

4 FEBRUARY 2021



vba

SPECIAL THANKS TO OUR ANNUAL DINNER PARTNERS

LEAD SPONSOR



TABLE SPONSORS







PARTNER SPONSORS















Schroders





PROGRAM

- 16.00 Opening by Cees Harm van den Berg
- 16.05 Introduction by Sandra Phlippen
- 16.15 Presentation by Campbell Harvey followed by Q&A
- 16.45 Presentation by Olaf Sleijpen followed by Q&A
- 17.15 Q&A with both speakers, moderated by Sandra Phlippen
- 17.30 Closing by Cees Harm van den Berg







vba



Strategic Risk Management and the COVID-19 Pandemic

Campbell R. Harvey

Duke University and NBER

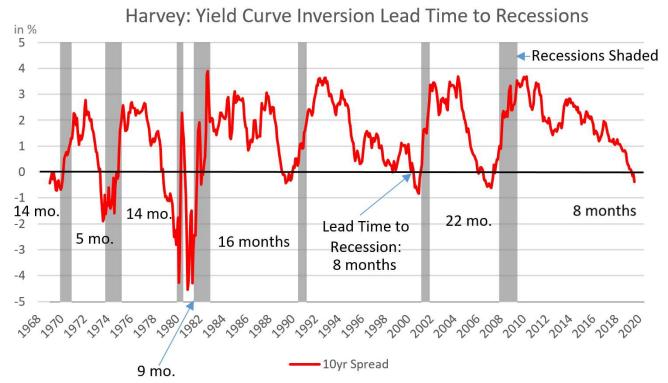
Plan

- Risk definition
- Understanding this recession (and recovery)
- Why are markets at all time highs?
- What are the key risks?
- Strategic Risk Management
- Questions!

Background

I think a lot about recessions.

My dissertation at the University of Chicago showed that the slope of the yield curve predicted real GDP growth.



- June 30, 2019. Yield curve inverted again and I forecasted a recession in 2020.
- I was not alone. Duke CFO survey showed 50+% expected a recession in 2020.
- Then COVID-19 hit.

Systemic risk

- A pandemic falls into the category of systemic risk
- Systemic means that it impacts everyone and is very difficult to hedge (like an all-out nuclear war between the US and Russia)
- However, among the other types of systemic risks, a pandemic is the easiest to mitigate

Systemic risk

	Fast	Speed of onset	Slow
Hedging	All out nuclear war		Asteroid strike
	Atypical pandemic	Pandemic	Climate change

Systemic risk

COVID-19 is not a "black swan". It is a "typical" pandemic.

- H1N1 1918 saw a (population-adjusted) 213 million die worldwide from the Spanish flu with 1/3 of the world infected
- We have had recent warnings, in particular, with SARS in 2003, MERS, Ebola and HIV
- H1N1 reappeared in 2009 and estimates of deaths 100,000-500,000*

^{*}Estimate from CDC: https://www.cdc.gov/flu/pandemic-resources/2009-h1n1-pandemic.html

Differences from the GFC

GFC caused by mismanagement of financial institutions

- Financial event causing a financial crisis
- Triage necessary for one sector
- "Bailouts" directed to mainly 25 financial institutions

