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Consumer and Investment Management Division

# SARS-Coronavirus-2 / COVID-19: An Update on Developments in Europe

March 26, 2020

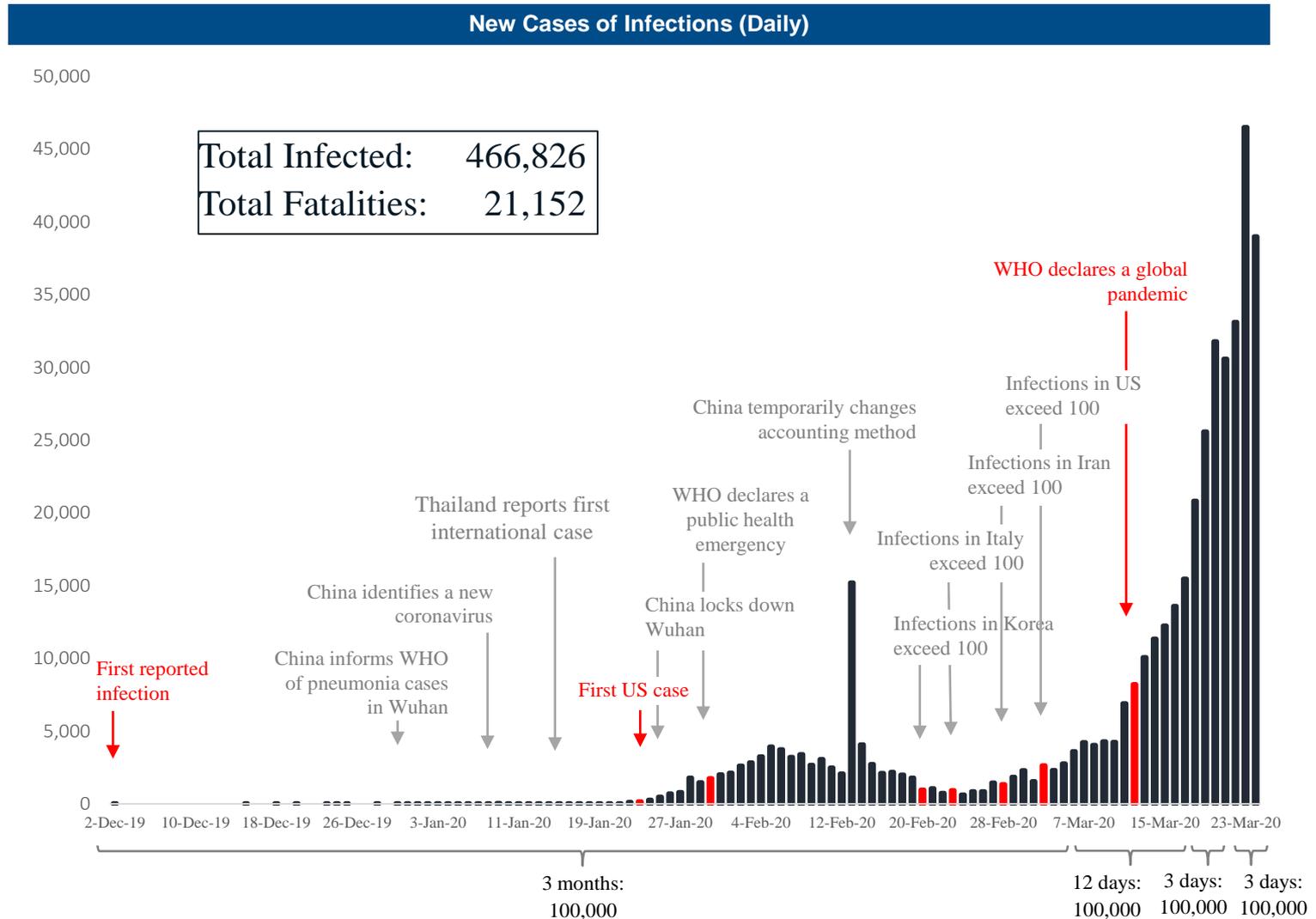
Investment Strategy Group

# Overview of Today's Call

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- **Update on SARS-Coronavirus-2**
- **Outlook on SARS-Coronavirus-2**  
at  
David Heymann, MD, Professor of Infectious Disease Epidemiology  
the London School of Hygiene and Tropical Medicine
- **Economic Impact**  
Sven Jari Stehn, Managing Director, Goldman Sachs Global  
Investment Research
- **Monetary and Fiscal Policy Response**  
Silvia Ardagna, Managing Director, Goldman Sachs Investment  
Strategy Group
- **Market Implications**  
Peter Oppenheimer, Managing Director, Goldman Sachs Global  
Investment Research

