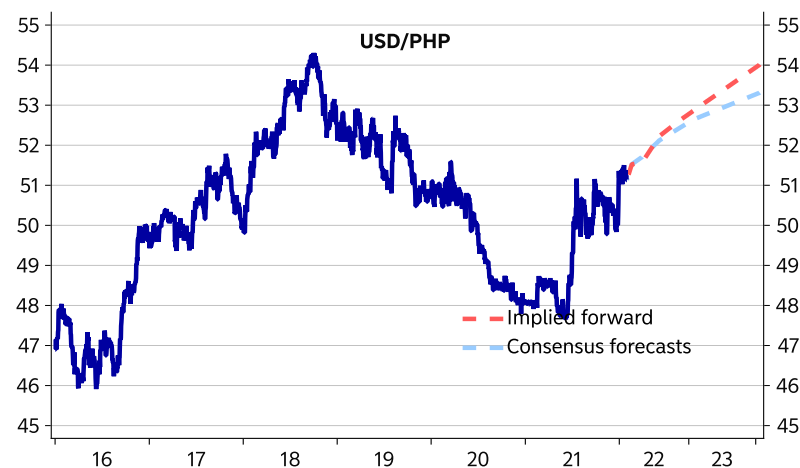
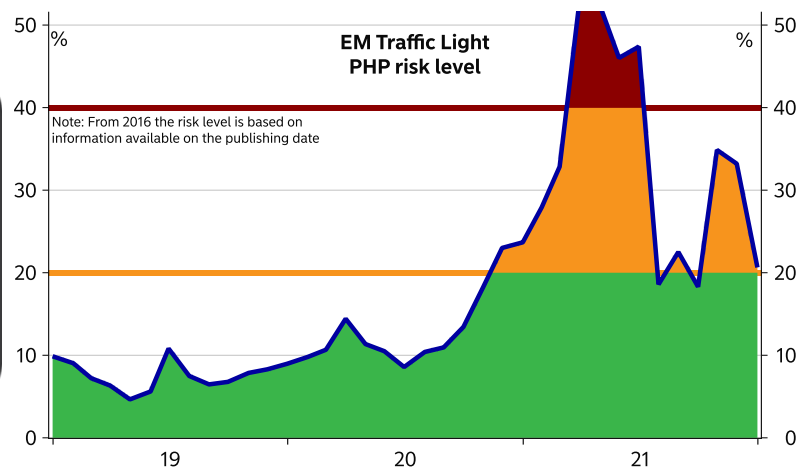
Source: Nordea Estimates and Macrobond





# PHP: Yellow Light in January

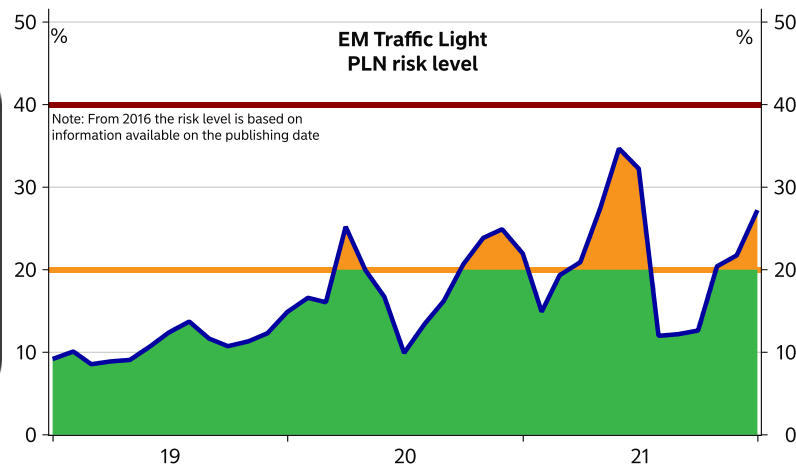
Risk level: 21% (-12% points from December)



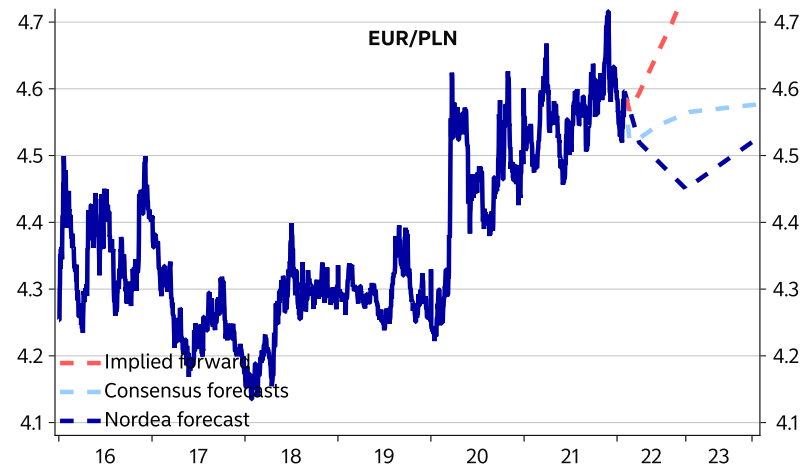


# PLN: Yellow Light in January

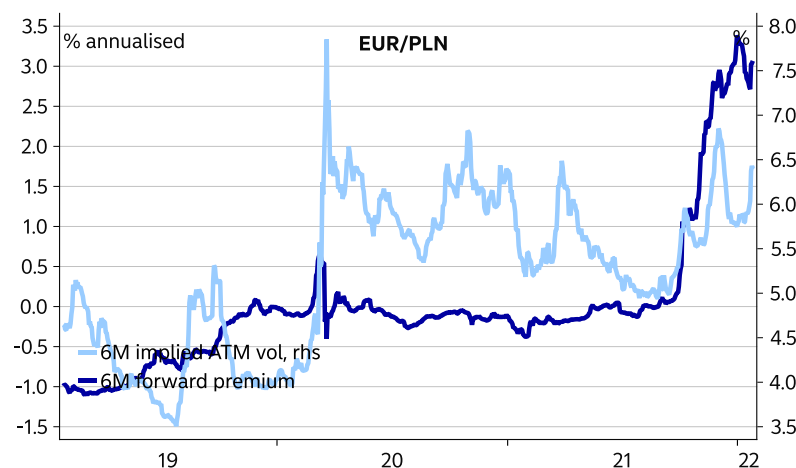
Risk level: 27% (+5% points from December)



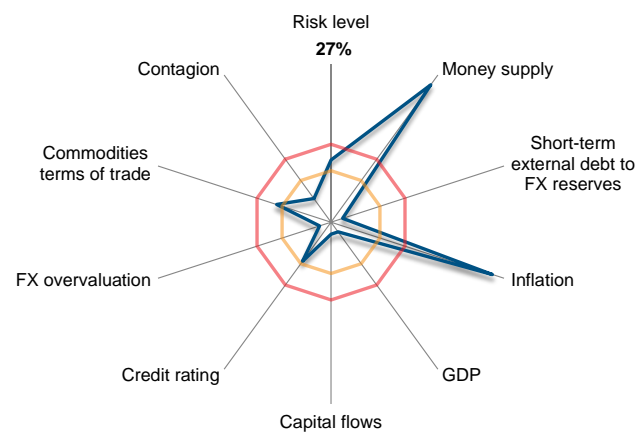
Source: Nordea Markets and Macrobond



Source: Nordea Estimates and Macrobond



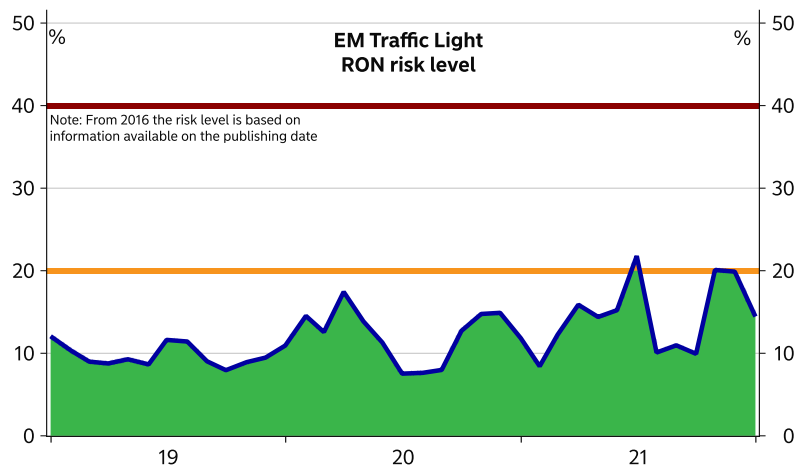
Source: Nordea Estimates and Macrobond



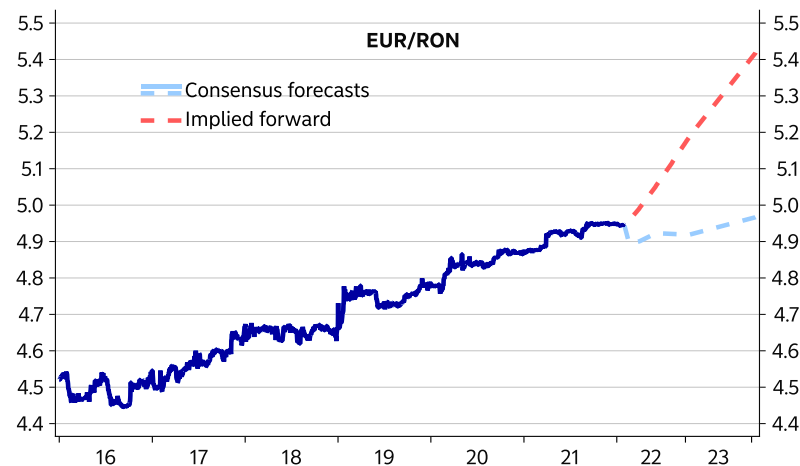


# RON: Green Light in January

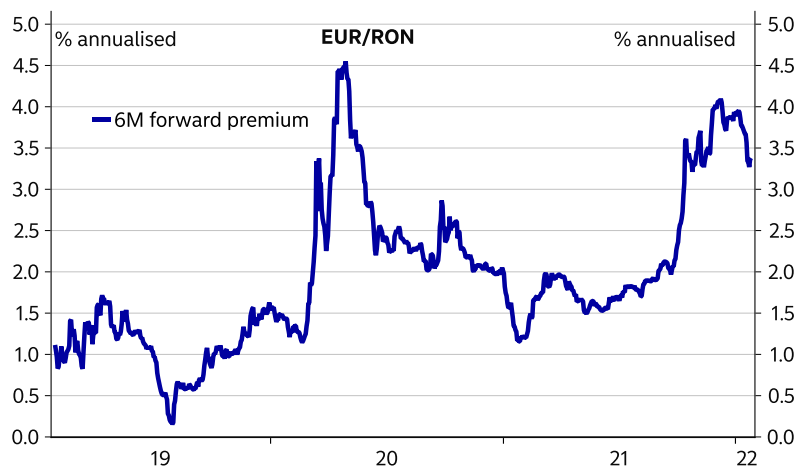
Risk level: 14% (-6% points from December)