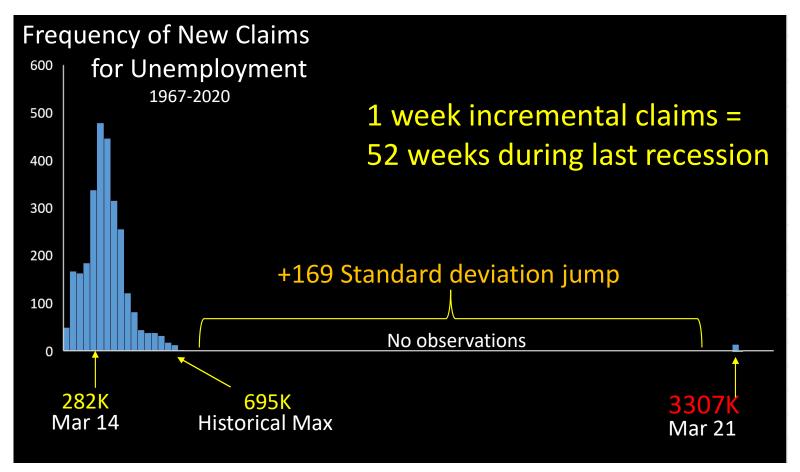
Differences from the GFC

COVID-19 is better thought of as a "natural disaster"

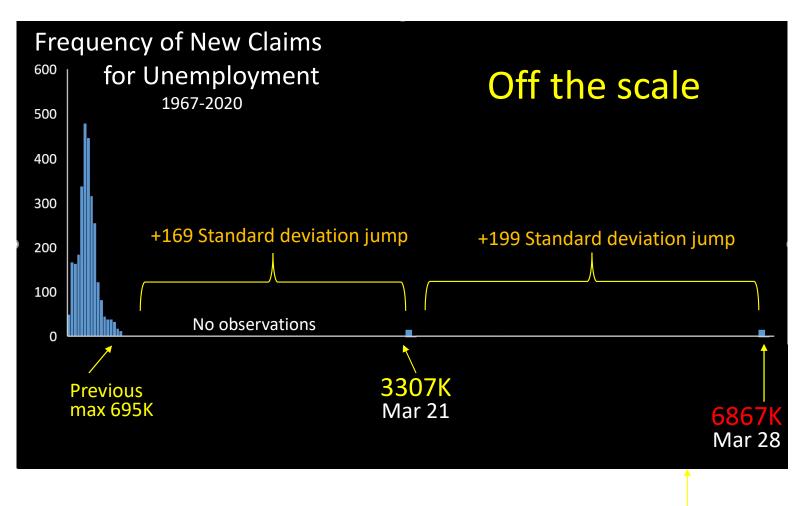
- There is no sector to point to for <u>blame</u>; no structural problem
- The companies in trouble were not being mismanaged
- Different type of hard hit firms: restaurants, bars, retail
- Millions of small to medium sized businesses <u>employ 50%</u> of work forces in developed economies
- GFC large firm problem, COVID-19 <u>small firm problem</u> (which is relevant because there is a different demographic impact for workers) and much more difficult to manage logistically

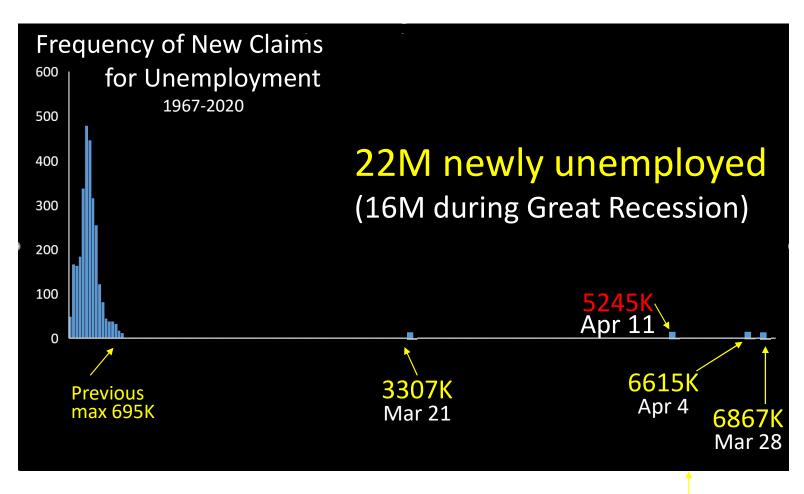
Speed

- COVID-19 is better thought of as a "natural disaster" and it strikes relatively quickly (March 2020 in US)
- GFC was a slow moving train wreck we didn't know when it was going to end
- COVID-19... I call it the "Great Compression"



Campbell R Harvey 2021





"Risk off" event of March 2020

March 2020. Stock market sheds 35%.