# SARS-CoV-2 Pandemic Timeline

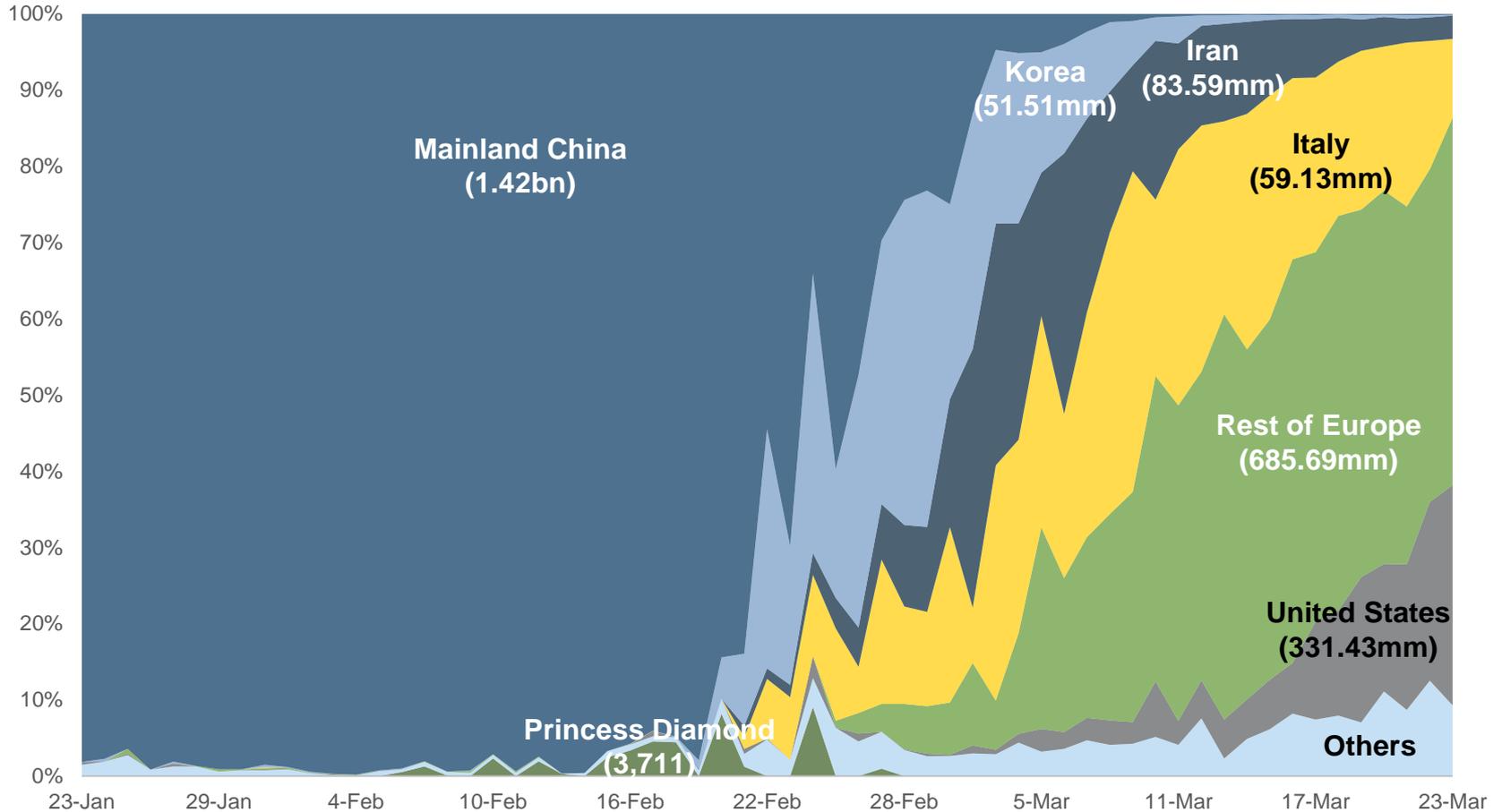


\* As of March 25, 2020

Source: Investment Strategy Group, WHO, CDC, National Health Commission of People's Republic of China, John Hopkins University.

# Shifting Epicenter of the Pandemic

Share of New Daily Cases of Infection (Population)



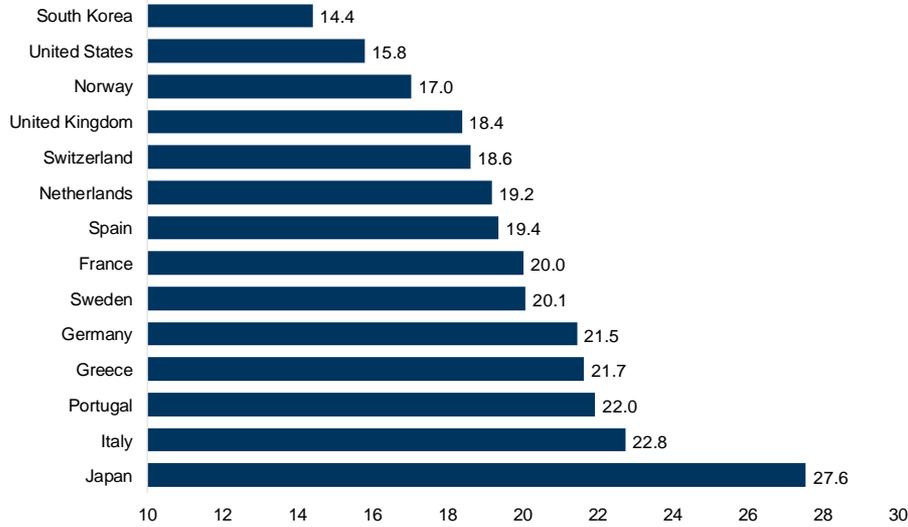
# Uneven prevalence and consequences around the world

## Select Nations, Population Size, Infections, Fatalities, and Date of 1<sup>st</sup> Infection

	<b>Population</b>	<b>Total Infections</b>	<b>Infections per million people</b>	<b>Fatalities</b>	<b>Fatalities per million people</b>	<b>Date of 1st Infection</b>
China	1,420,000,000	81,218	57	3,281	2.3	2 December 2019
South Korea	51,510,000	9,137	177	126	2.4	20 January
Japan	126,500,000	1,307	10	45	0.4	20 January
United States	331,430,000	60,115	181	827	2.5	21 January
France	65,720,000	25,583	389	1,331	20.3	25 January
Germany	82,540,000	37,323	452	206	2.5	28 January
Italy	59,130,000	74,386	1,258	7,503	126.9	31 January
United Kingdom	67,330,000	9,640	143	465	6.9	31 January
Spain	46,460,000	47,610	1,025	3,647	78.5	1 February
Switzerland	8,670,000	10,897	1,257	153	17.6	25 February
The Netherlands	17,180,000	6,438	375	356	20.7	27 February

# Healthcare Across Countries

## 1. Share of Population Over 65, % of Total



## 2. Global Health Security Index: Health System Score<sup>1</sup>

Rank <sup>2</sup>	Country	Health System Score
1	United States	73.8
3	Netherlands	70.2
7	Switzerland	62.5
8	France	60.9
11	United Kingdom	59.8
12	Spain	59.6
13	South Korea	58.7
14	Norway	58.5
17	Portugal	55.0
20	Sweden	49.3
22	Germany	48.2
25	Japan	46.6
50	Greece	37.6
54	Italy	36.8

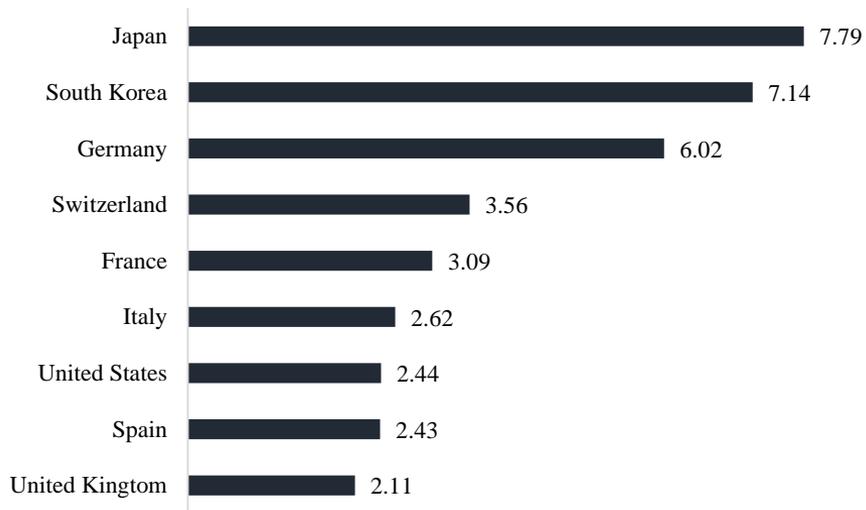
- The Health System assessment - part of the Global Health Security index<sup>1</sup> by Johns Hopkins - places Italy below major European countries and the US in terms of overall sufficiency and robustness of the health system in dealing with a pandemic.

1. Global Health Security Index is a comprehensive assessment of health security capabilities across countries. The health system score assesses whether the health system is sufficient and robust to treat the sick and protect health workers. 2. Out of 195 countries studied.

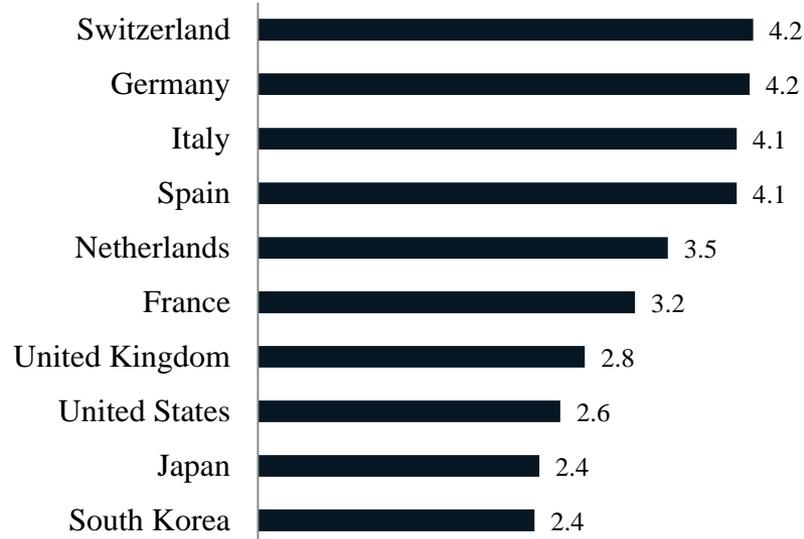
Source: Investment Strategy Group, OECD, Nuclear Threat Initiative, Johns Hopkins Center for Health Security, The Economist Intelligence Unit.