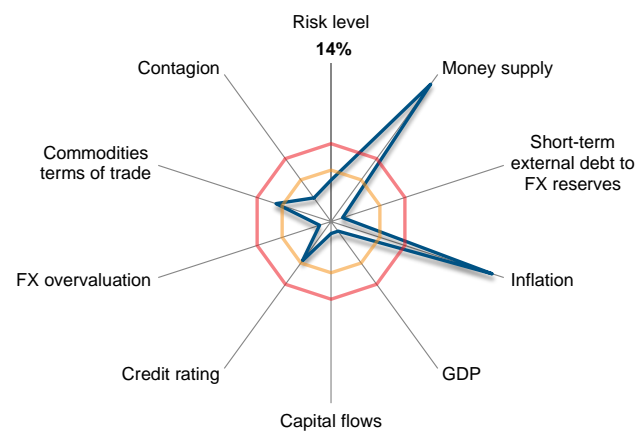
Source: Nordea Markets and Macrobond



Source: Nordea Estimates and Macrobond



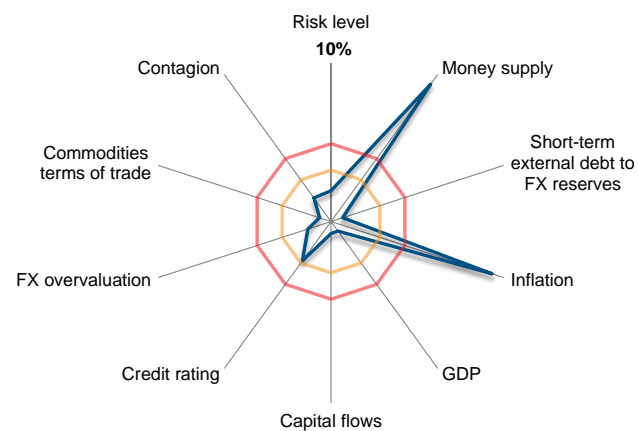
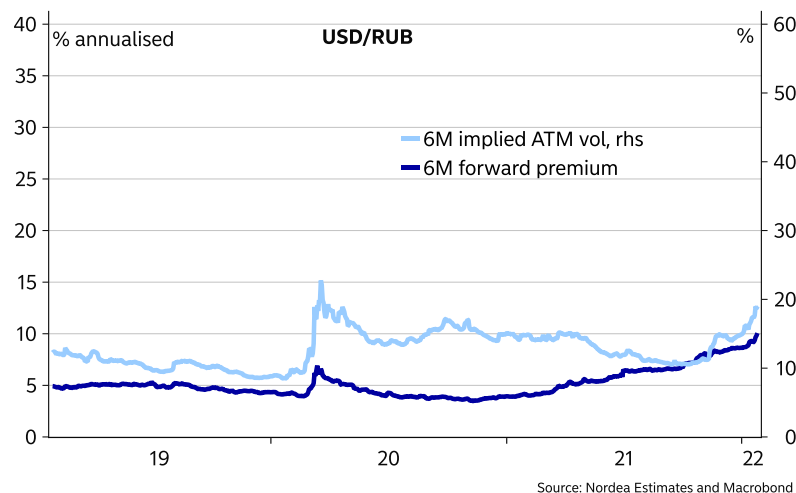
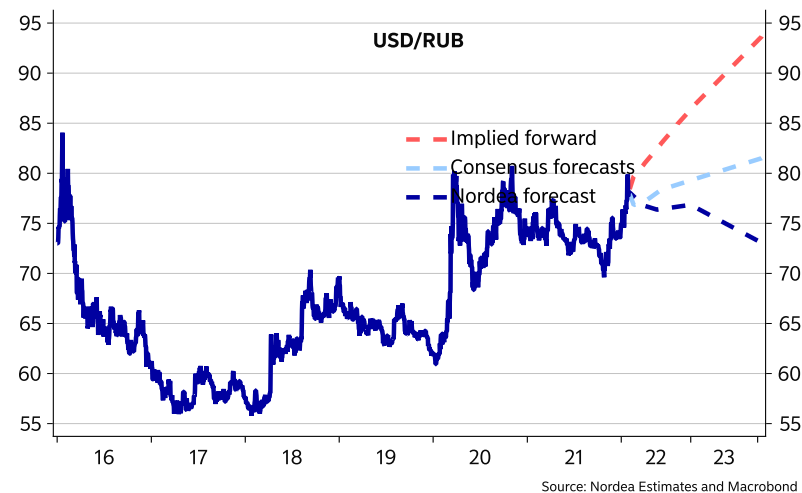
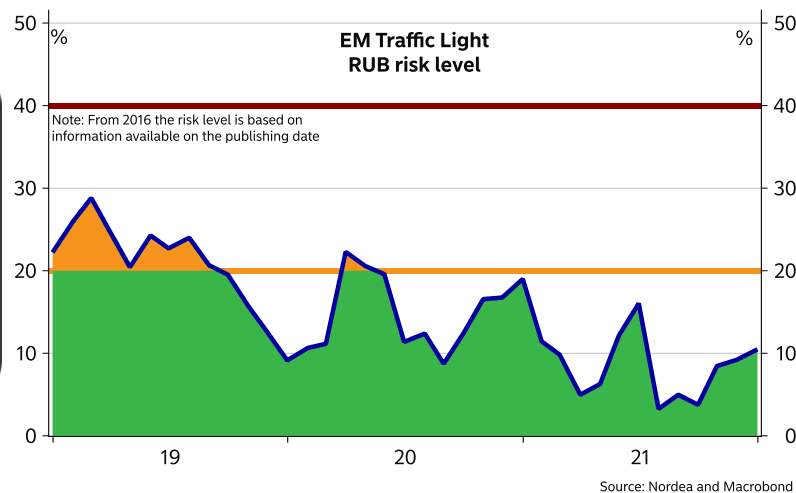
Source: Nordea Estimates and Macrobond





# RUB: Green Light in January

Risk level: 10% (-1% point from December)

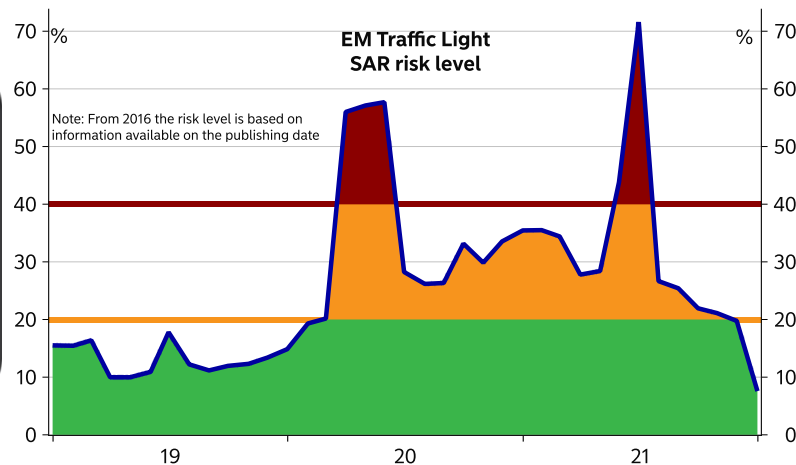




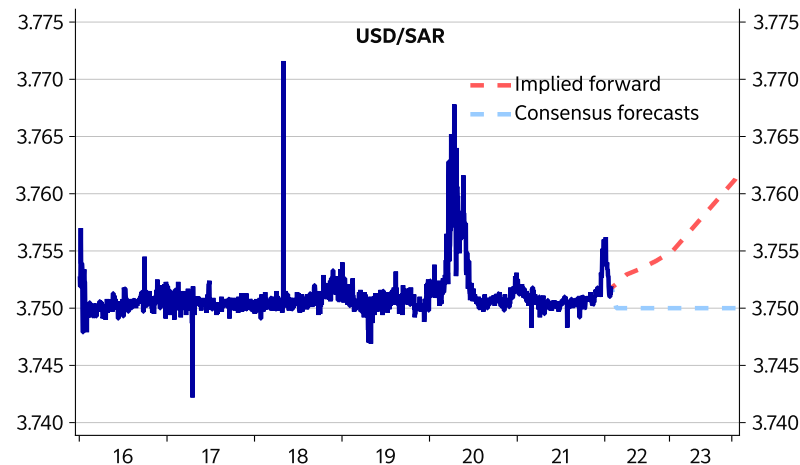


# SAR: Green Light in January

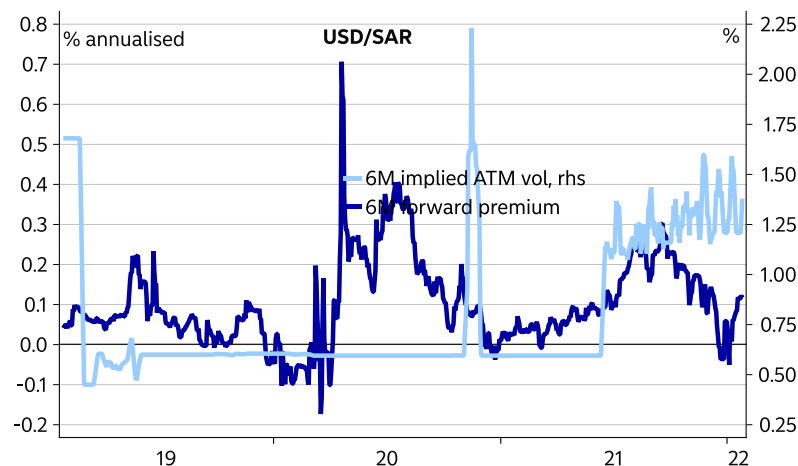
Risk level: 8% (-12% points from December)