What about popular "hedging" assets?

- Gold drops 20%
- Bitcoin plummets 55%

In a risk off event, investors dumped stocks and other speculative assets like gold and bitcoin, and moved into cash and US Treasuries.

"Risk on" begins in April 2020

Stock market rises to record levels.

What about popular "hedging" assets?

- Gold rises to third highest historical price
- Bitcoin soars +400%

So called "hedge" assets are not a hedge.

Why is market at all-time high?

Various factors:

- Government "stimulus" drops down to corporate profits
- Consumer pent up demand
- Other government programs have minimized the structural damage to the economy
- There is less uncertainty than during the global financial crisis

Why is market at all-time high?

Characterizing uncertainty

- During the <u>Global Financial Crisis</u>, it was hard to know in real time that the recession was over. Indeed, unemployment continued to rise after the official end of the crisis.
- The U.S. Federal Reserve pursued policies that kept rates low for an extended period of time because they believed the US was still in a slowdown.
- The U.S. government continued to run trillion dollar fiscal deficits even after crisis was over.

Why is market at all-time high?

Characterizing uncertainty

- With COVID-19, it is biological crisis.
- All along, we knew the solution was vaccines and there was near 100% certainty (given the large number of companies engaged in development), that we would have a vaccine.
- Those that lost their jobs were confident that they would go back to the <u>same job</u> once the economy was restarted

Unrealistic expectations

- Assets are priced as if <u>COVID-19</u> never happened! This implies a very special set of assumptions in particular, no structural damage.
- The crisis did accelerate the demise of some large firms that were heading to bankruptcy anyways.
- However, there are millions of small firms that are done. They don't make the headlines. This is ignored.

Rose-colored glasses

- Data being misinterpreted because people want to believe in a strong recovery.
- For example, the "reported" unemployment rate is 6.7% (10.7 m officially unemployed). It is simple to calculate the actual rate is 9.9% (which accounts for all the dropouts).
- But numbers even worse (18.2m) this is from weekly reports

The total number of continued weeks claimed for benefits in all programs for the week ending January 9 was 18,282,090, an increase of 2,293,495 from the previous week. There were 2,171,827 weekly claims filed for benefits in all programs in the comparable week in 2020.

Debt overhang

- Even though rates are low, many firms cannot get financing because of heighted leverage even though they have good projects.
- This leads to lower GDP growth

Distorted interest rates

- Those that can increase leverage will because debt service costs are low right now. This increases risk if there is a double dip.
- Low rates also keep zombie companies alive
- Low rates hurt savers
- Low rates encourage investment in low NPV projects leading to slower GDP growth in the future

MMT

- The belief that we can just create money and spend with no recourse.
- Began with QE in 2007. Many predicted inflation. Indeed, inflation did rise to near 6% in 2009, however, it decreased afterwards.
- Given no inflation after the GFC, many extrapolate that single observation to today.



116TH CONGRESS 1ST SESSION

H. R. 3590

MMT

To amend the Internal Revenue Code of 1986 to establish a refundable tax credit to increase the take-home pay of American workers and enhance their financial stability, and for other purposes.

- c. The mechanics of this funding approach would be as follows:
 - The Treasury Secretary would direct the U.S. Mint to issue two \$1 trillion platinum coins, under the legal authority provided by 31 U.S.C. § 5112(k).
 - Congress would direct the Federal Reserve to purchase the newly issued coins at full face value.
 - The Federal Reserve would complete the purchase by crediting the U.S. Mint's account at the Fed with \$2 trillion in reserves.
 - The Fed would retain ownership over the two \$1 trillion coins permanently in order to
 ensure its own balance sheet remains fully capitalized by the Treasury.
 - The Treasury Secretary would "sweep" the newly created reserve funds from the Mint's account into the regular Treasury General Account.
 - The Treasury would make the funds available to the Bureau of the Fiscal Service to disperse to every person in America in the form of pre-paid U.S. Debit Cards.