# Healthcare Across Countries (cont.)

## 1. Hospital Beds: Acute Care (per 1,000 Inhabitants)

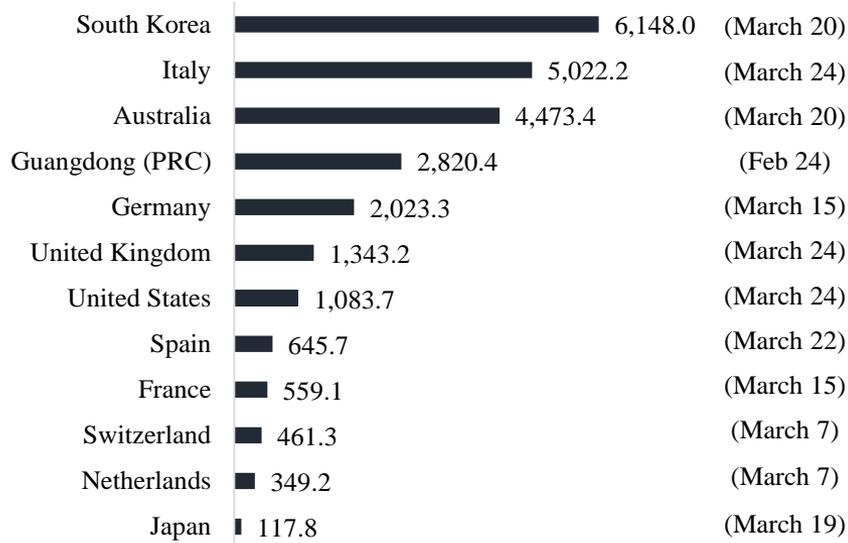


## 2. Number of Physicians (per Thousand People)

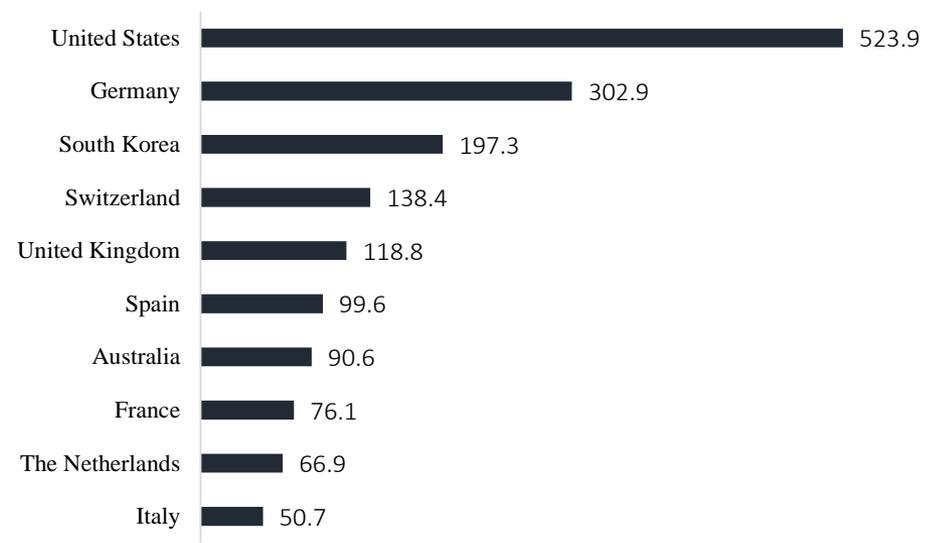


# Healthcare Across Countries (cont.)

## 1. Number of Tests Performed (per Million People)



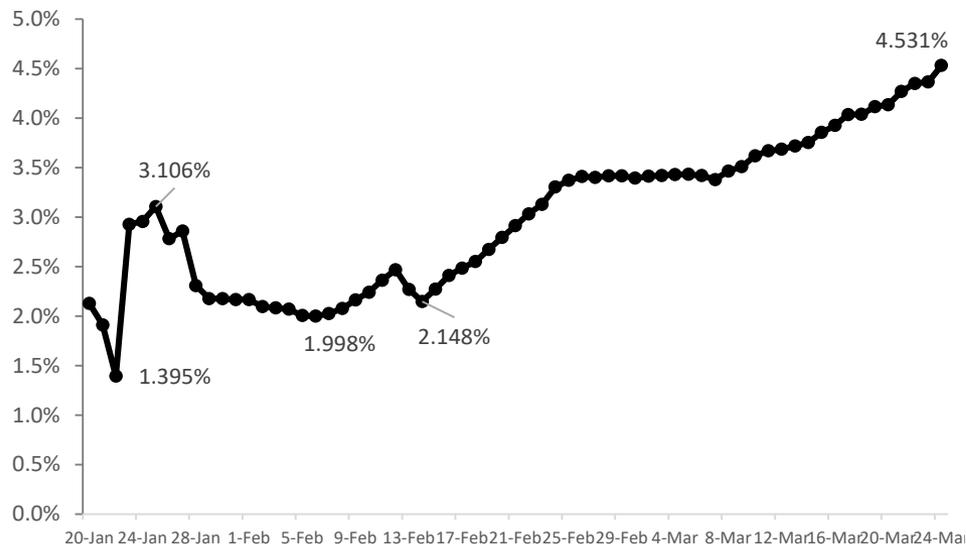
## 2. Ventilators (per Million People)



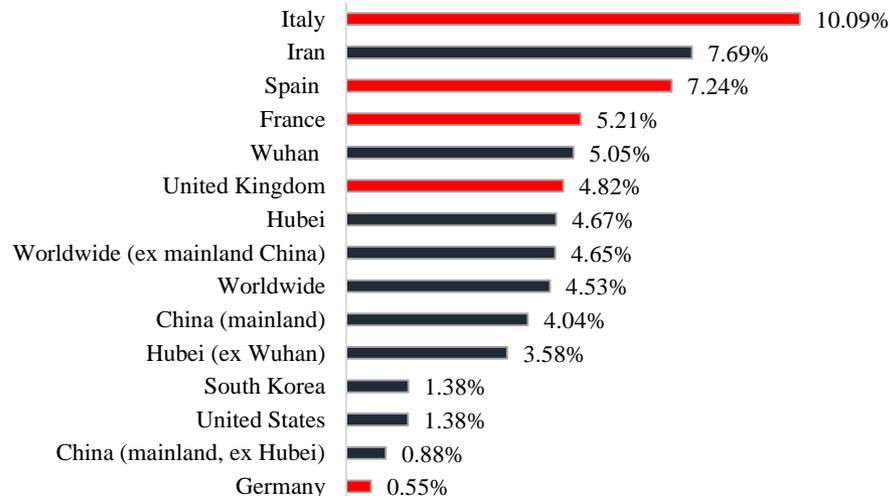
- According to a comprehensive WHO-China study of 55,924 cases in China (through 20 Feb):
  - 80% of infection cases were mild to moderate (which included non-pneumonia and pneumonia cases);
  - 13.8% were severe (dyspnea, respiratory frequency  $\geq 30$ /minute, blood oxygen saturation  $\leq 93\%$ , PaO<sub>2</sub>/FiO<sub>2</sub> ratio 50% of the lung field within 24-48 hours); and
  - 6.1% were critical (respiratory failure, septic shock, and/or multiple organ dysfunction/failure).
- About a quarter of severe and critical cases required mechanical ventilation while the remaining 75% required only oxygen supplementation.