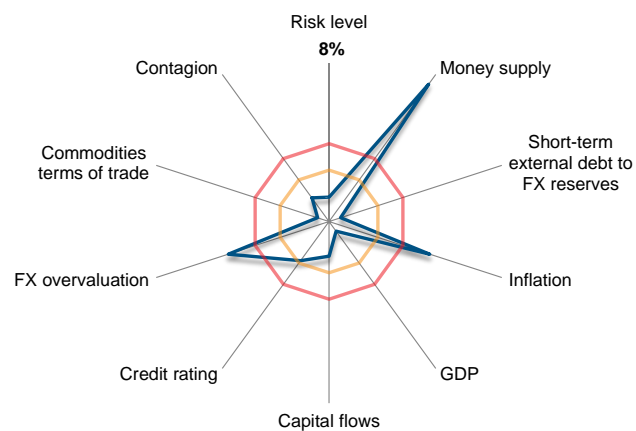
Source: Nordea Markets and Macrobond



Source: Nordea Markets and Macrobond



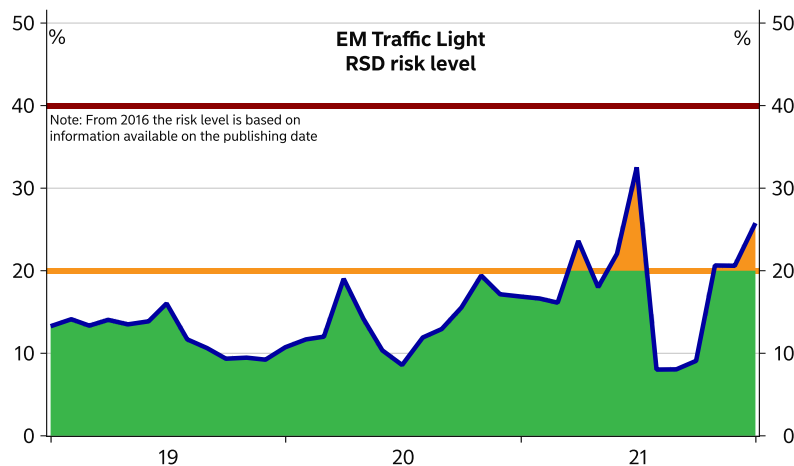
Source: Nordea Estimates and Macrobond



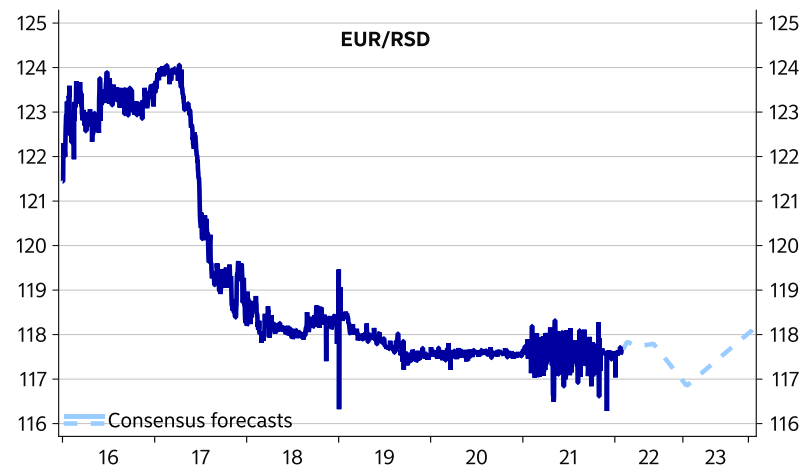


# RSD: Yellow Light in January

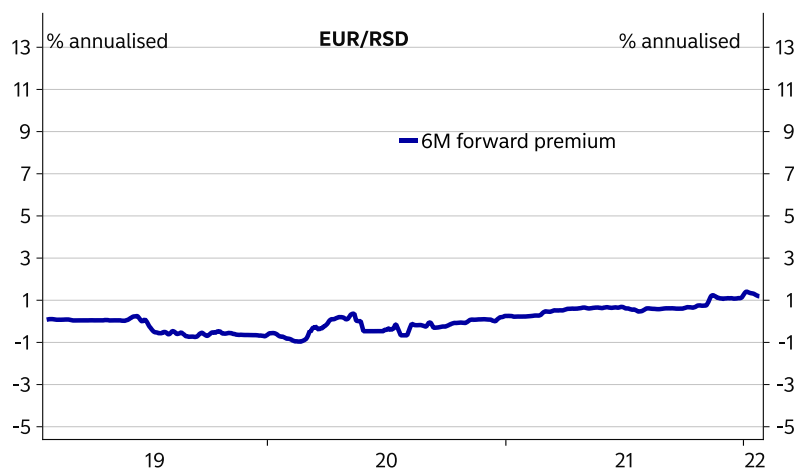
Risk level: 26% (+5% points from December)



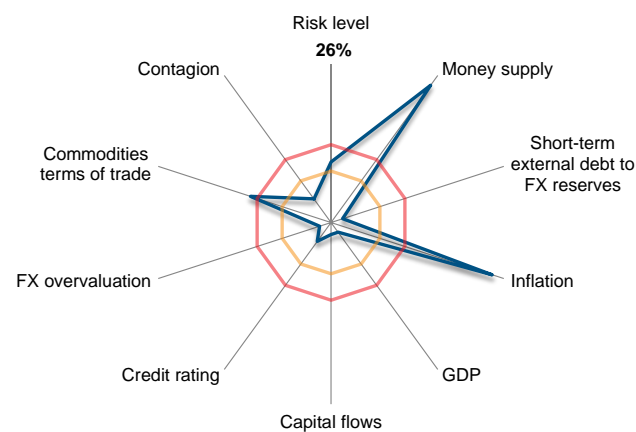
Source: Nordea Markets and Macrobond



Source: Nordea Estimates and Macrobond



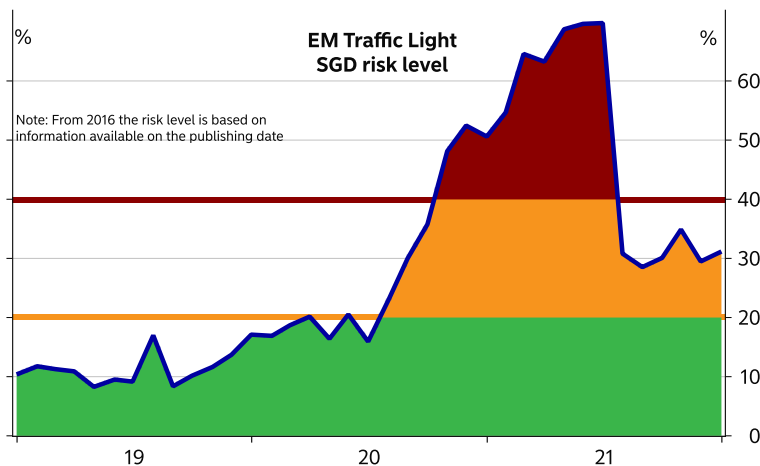
Source: Nordea Estimates and Macrobond



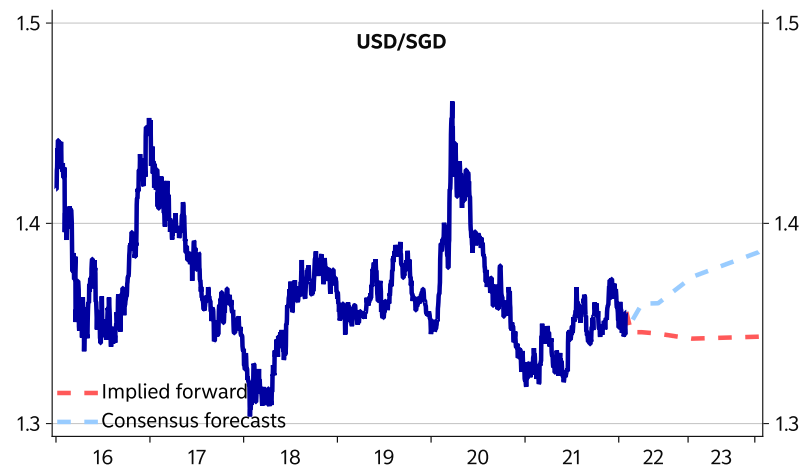


# SGD: Yellow Light in January

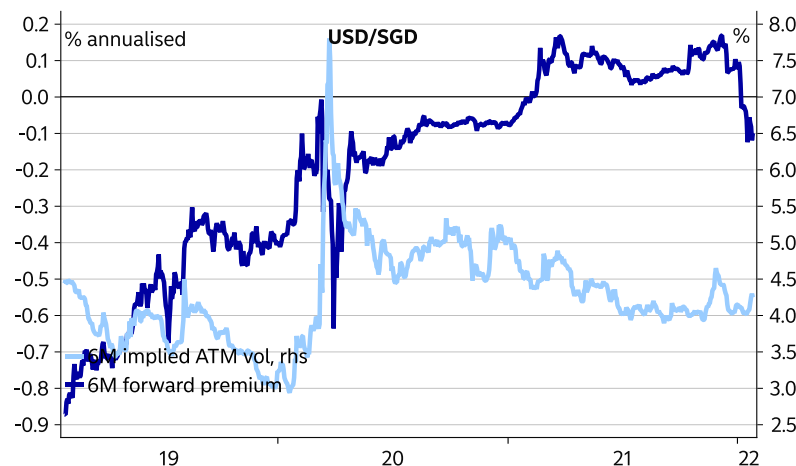
Risk level: 31% (+2% points from December)



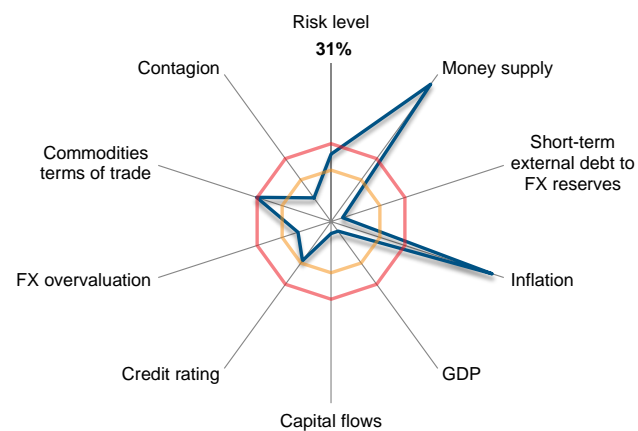
Source: Nordea Markets and Macrobond



Source: Nordea Estimates and Macrobond



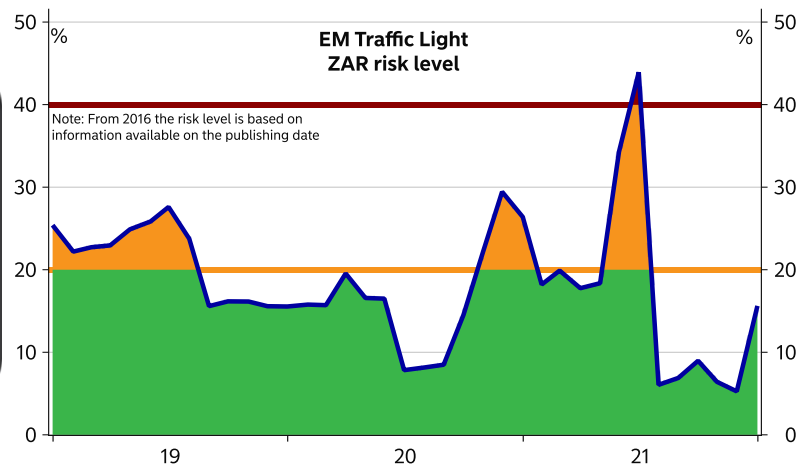
Source: Nordea Estimates and Macrobond



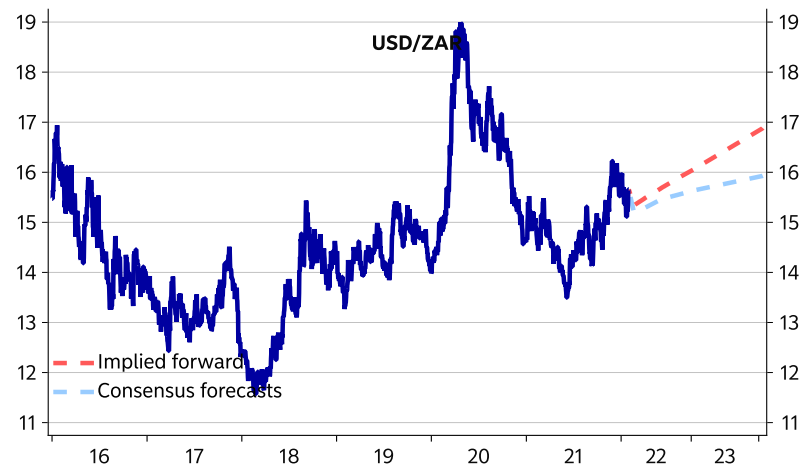


# ZAR: Green Light in January

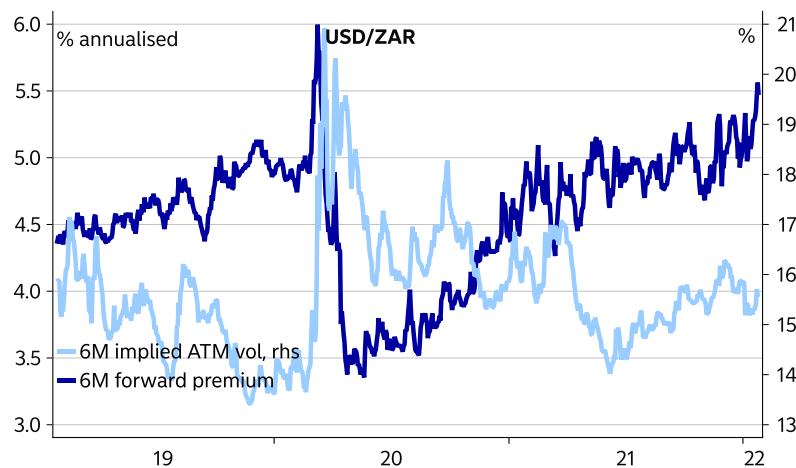
Risk level: 16% (+11% points from December)