Borrowing from the future

- \$5 trillion in additional government debt
- How will it be paid down? There are three methods:
 - Increased economic growth (unlikely)
 - 2. Significant increase in taxes (extremely unlikely)
 - 3. Inflation (and conveniently blame it on COVID-19)

Inflation

- Bad for equities
- Bad for bonds
- TIPS are a hedge but an expensive one.
- I have work in progress called: "The Best Strategies for Inflationary Times" (with Otto van Hemert, Sandy Rattray et al.)

USA	US enters WW2	End of WW2	Korean War	Ending of Bretton Woods	Arab oil embargo	Islamic Revolution	Reagan's Boom	China demand boom	Inflation regimes (19% of time)	Other regimes (81% of time)	All
Regime first month	04-1941	03-1946	08-1950	02-1966	07-1972	02-1977	02-1987	09-2007	N/A	N/A	N/A
Regime last month	05-1942	03-1947	02-1951	01-1970	12-1974	03-1980	11-1990	07-2008	N/A	N/A	N/A
Length of regime (mths)	14	13	7	49	30	39	47	11	210	925	1,135
Inflation at start (YOY%)	1.4	1.7	1.7	1.9	2.7	5.2	1.5	2	2.3	N/A	N/A
Inflation at end (YOY%)	13.2	19.7	9.4	6.2	12.3	14.8	6.3	5.6	10.9	N/A	N/A
Change in inflation rate (bps)	1,180	1,800	770	430	960	960	480	360	868	N/A	N/A
Total rise in prices in regime (%)	15	21	7	19	24	37	20	6	19	277	1,340
Total rise in prices in regime (ann'd %)	13	19	12	4	9	10	5	6	10	2	3
Real GDP growth in regime	23%	-18%	5%	17%	8%	13%	13%	0%	8%	722%	1310%
Real GDP growth in regime (ann'd)	19%	-17%	9%	4%	3%	4%	3%	0%	3%	3%	3%
Strategy	Total return							Annualised return			
US cash equities (nominal)	-13%	-12%	32%	10%	-32%	18%	35%	-12%	0%	12%	10%
US cash 10 year Treasuries (nominal)	2%	0%	-1%	-16%	-8%	-27%	-1%	6%	-3%	3%	2%
US 60/40 (nominal)	-7%	-7%	18%	-1%	-23%	-2%	21%	-5%	-1%	7%	7%
US cash equities (real)	-24%	-27%	24%	-7%	-46%	-14%	12%	-17%	-7%	11%	7%
US cash 10 year Treasuries (real)	-11%	-17%	-7%	-30%	-26%	-47%	-18%	0%	-10%	1%	-1%
US 60/40 (real)	-19%	-23%	11%	-16%	-38%	-28%	0%	-10%	-8%	5%	4%

Biological

- Massive failure of public health policies everywhere. See my LinkedIn Posts from March 2020.
- U.S. deaths = 450,000 and likely to rise to 600,000
- Failure #1. Did not invest in testing and tracing 1 year ago.
- Failure #2. Main companies that produced vaccines should have been paid to produce vaccines immediately so there would be enough to deploy (if the vaccine failed in trial it would be dumped)

Biological

- Failure #3. Bureaucratic bungling. UK had a contract with AstraZeneca three months before the EU. Why has the US not approved the Oxford/AZ vaccine?
- Failure #4. Public health economics. Officials naively follow the "gold standard" randomized clinical trials. Public health economics needs to do a basic cost benefit calculation:
 - Approve vaccine early even though some might get sick from vaccine or even die vs. wait and lose 100,000s of lives + economic damage

Biological

• Failure #5. Not realizing this is a global issue. Even if an entire country is vaccinated, they are safe only in the short-term. If other countries are not vaccinated, the virus will mutate and potentially become more dangerous. We have seen this before.