# The Estimated Case Fatality Rate has Increased Since the Initial Days of the Outbreak, but Varies Considerably by Location and Age

## 1. Estimated Case Fatality Rate for SARS-CoV-2 Over Time (%)



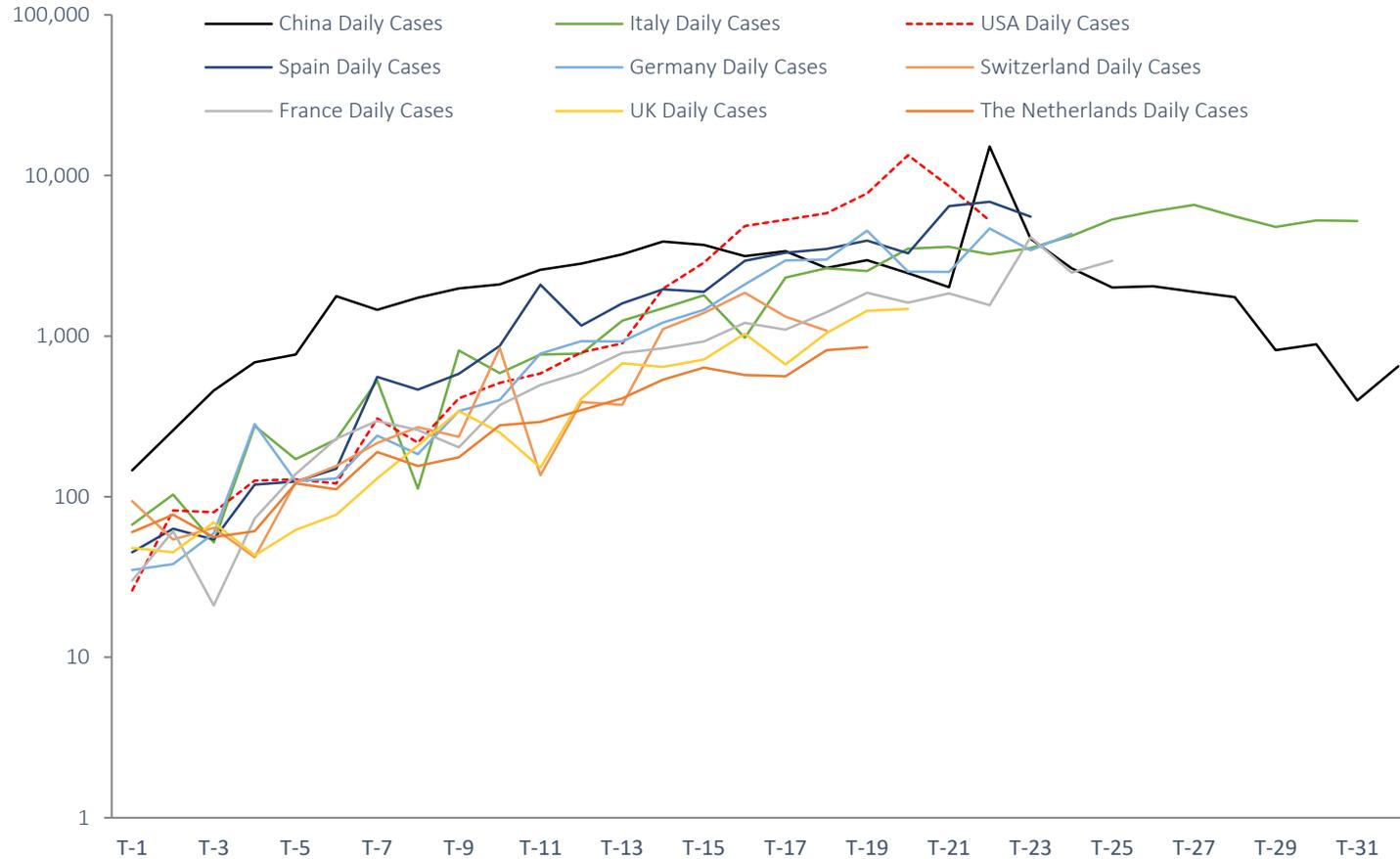
## 2. Case Fatality Rate by Location



- The estimated case fatality rate of SARS-CoV-2 has increased steadily, reaching 4.531% based on current data, but continues to remain significantly lower than for SARS (10%) or MERS (34%). As the outbreak evolves, the fatality rate is likely to fluctuate.
- Fatality rate varies considerably by location, and it is generally higher among older adults, among males, and those with pre-existing conditions (cardiovascular disease, diabetes, and chronic respiratory disease).

# What are the Trend Lines in Europe?

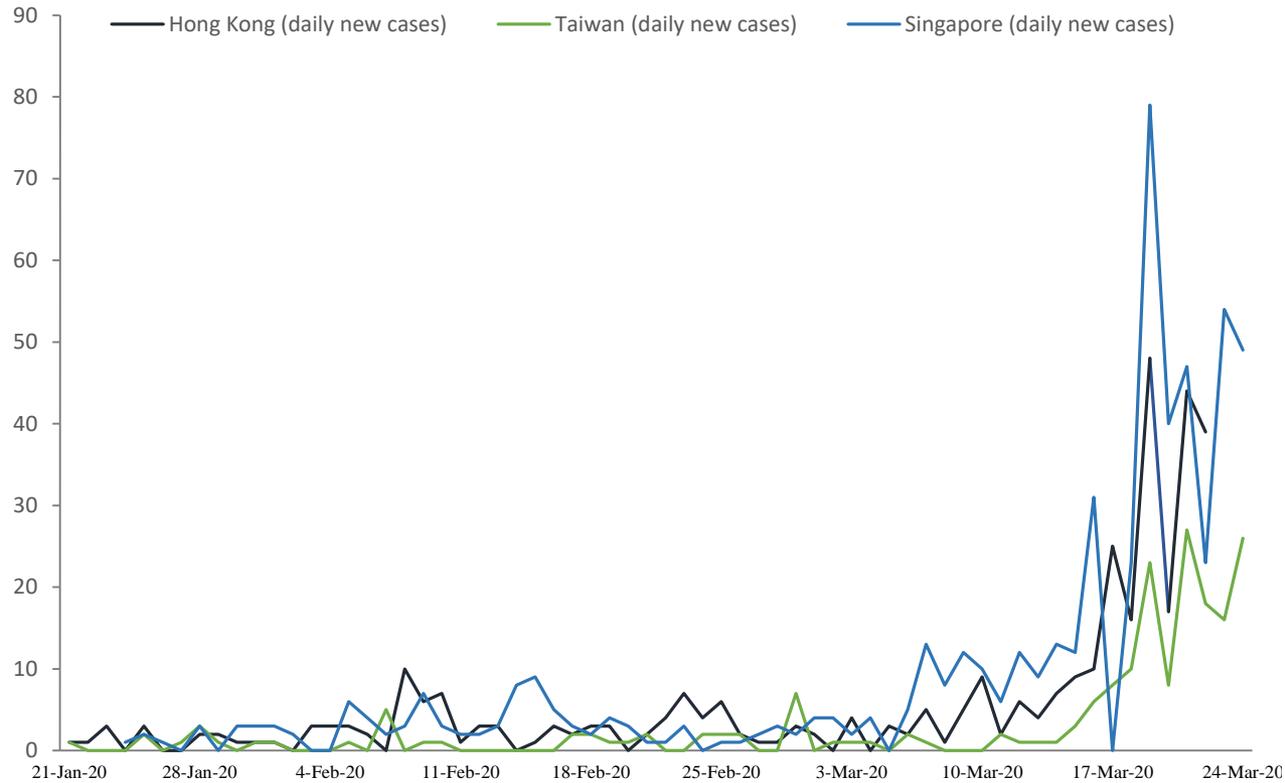
**30 Days of New COVID-19 Cases (Log Scale; T-1= Day When Country Reached 100 Cases Cumulative)**