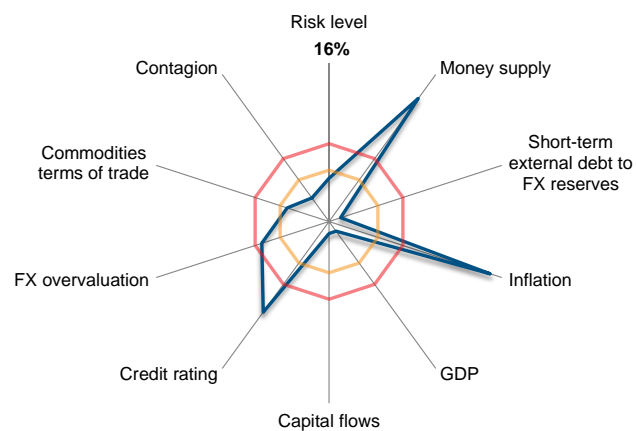
Source: Nordea Markets and Macrobond



Source: Nordea Estimates and Macrobond



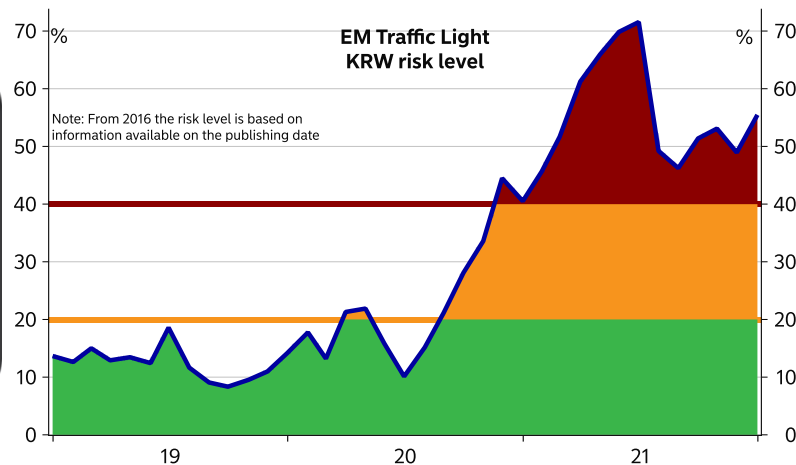
Source: Nordea Estimates and Macrobond



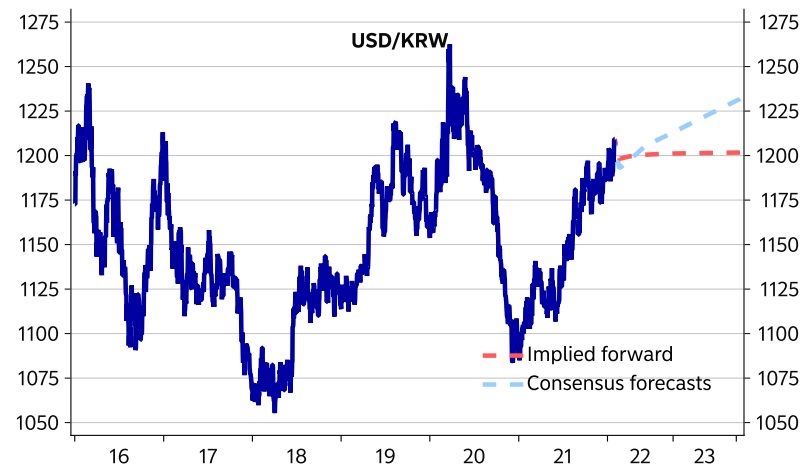


# KRW: Red Light in January

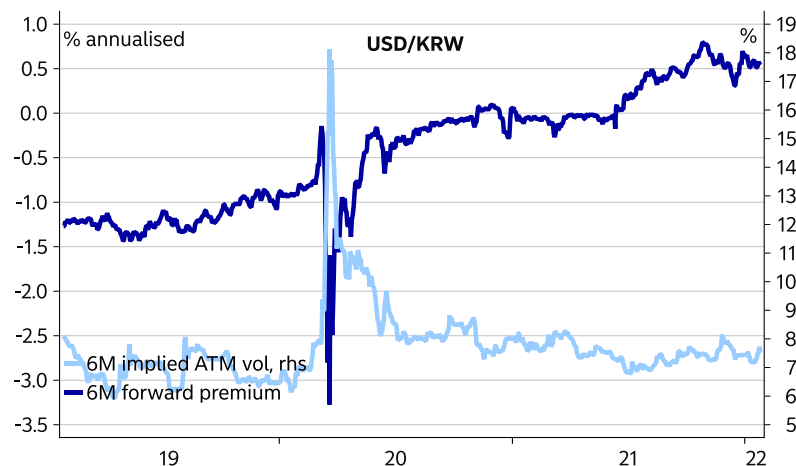
Risk level: 55% (+6% points from December)



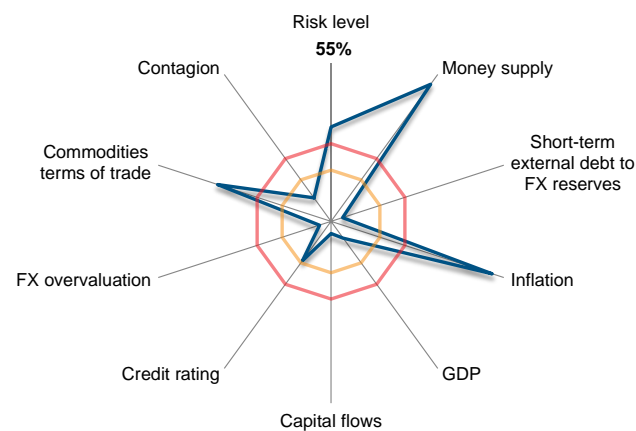
Source: Nordea Markets and Macrobond



Source: Nordea Estimates and Macrobond



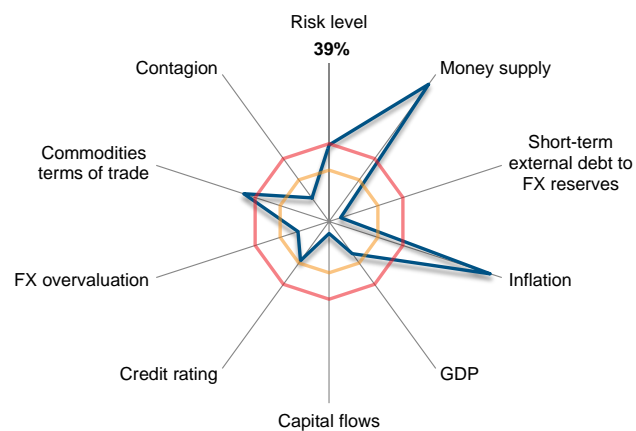
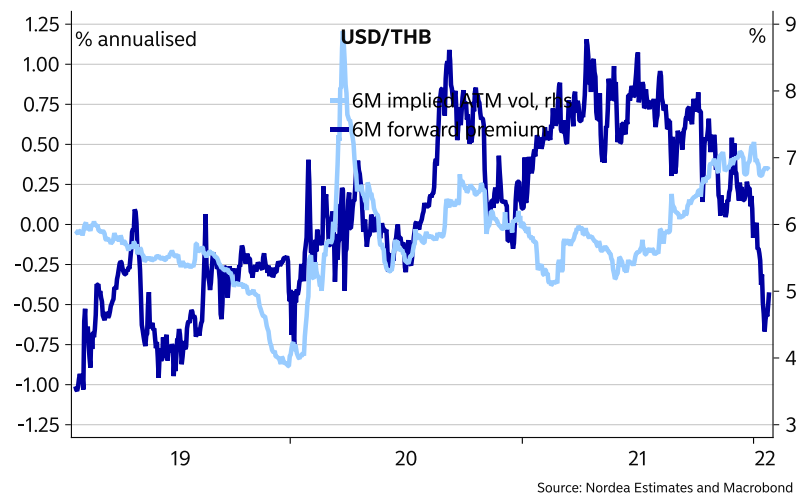
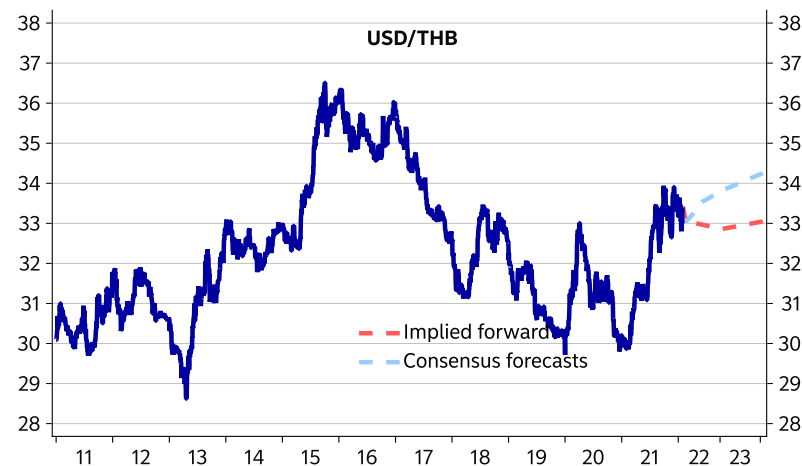
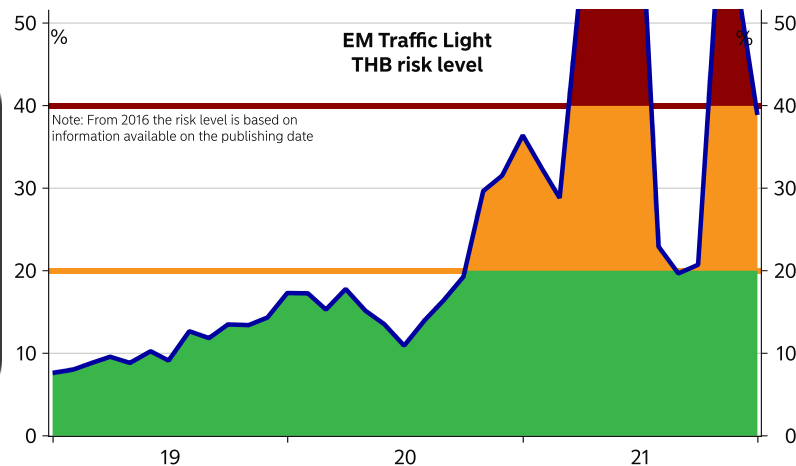
Source: Nordea Estimates and Macrobond