The implications

Deviations from fundamental value

- Growth stocks
- Bitcoin
- Gamestop

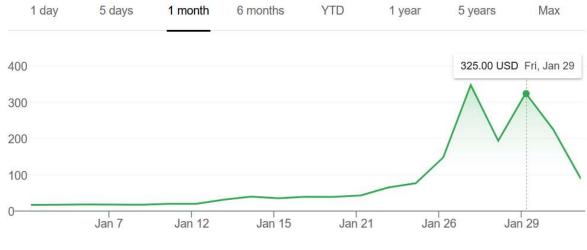
Market Summary > GameStop Corp.

NYSE: GME

90.00 USD -135.05 (60.01%)

Feb 2, 7:24 PM EST · Disclaimer

1 day 5 days 1 month 6 months



Campbell R Harvey 2021

The implications

Bigger picture

- Downside of certain Fintech firms oblivious to basic risk management – this creates risk
- The casinoization of financial markets
- The problem of fake news goes well beyond politics
- The rise of DeFi (or decentralized finance). A solution to many problems.

Forthcoming 2021

Major ideas:

- Integrate investment and risk management function
- Deploy positive convexity strategies as well as portfolio management tools that reduce drawdowns rather than traditional (expensive) overlays

STRATEGIC
RISK
MANAGEMENT
Designing Portfolios and Managing Risk

CAMPBELL R. HARVEY
SANDY RATTRAY

OTTO VAN HEMERT

Forthcoming 2021

Major ideas:

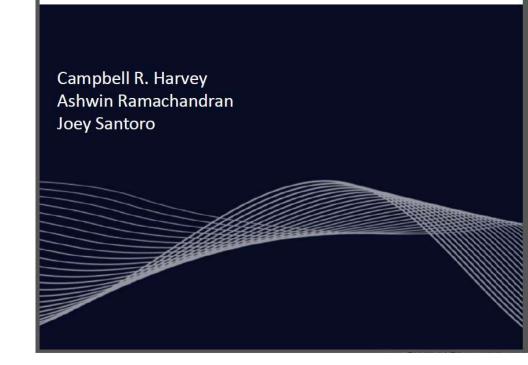
- Decentralized finance will disrupt:
 - Borrowing/Lending
 - Exchanges
 - Equities/bonds/derivatives
 - Insurance
- While bitcoin gets all the attention, there is something much bigger largely under the radar screen.