T-1 for mainland China is 23 January when the National Health Commission of the People's Republic of China and the World Health Organization started publishing more comprehensive data.

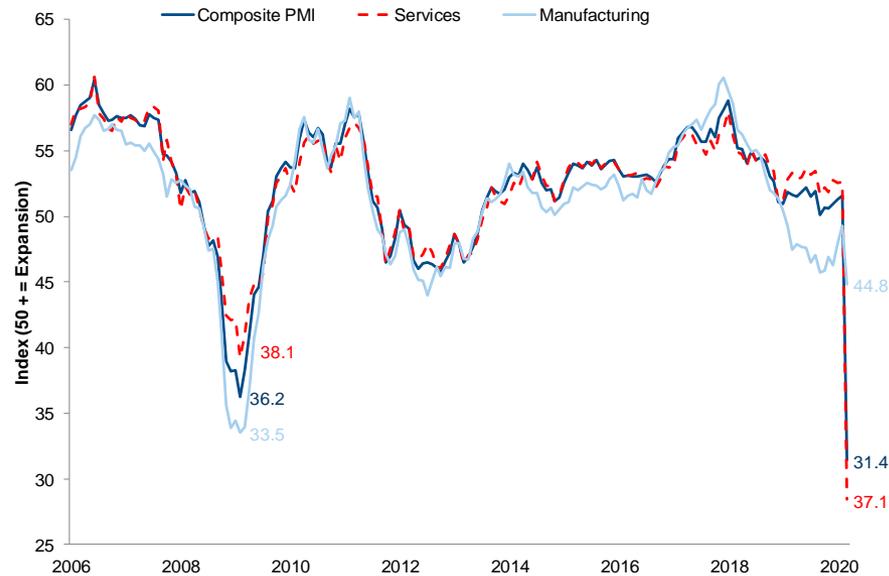
# Second Wave?

### Daily New Cases in Hong Kong, Taiwan, and Singapore

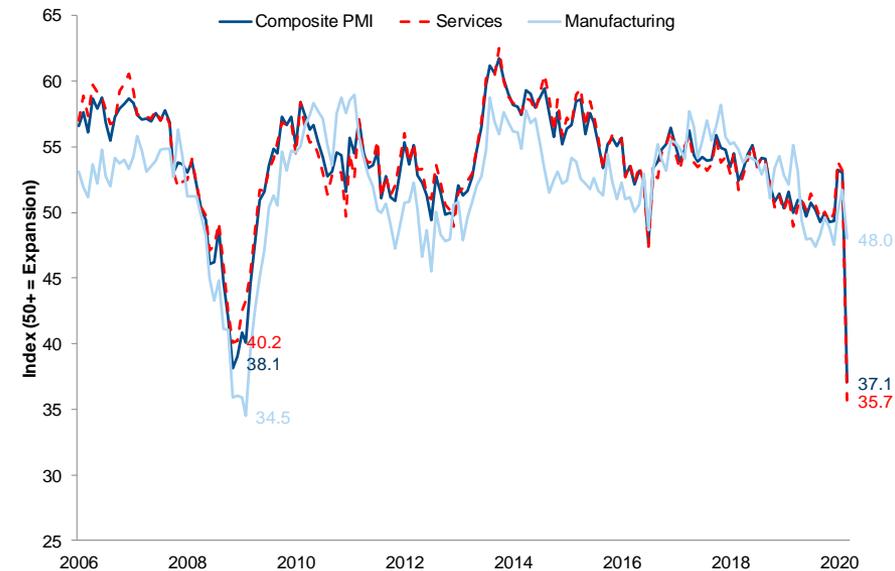


# Economic Impact: Europe is Already in Recession

## 1. Euro Area Purchasing Managers' Indices



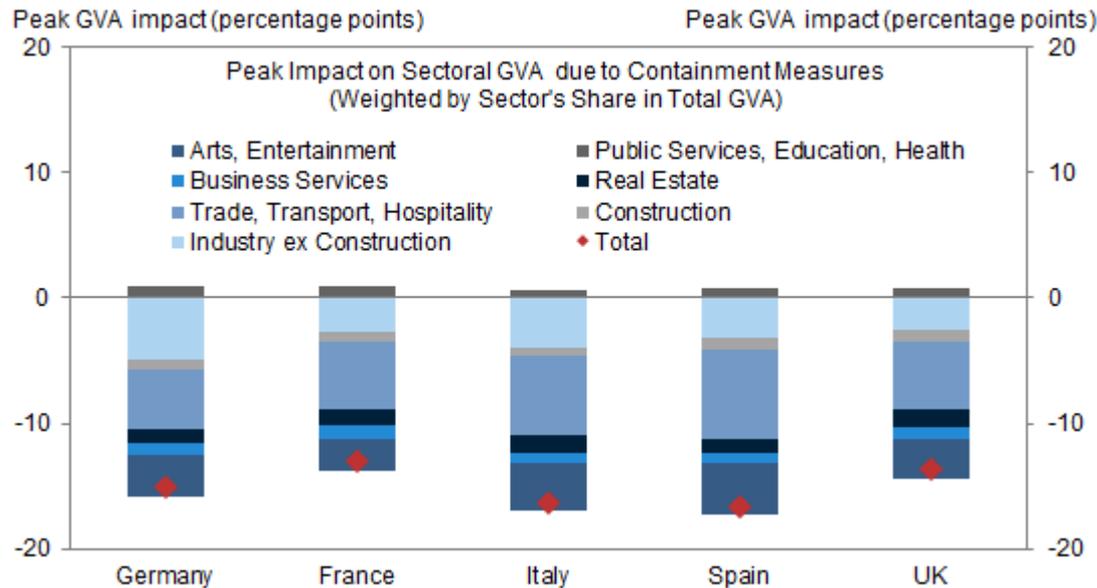
## 2. UK Purchasing Managers' Indices



- Early survey indicators combined with anecdotal evidence of steep declines in activity suggest that the strict containment measures have already pushed the Euro Area and the UK into a deep recession.
- March business surveys signal sharp contraction in activity, particularly in the services sector.
- The Purchasing Managers Index (PMI) – closely linked to GDP growth – has recorded the sharpest decline on record in March, in both the Euro area and the UK. The latest composite PMI levels are below those registered during the Global Financial Crisis.