# THB: Yellow Light in January

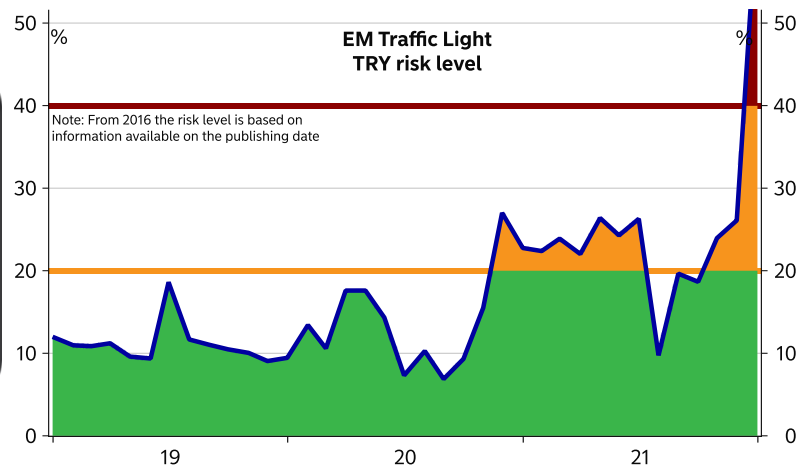
Risk level: 39% (-16% points from December)



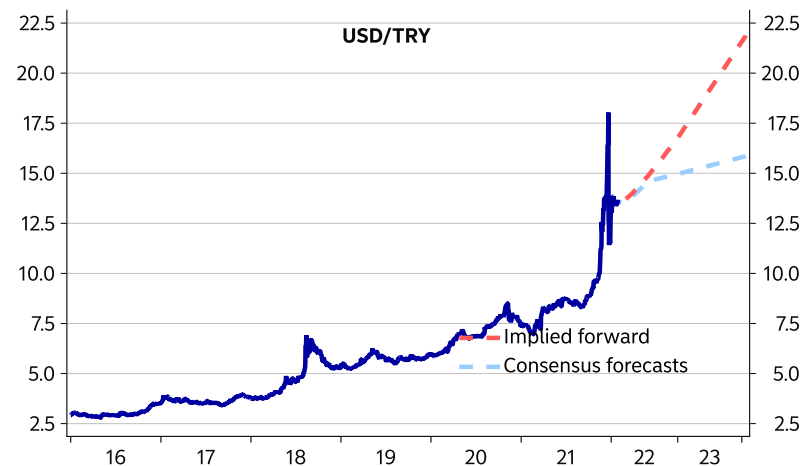


# TRY: Red Light in January

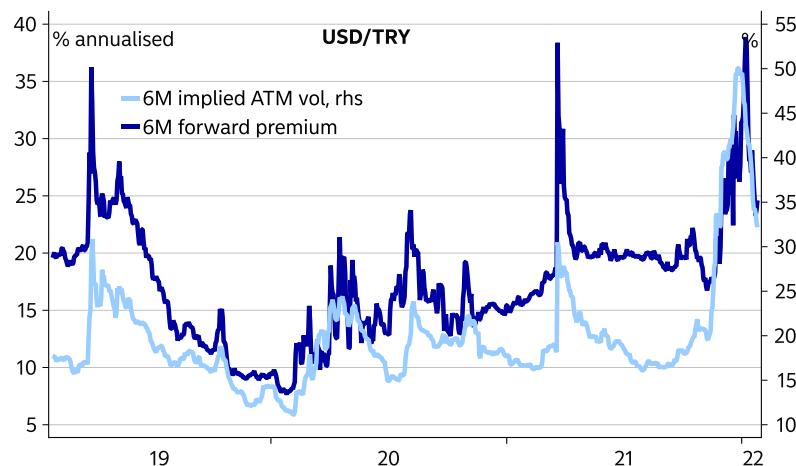
Risk level: 65% (+39% points from December)



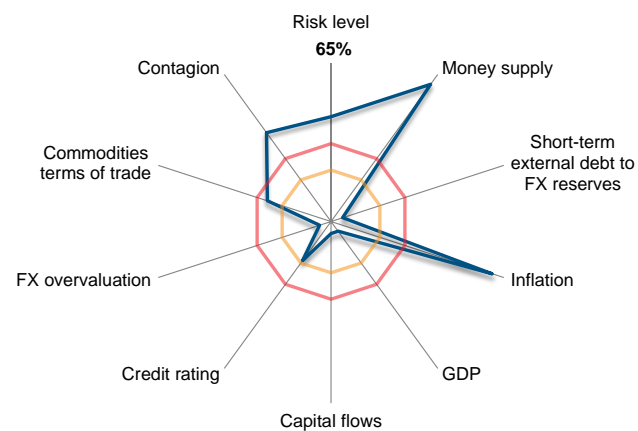
Source: Nordea Markets and Macrobond



Source: Nordea Estimates and Macrobond



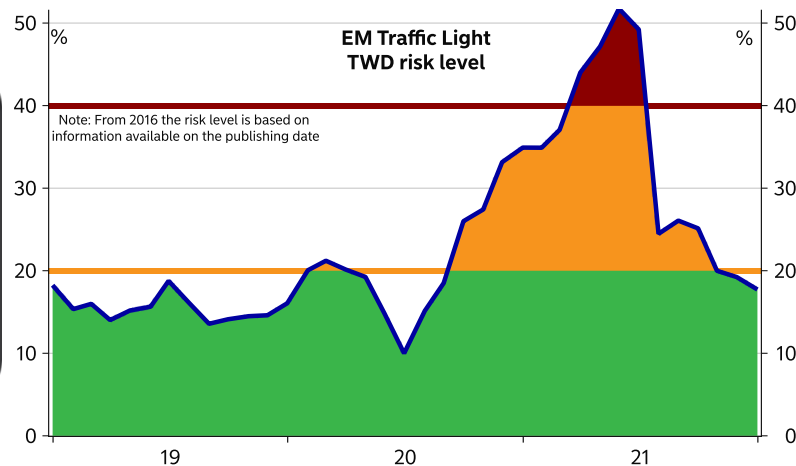
Source: Nordea Estimates and Macrobond



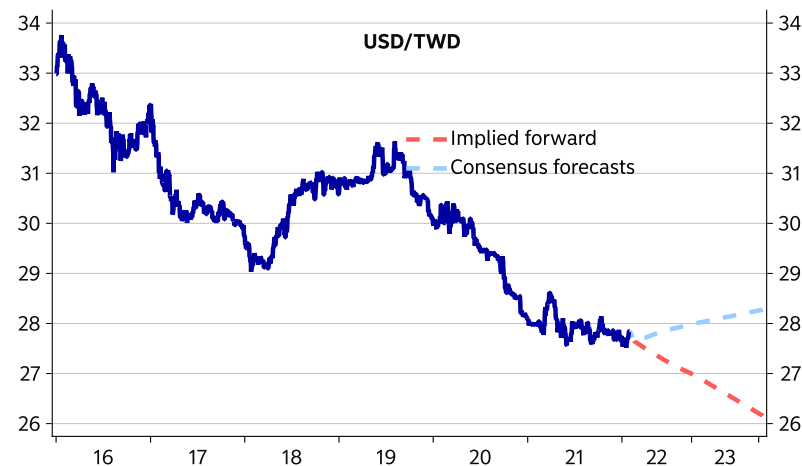


# TWD: Green Light in January

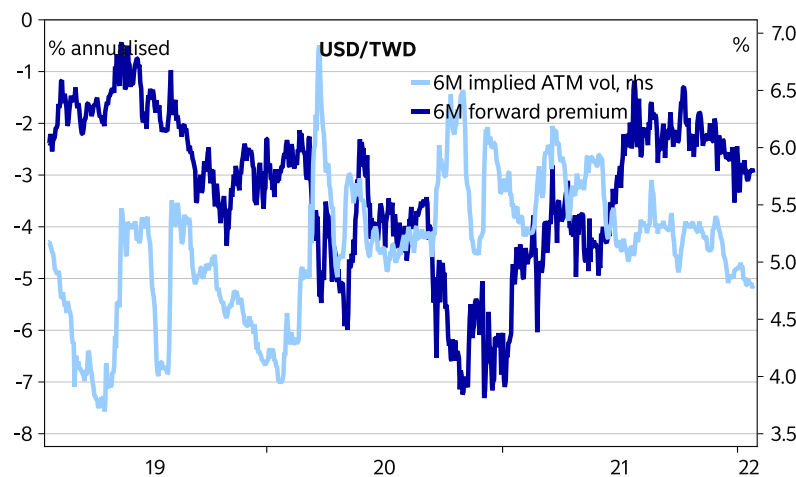
Risk level: 18% (-1% point from December)