Campbell R Harvey 2021

Wiley Finance Series

DeFi

and the Future of Finance



Contact: Follow me on LinkedIn

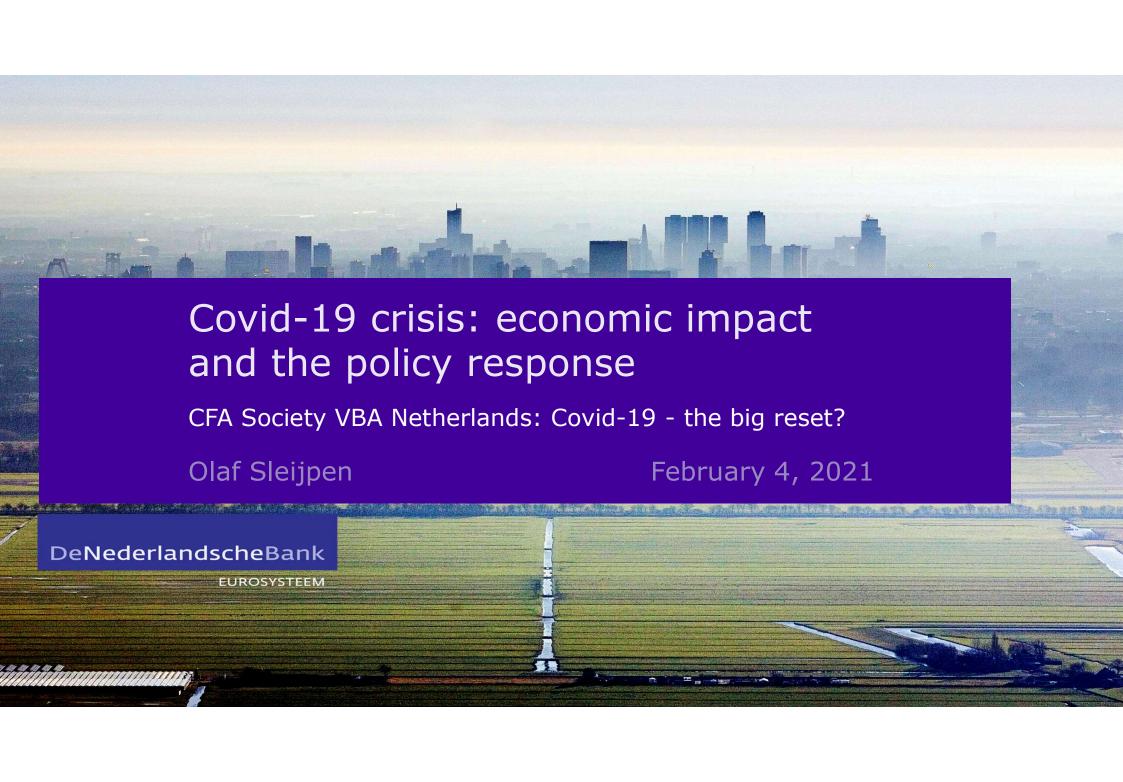
http://linkedin.com/in/camharvey

cam.harvey@duke.edu

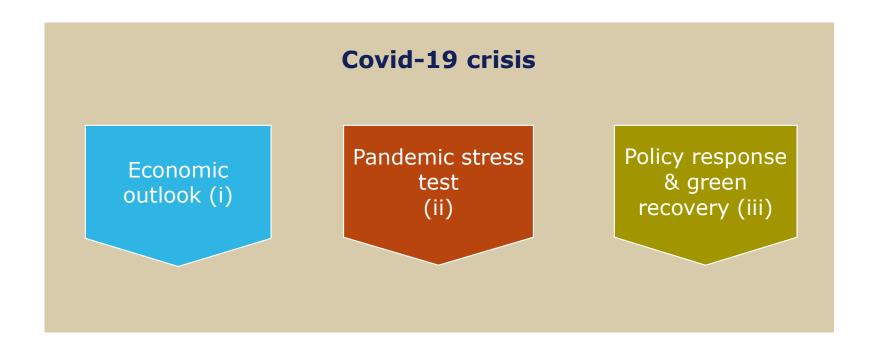
@camharvey

SSRN: http://ssrn.com/author=16198

PGP: E004 4F24 1FBC 6A4A CF31 D520 0F43 AE4D D2B8 4EF4