# Economic Outlook: Activity to Drop Sharply in H1

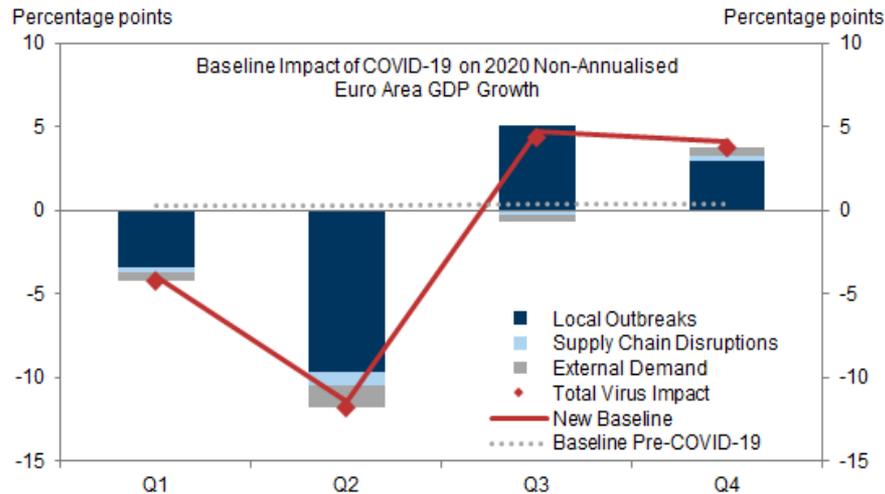
## Peak Impact on Euro Area Domestic Activity – GS GIR Projections



- Goldman Sachs Global Investment Research (GIR) has downgraded their European growth outlook sharply since the start of the outbreak.
- The growth disruption is expected to be driven by:
  - a hit to domestic demand
  - a disruption of supply chains
  - a hit to foreign demand

# Economic Outlook: Sharp Recession in H1, Recovery Later in the Year

## 1. Outlook on Euro Area 2020 Growth – GS GIR Projections



## 2. GS GIR Annual GDP Growth Projections across Countries

	2019	2020		2021	
		Pre-Virus	Latest	Pre-Virus	Latest
<b>Euro Area</b>	1.2	1.0	-9.0	1.3	7.8
<b>Germany</b>	0.6	0.9	-8.9	1.4	8.5
<b>France</b>	1.3	1.1	-7.4	1.4	6.4
<b>Italy</b>	0.2	0.2	-11.6	0.7	7.9
<b>Spain</b>	2.0	1.8	-9.7	1.7	8.5
<b>UK</b>	1.4	1.0	-7.5	2.1	7.3
<b>US</b>	2.3	2.3	-3.8	2.4	5.3

- GIR now expects a contraction of Euro area real GDP of 4% in Q1 and 11.4% in Q2, but a recovery thereafter.
- The Q2 contraction in Euro area growth would be more than three times bigger than that seen at the depth of the Global Financial Crisis in 2009Q1. This would push the full-year 2020 growth rate to -9% yoy.
- In the UK, GIR also look for sharp declines in Q1 and Q2, resulting in full-year 2020 growth at -7.5%.

# ECB and BoE Monetary Policy Measures

## 1. European Central Bank: Key Measures Announced

- **€750bn (6.5% of GDP) Pandemic Emergency Asset Purchase Program (PEPP)** launched:
  - Comprised of government and private sector purchases
  - Greek bonds included in PEPP, despite the country's sub-investment grade rating
  - Increased flexibility in PEPP purchases across time, asset classes and jurisdictions
- **€120bn (1% of GDP) Additional Asset Purchases under Existing Asset Purchase Program**
- Corporate purchases expanded to include non-financial Commercial Paper
- **Lending Facilities:**
  - Additional Long-Term Refinancing Operations for banks
  - More attractive terms for the Existing Targeted Long-Term Refinancing Operations for banks

“The Governing Council will do everything necessary within its mandate. The Governing Council is fully prepared to increase the size of its asset purchase programmes and adjust their composition, by as much as necessary and for as long as needed”

ECB Policy Statement 18 March 2020

## 2. Bank of England: Key Measures Announced

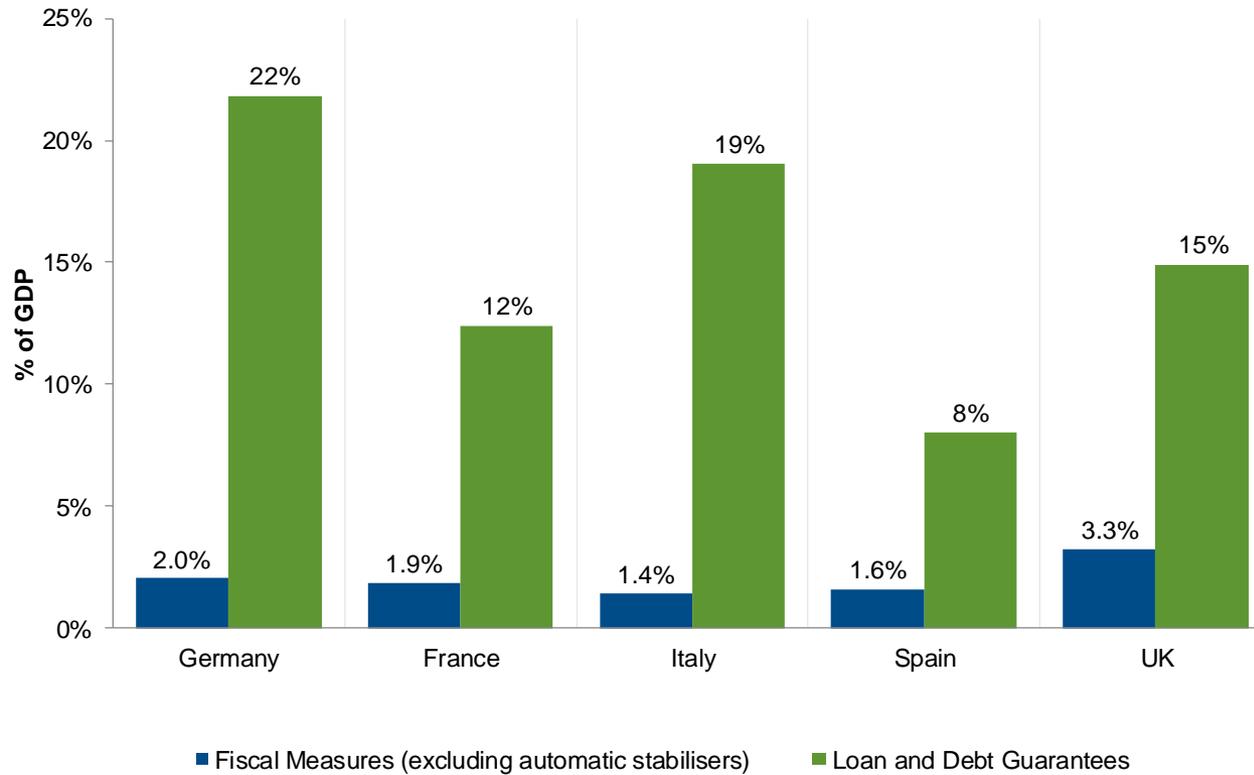
- **Policy Rate reduced from 0.75% in February 2020 to 0.10% currently**
- **£200bn (9% of GDP) Asset Purchase Program** launched:
  - Comprised of government and corporate purchases
- **Covid Corporate Financing Facility**
  - Purchases of commercial paper up to one-year maturity
- **Lending Facilities:**
  - New Term Funding Scheme for banks with additional incentives for lending to SMEs