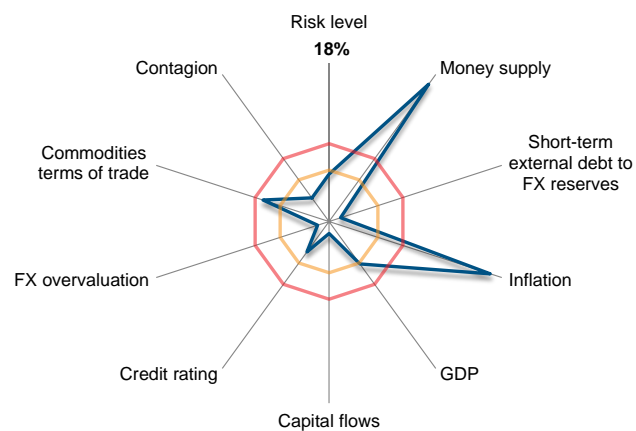
Source: Nordea Markets and Macrobond



Source: Nordea Estimates and Macrobond



Source: Nordea Estimates and Macrobond

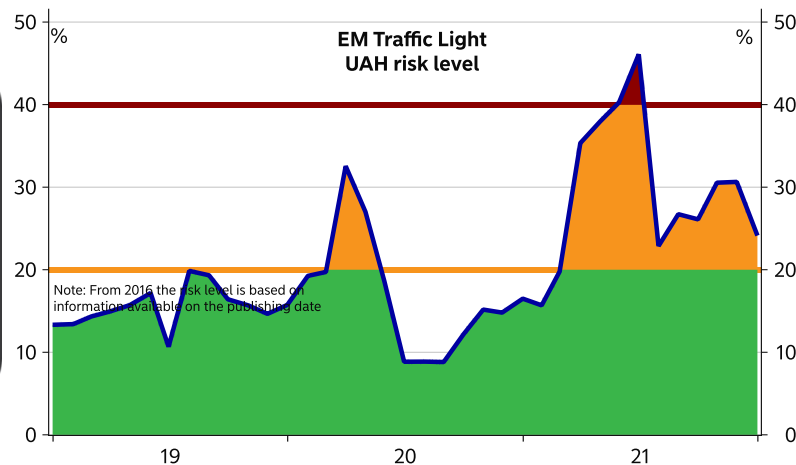




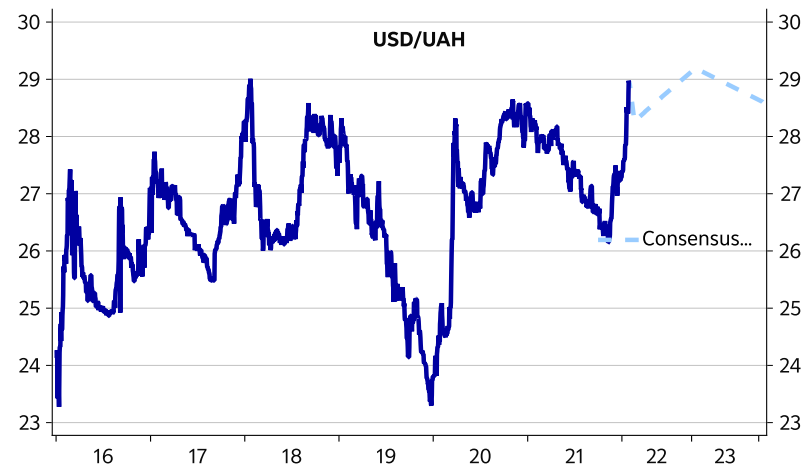


# UAH: Yellow Light in January

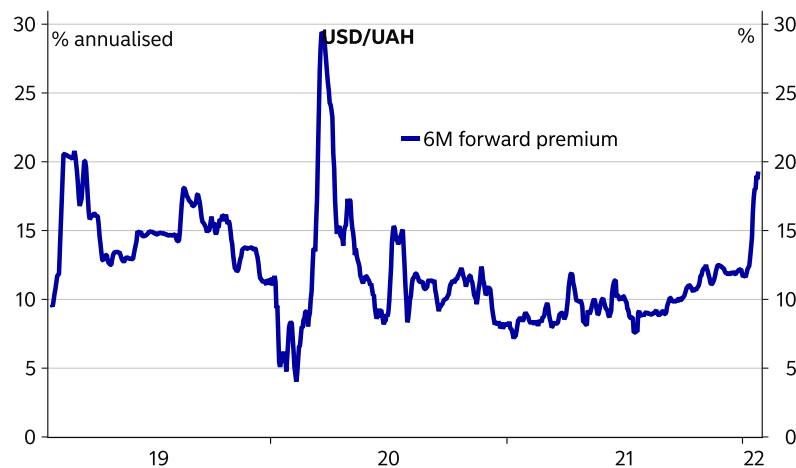
Risk level: 24% (-7% points from December)



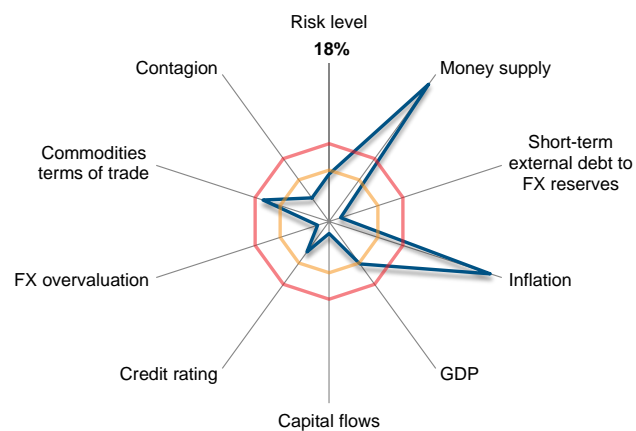
Source: Nordea Markets and Macrobond



Source: Nordea Estimates and Macrobond

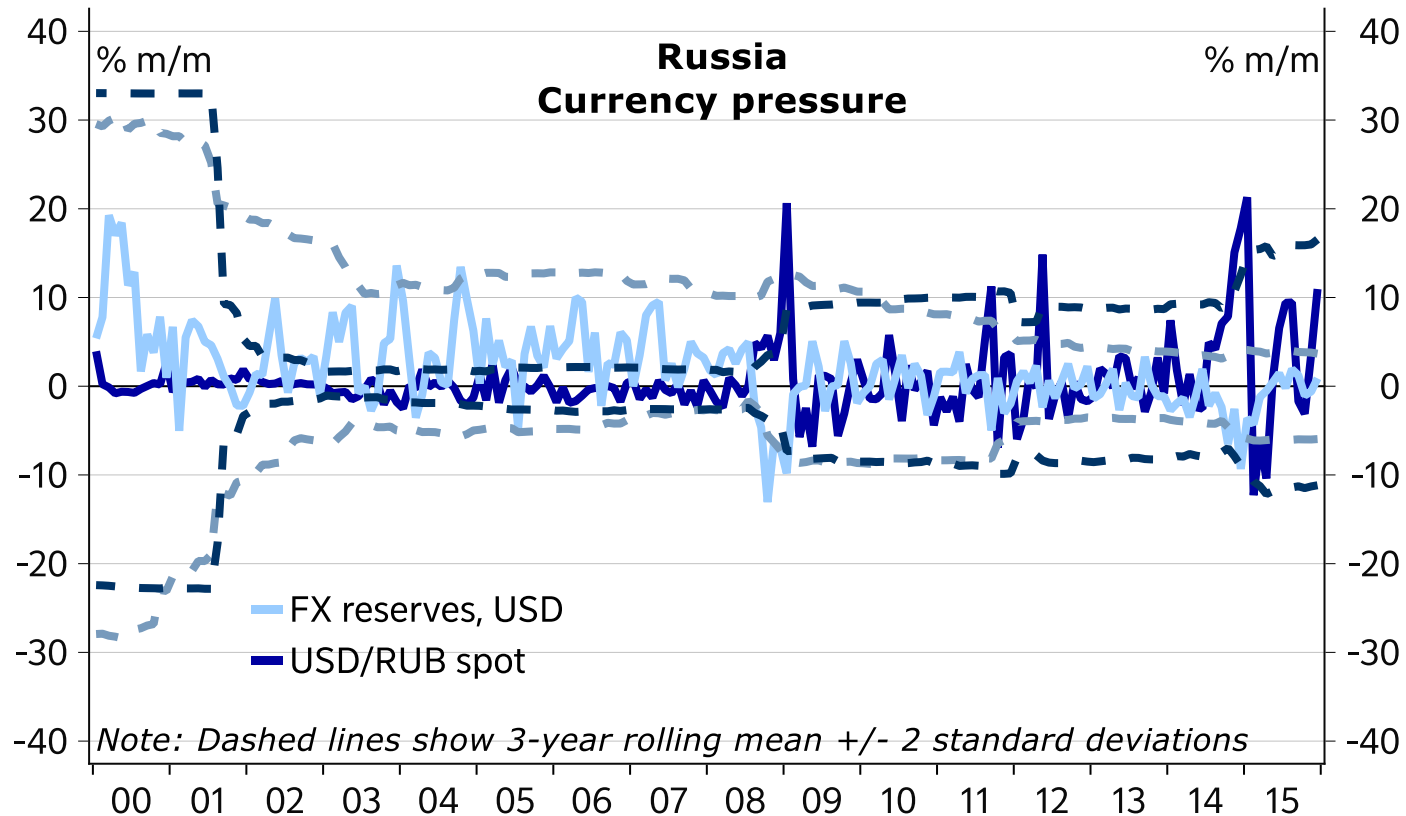


Source: Nordea Estimates and Macrobond





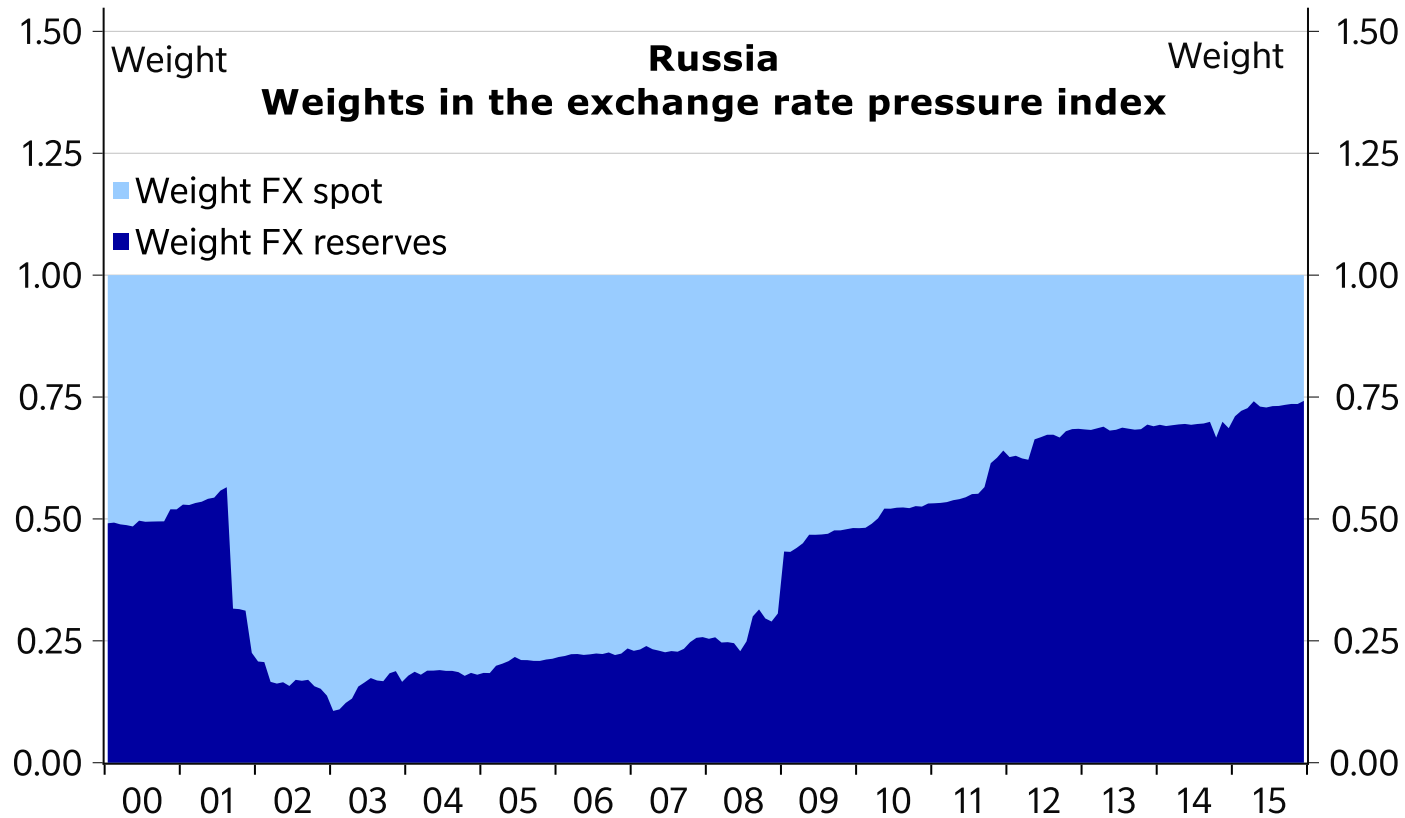
## Example Rub #1 When is a currency under pressure?