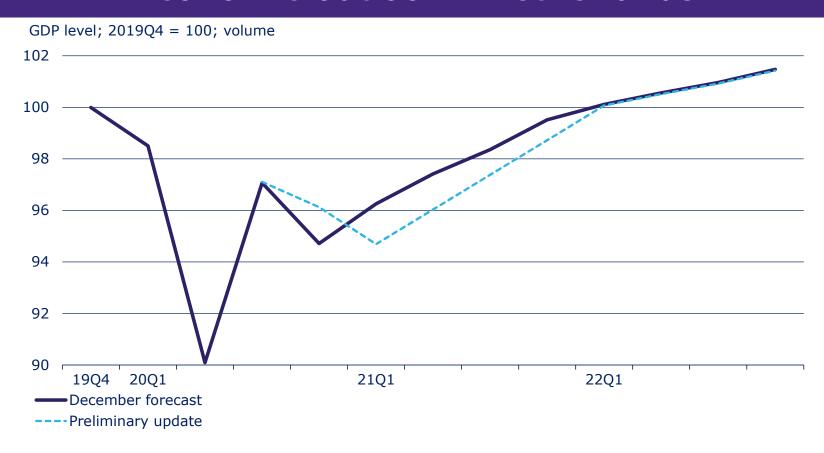


Outline



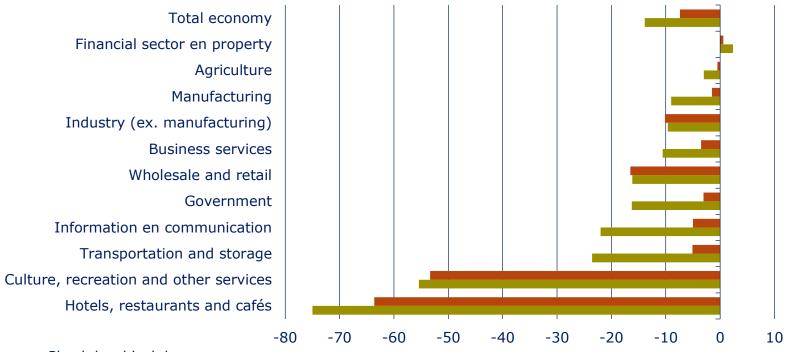


Economic outlook - Netherlands



Hard lockdown weighs less heavily on GDP

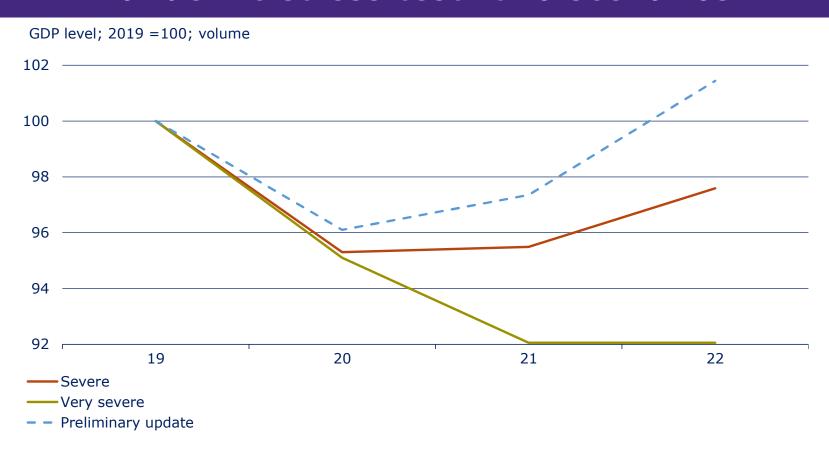
Percentage change in value added compared to situation before the pandemic



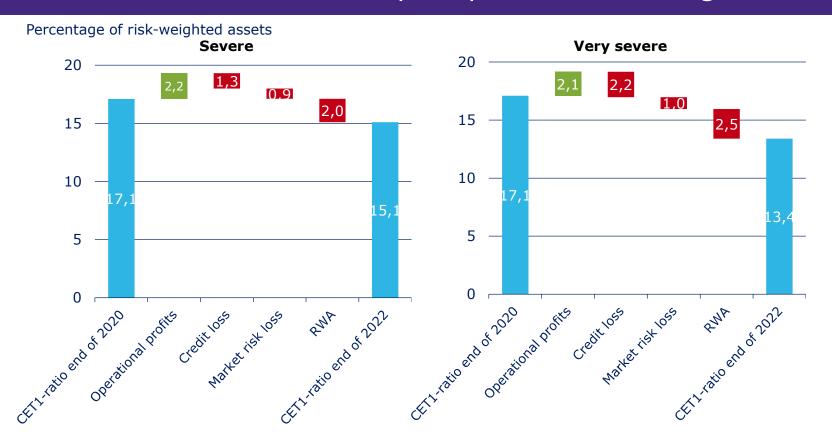
- Shock hard lockdown
- Shock intelligent lockdown