“The Bank is coordinating its actions with those of HM Treasury in order to ensure that our initiatives are complementary and that they will, collectively, have maximum impact, consistent with our independent responsibilities”

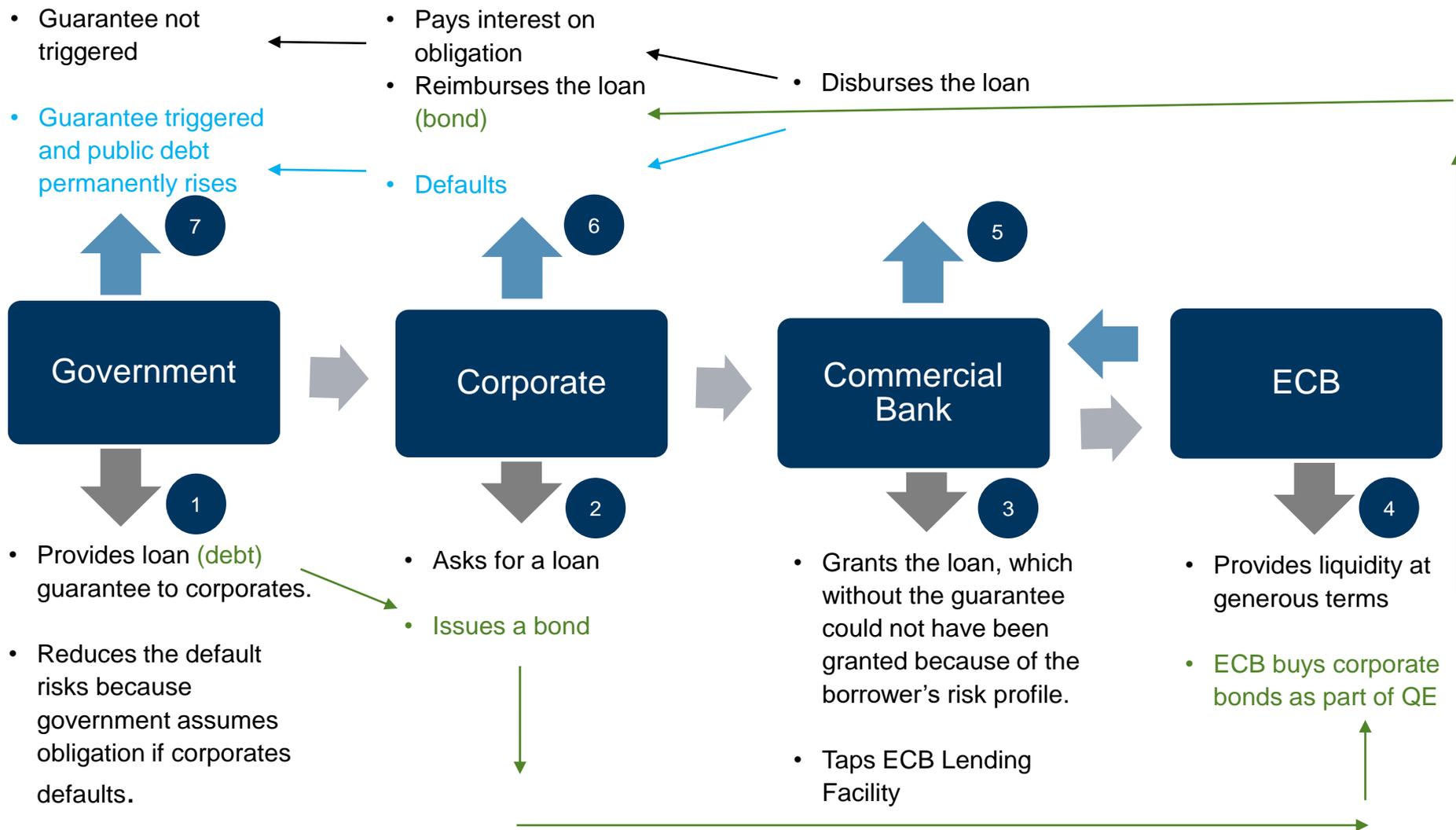
BoE Policy Statement 11 March 2020

# Summary of European Fiscal Measures

Fiscal Policy Announcements as % of GDP



# How Do Government Guarantees Work



Note: Simplified example of how government loan and debt guarantees work.

Sources: Investment Strategy Group.

# Detailed Fiscal Measures in Selected Countries

	Fiscal Measures		Guarantees	
	BN of Local Currency	% of GDP	BN of Local Currency	% of GDP
<b>France</b>				
EUR 45 bn for health spending, work-subsidy scheme for employees and self-employed, tax deferrals or cancellation for companies	45	1.9	300	12.4
EUR 300bn of loan guarantees				
<b>Germany</b>				
EUR 50bn as direct transfers to SMEs	70	2.0	750	21.8
EUR 20bn for health spending, transfers to households and work-subsidy scheme				
EUR 550bn loan guarantees				
EUR 200bn Economic Stabilisation Fund (ESF)				
<b>Italy</b>				
EUR 25bn for health spending, transfers to households, work-subsidy scheme, tax and utility bill deferrals for companies	25	1.4	340	19.0
EUR 340bn loan guarantees				
<b>Spain</b>				
EUR 20bn for health spending, unemployment benefits, work-subsidy scheme, zero social security tax for small businesses	20	1.6	100	8.0
EUR 100bn loan guarantees				
<b>UK</b>				
GBP 72bn for health spending, sick-pay leave, unemployment benefits, job retention scheme, tax cancellation or deferrals for SMEs	72	3.3	330	14.9
GBP 330 loan guarantees				

# Detailed EU-Wide Fiscal Measures

## European Union - Centralized Fiscal Measures

EUR 37bn for Coronavirus Response Investment Initiative

EUR 800mn health spending

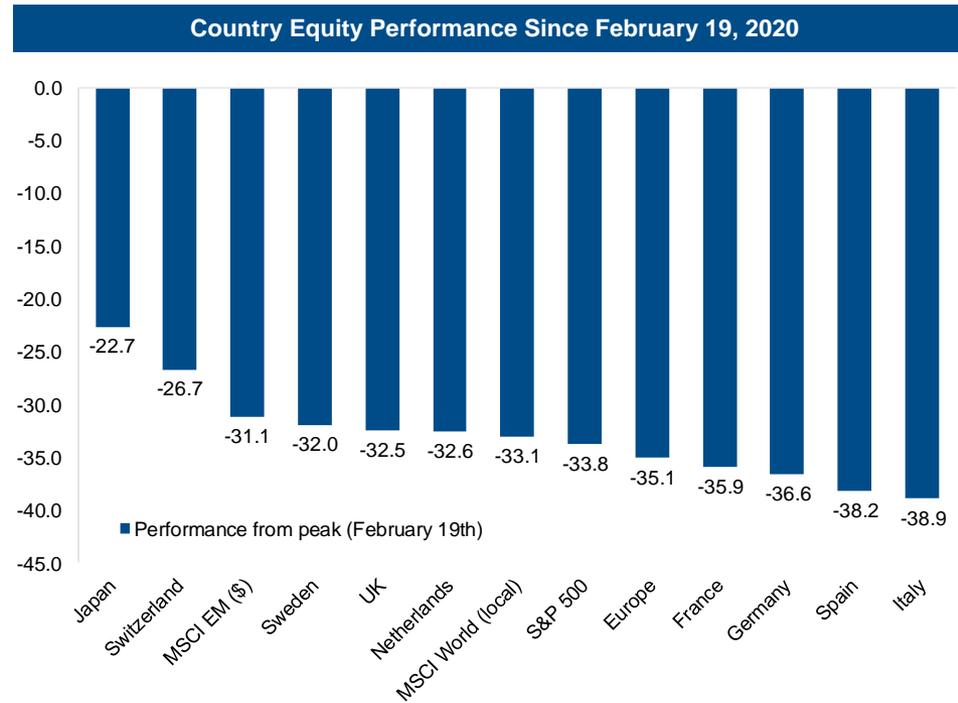
EUR 179mn support to dismissed workers and self-employed