Source: Nordea Estimates and Macrobond



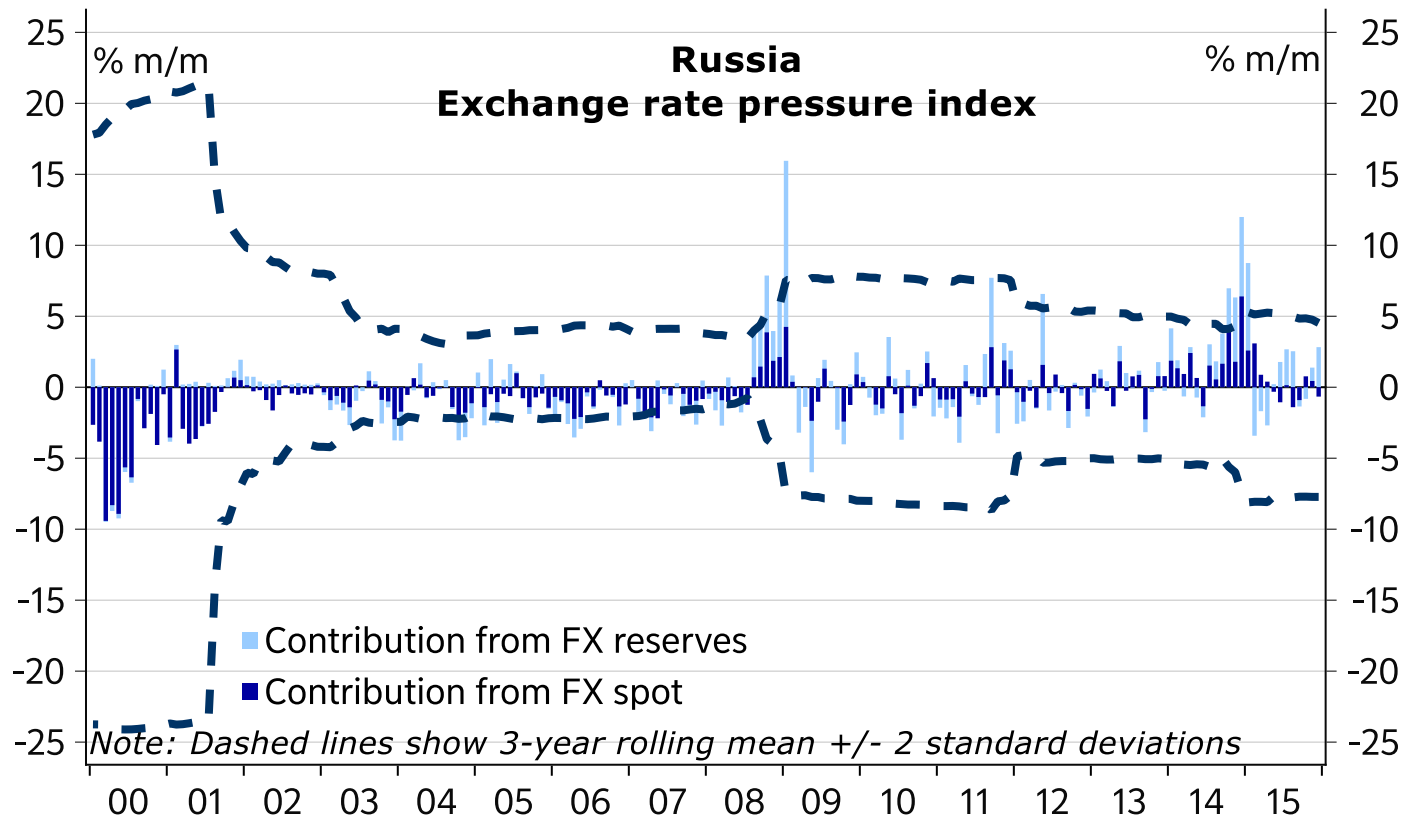
## Example Rub #2 Weighing spot and reserve changes



Source: Nordea Estimates and Macrobond



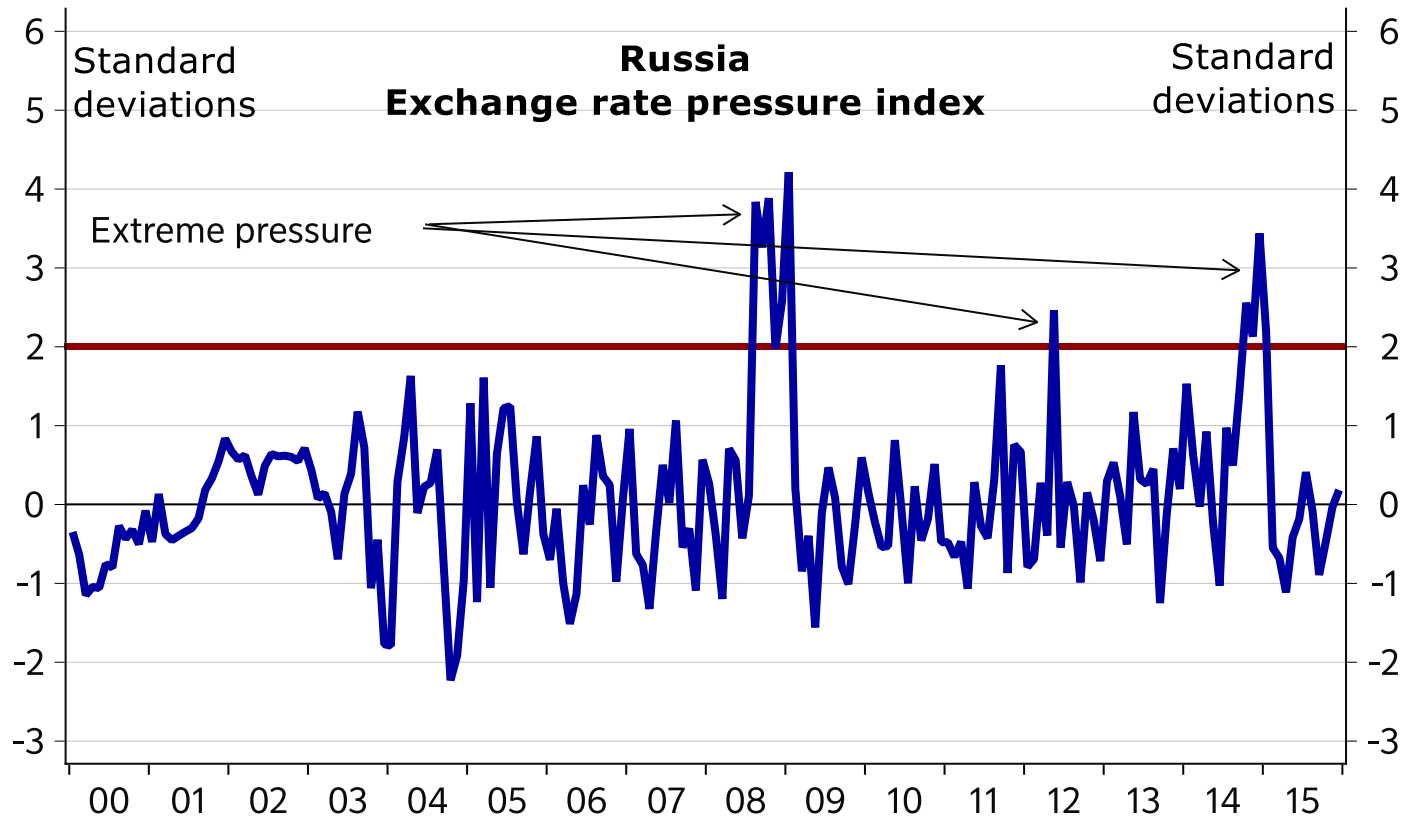
## Example Rub #3 Constructing a pressure index