Pandemic stress test: two scenarios

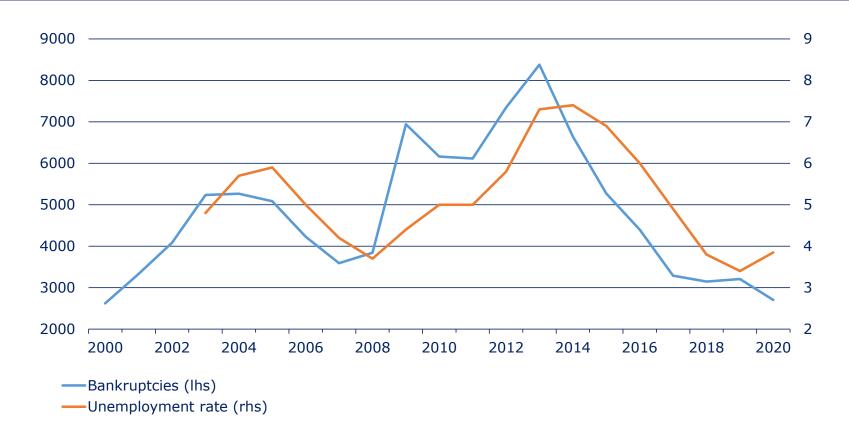


Deterioration of banks' capital position is manageable





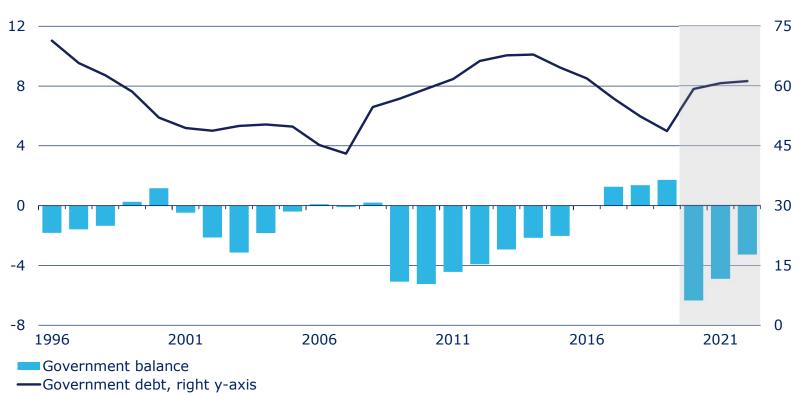
Effective policy response limits damage





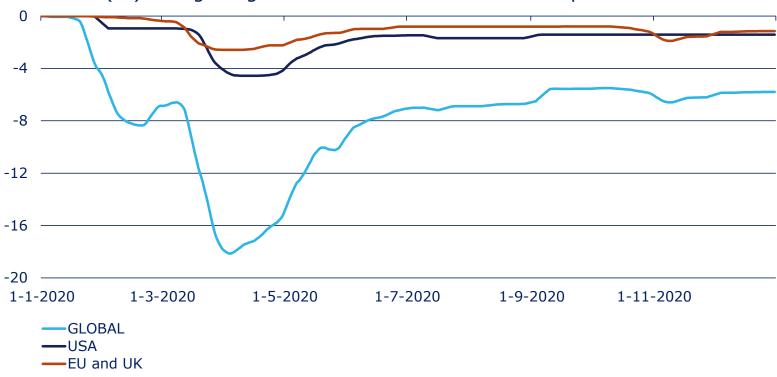
Increase public debt manageable





Green investments can speed up recovery

Estimated (%) change in global CO2 emissions in 2020 compared to 2019



Key messages

- 1. Substantial economic impact, but less severe than feared
- 2. Short term outlook deteriorated due to hard lockdown
- 3. Pandemic stress test shows significant but manageable impact on capital position of Dutch banks
- 4. Support measures remain important in the short term
- 5. Green investments can speed up recovery