EUR 1bn loan guarantees to the European Investment Fund to support ~EUR 8 bn of loans to SMEs

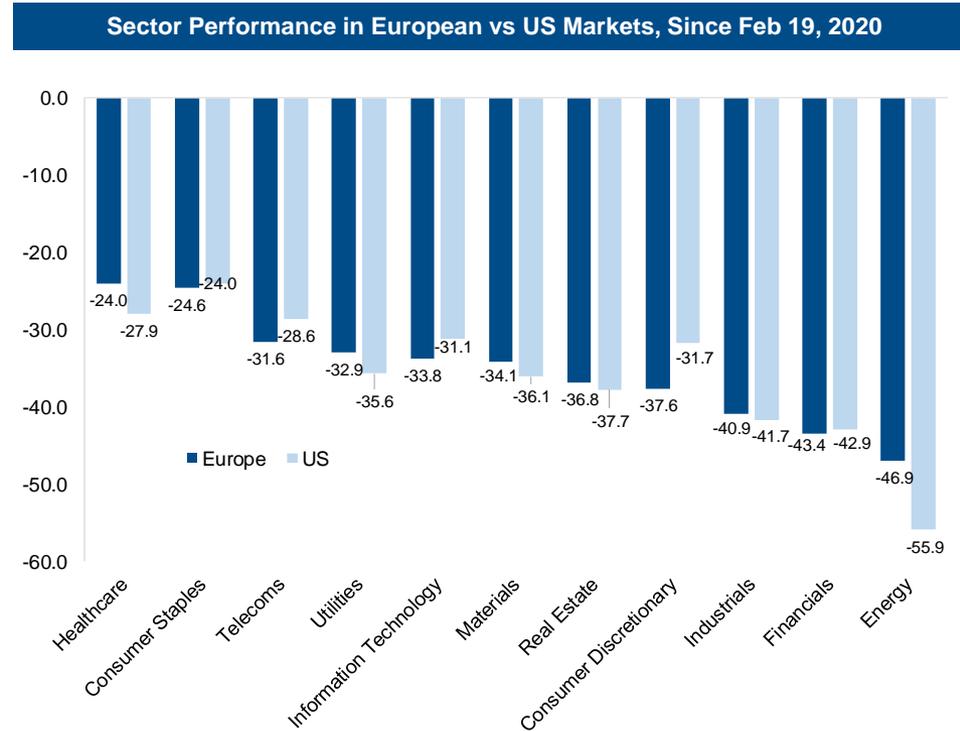
- The scale of EU-wide fiscal measures implemented so far is minimal and the financial burden of the fiscal response has been left to Member States' national budgets.
- The EU-wide response has been limited to
  - relaxing state aid and fiscal rules
  - diverting funds (indicated in the table above), previously earmarked for other types of projects, to COVID-19 related spending.

# Policy Tools Under Discussion in the Euro Area

	Details	Status
ESM Existing, Never Used Facilities	<ul style="list-style-type: none"> <li>• Enhanced Conditions Credit Line (ECCL) and loans granted upon compliance with ESM macro adjustment programme.</li> <li>• Purchases of sovereign bonds in primary or secondary markets conditional on compliance with ESM macro adjustment programme.</li> <li>• Precautionary Conditioned Credit Line (PCCL) does not require a macro adjustment programme, but only provided to countries in respect of European fiscal rules.</li> </ul>	Facilities unlikely to be used because of governments' unwillingness to sign macro adjustment programmes
ESM New Credit Lines	<ul style="list-style-type: none"> <li>• Credit Lines with minimum or no conditionality to finance COVID-19 related spending.</li> </ul>	Under discussion
Corona Bonds	<ul style="list-style-type: none"> <li>• Issuance of joint and several guaranteed Euro area bonds to fund COVID-19 related spending in all Member States.</li> </ul>	Endorsed by ECB Council members and President and some governments, but opposed by others



- Similar to equity markets in other regions, nearly every European equity market has fallen by more than 30% from their February peak level.
- Equity markets of countries with the highest rates of infection, such as Italy, have fared worst.

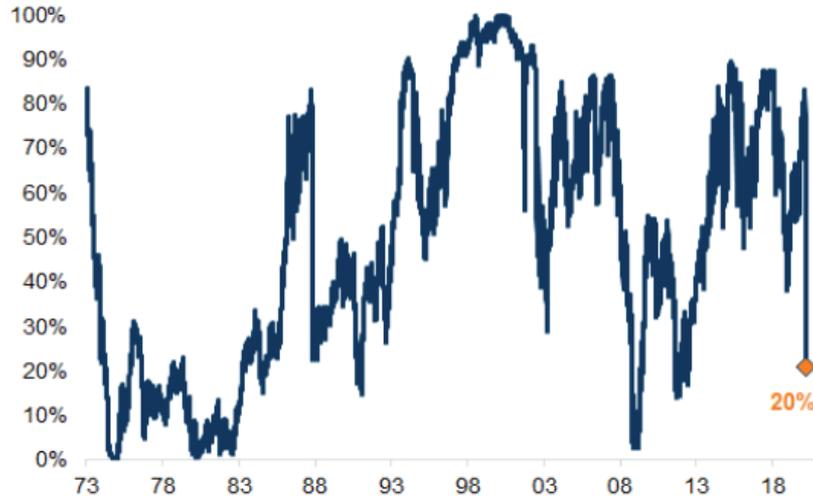


- Similar to the US, the worst performing sectors in Europe have been energy, financials and industrials, while defensive sectors (healthcare, consumer staples, and telecom) have declined the least.

# European Equities

## *Is Valuation on its Own a Catalyst?*

### 1. Europe Valuation Percentile



### 2. Returns Following Valuation Readings in Each Percentile Range

Avg valuation %ile		Avg fwd return			
from	to	3m	6m	12m	24m
0%	10%	4%	11%	22%	38%
10%	20%	5%	9%	17%	34%
20%	30%	4%	7%	16%	39%
30%	40%	1%	3%	8%	17%
40%	50%	1%	-1%	1%	11%
50%	60%	2%	5%	11%	24%
60%	70%	3%	6%	9%	22%
70%	80%	1%	3%	7%	15%
80%	90%	0%	0%	0%	2%
90%	100%	1%	2%	2%	1%

- European equity valuations stand in their bottom quintile, which have historically proceeded positive returns.
- GIR notes that low valuations on their own are not a trigger for a recovery, however.
- Evidence that containment measures are working, especially in Italy, and confidence in the ability of policy makers to provide an economic stop-gap, especially for smaller companies, are also necessary for a recovery.

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Investment Management Division

Disclosures

Investment Strategy Group

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Period	Gross Return	Net Return	Differential
1 year	6.17%	4.61%	1.56%
2 years	12.72%	9.43%	3.29%
10 years	81.94%	56.89%	25.05%

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