Source: Nordea Estimates and Macrobond



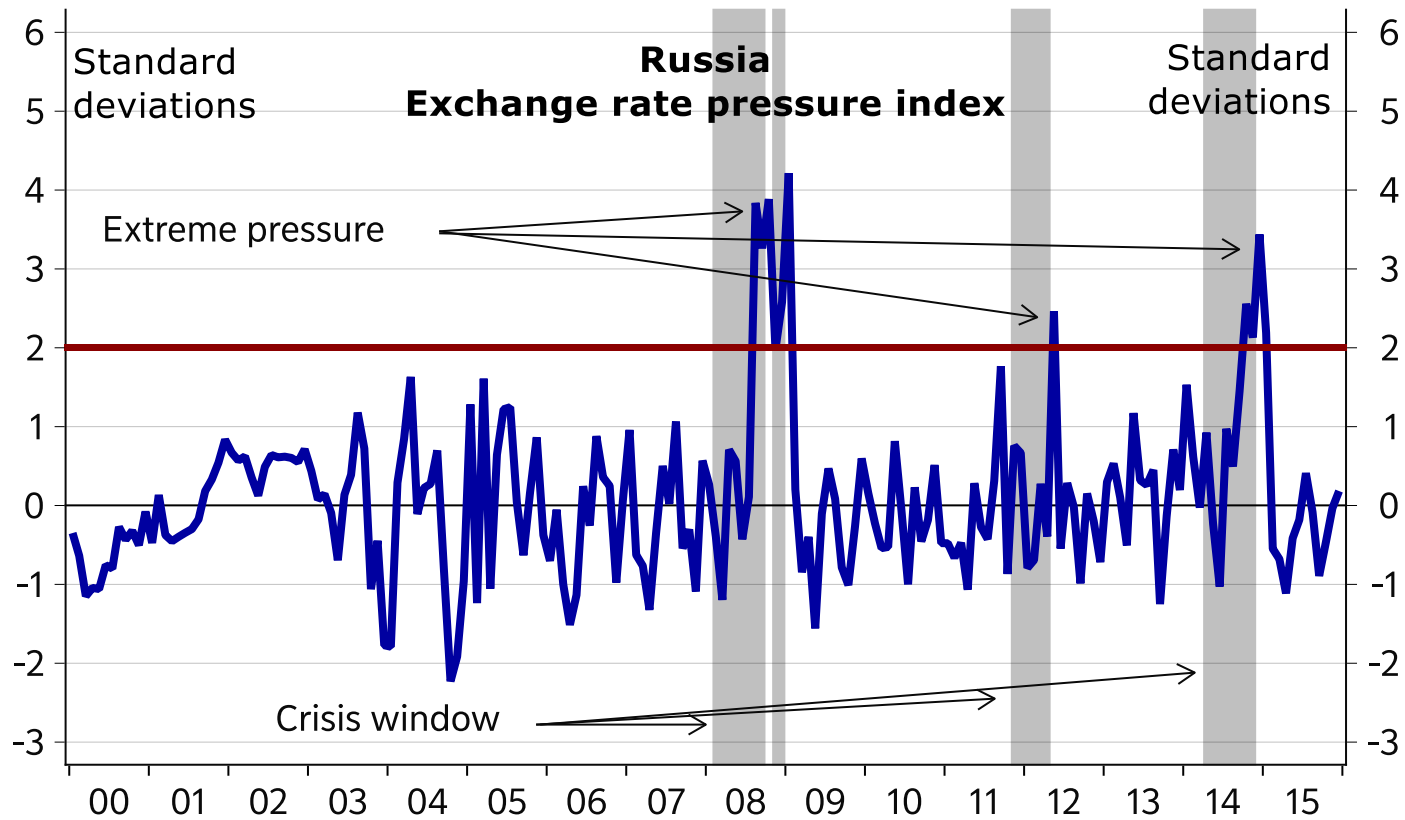
## Example Rub #4 Standardization



Source: Nordea Estimates and Macrobond



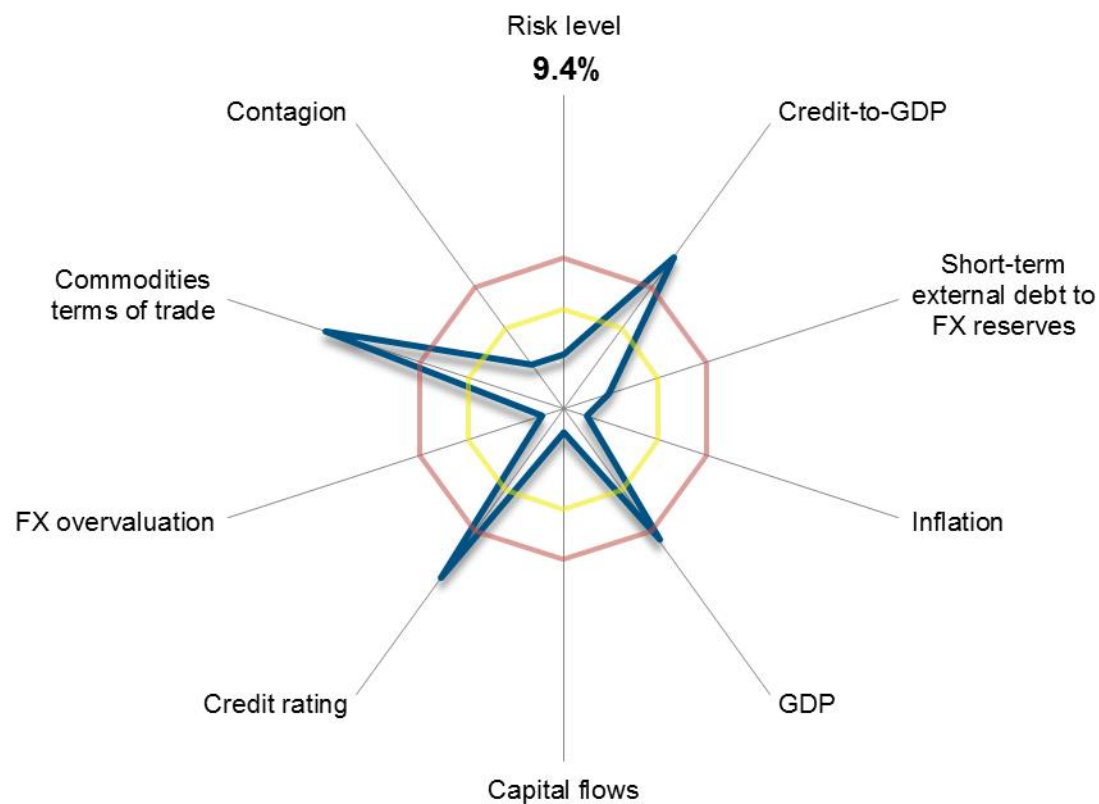
## Example Rub #5 The crisis window



Source: Nordea Estimates and Macrobond



## Example Rub #6 The risk indicators (January 2016)





## Example Rub #6 The risk level



Source: Nordea Markets and Macrobond





## EM Traffic Light – The optimal risk level is a choice

- The methodology note can be found [here](#)
- We chose to set the threshold for a yellow warning light at 20% and for a red warning light at 40%. The optimal threshold best resolves the choice between not getting enough warning signals and getting too many of them, where a warning signal is when the risk level exceeds the threshold for a yellow or red light.
- The traffic light for a specific EM currency for a specific month can be correct if: A) it shows a warning signal and a period of extreme currency pressure follows within the next six months or B) it shows no warning signal and no period of extreme currency pressure follows. The traffic light can be wrong if: C) it shows a warning signal and no period of extreme currency pressure occurs or D) it shows no warning signal and a period of extreme currency pressure occurs.
- Choosing to set the bar for a yellow and red light higher would give fewer warning signals, either right (A) or wrong (C), and more periods with no warning signals, also either right (B) or wrong (D).

Threshold	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%
<b>Correct</b>	<b>908</b>	<b>1931</b>	<b>3228</b>	<b>4173</b>	<b>4673</b>	<b>4960</b>	<b>5114</b>	<b>5180</b>	<b>5202</b>	<b>5219</b>	<b>5218</b>
- signal and crisis (A)	908	873	761	617	438	344	288	244	209	188	155
- no signal and no crisis (B)	0	1058	2467	3556	4235	4616	4826	4936	4993	5031	5063
<b>Incorrect</b>	<b>5137</b>	<b>4114</b>	<b>2817</b>	<b>1872</b>	<b>1372</b>	<b>1085</b>	<b>931</b>	<b>865</b>	<b>843</b>	<b>826</b>	<b>827</b>
- signal and no crisis (C)	5137	4079	2670	1581	902	521	311	201	144	106	74
- no signal and crisis (D)	0	35	147	291	470	564	620	664	699	720	753
Not too few (A / ( A + D )	1.00	0.96	0.84	0.68	0.48	0.38	0.32	0.27	0.23	0.21	0.17
Not too many (A / ( A + C )	0.15	0.18	0.22	0.28	0.33	0.40	0.48	0.55	0.59	0.64	0.68



## EM Traffic Light – the risk indicators

- **Credit booms**

*A large increase in the ratio of credits (money supply, M2) to GDP would make us worry about the banks and about the potential adverse impact of higher rates*

- **Foreign currency shortage**

*An large increase in short-term external debt to FX reserves would make us worry about a potential shortage of foreign currency and less central bank support for the domestic currency, eg devaluations*

- **High inflation**

*An large increase in inflation would make us worry about an overheating economy and potential tightening of economic policies*

- **Economic slowdown**

*A large slowdown in the economy would make us worry about structural weaknesses coming to the fore*

- **Capital flow reversals**

*A large reliance on foreign capital would make us worry about a potential reversal of capital flows or reluctance to keep financing the domestic activity*

- **Weak ratings**

*A large rating downgrade usually means weak public balances, political risks and weakening institutions*

- **Currency overvaluation**

*A strong appreciation of a currency that has no fundamental justification would make us worry about hot money flows and the adverse impact on the economy*

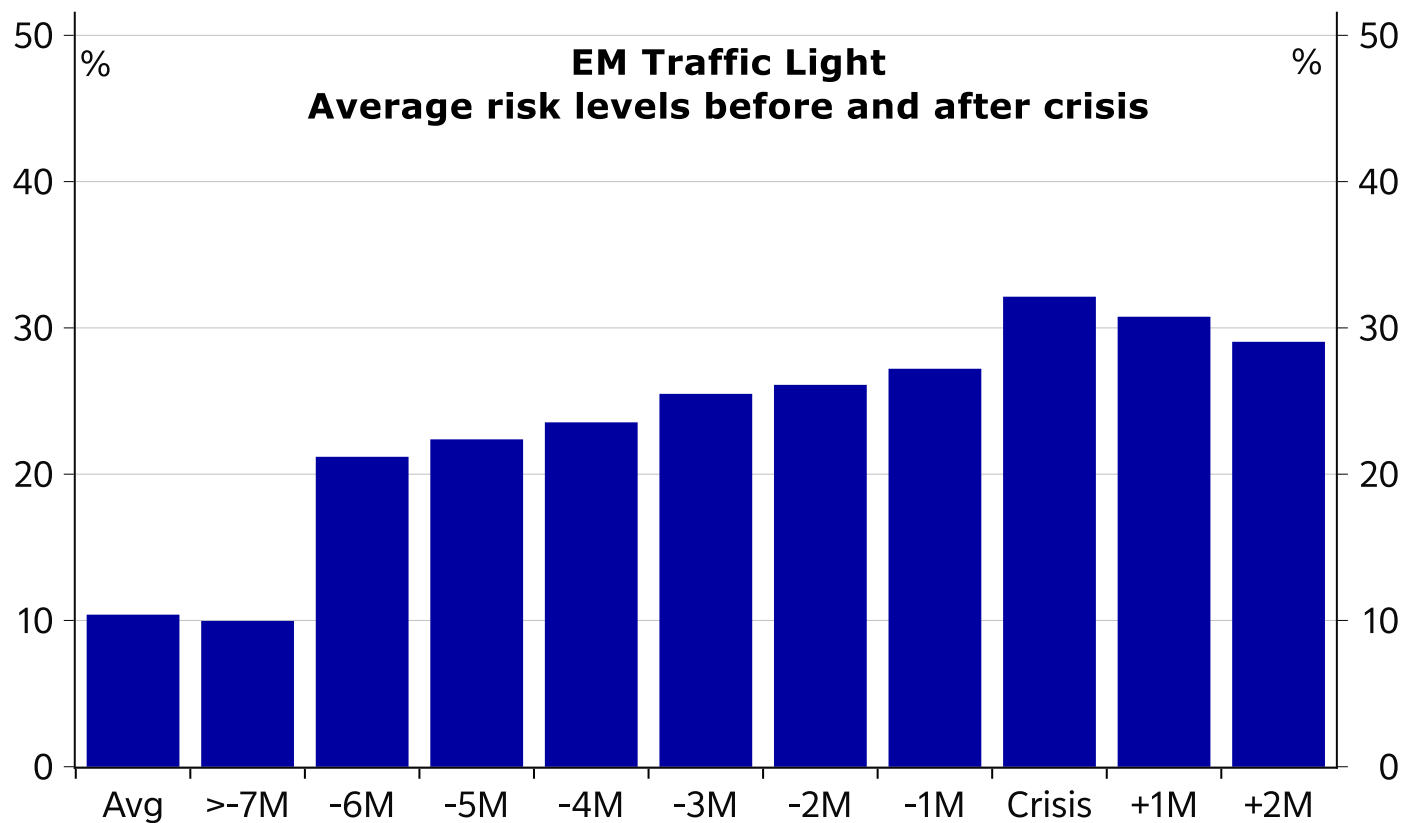
- **Commodity prices**

*A large adverse change in the commodity terms of trade would make us worry about everything from public budgets to the current account to potential devaluations*

- **Contagion**



## Average risks levels before and after crisis in-sample



Source: Nordea Estimates and Macrobond

# Thank you!

**Anders Svendsen**

**Chief Analyst, Emerging Markets**

**[anders.svendsen@nordea.com](mailto:anders.svendsen@nordea.com)**

**Tel: +45 5547 1527, Mobile: +45 6122 4549**

**[@SvendsenAnders](#)**

**My research: [ndea.mk/AndersSvendsen](https://ndea.mk/AndersSvendsen)**

Nordea Markets is the commercial name for Nordea's international capital markets operation.

The information provided herein is intended for background information only and for the sole use of the intended recipient. The views and other information provided herein are the current views of Nordea Markets as of the date of this document and are subject to change without notice. This notice is not an exhaustive description of the described product or the risks related to it, and it should not be relied on as such, nor is it a substitute for the judgement of the recipient.

The information provided herein is not intended to constitute and does not constitute investment advice nor is the information intended as an offer or solicitation for the purchase or sale of any financial instrument. The information contained herein has no regard to the specific investment objectives, the financial situation or particular needs of any particular recipient. Relevant and specific professional advice should always be obtained before making any investment or credit decision. It is important to note that past performance is not indicative of future results.

Nordea Markets is not and does not purport to be an adviser as to legal, taxation, accounting or regulatory matters in any jurisdiction.

This document must not be reproduced, distributed or published for any purpose without the prior written consent from Nordea Markets.

