



The Economic Implications of COVID-19 + Oil Price Shock for Saudi Arabia

Ricardo Hausmann

Growth Lab

Harvard Kennedy School

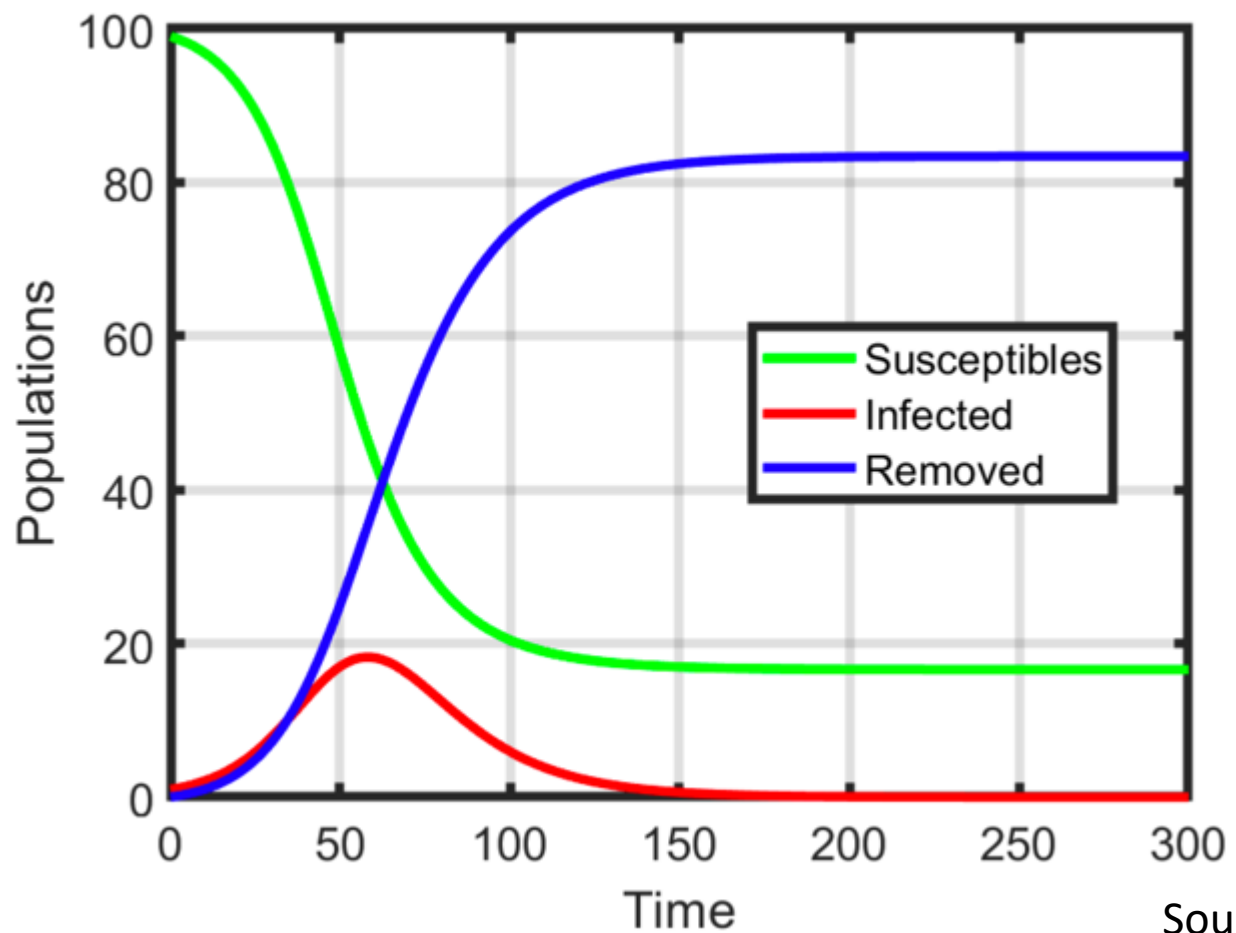
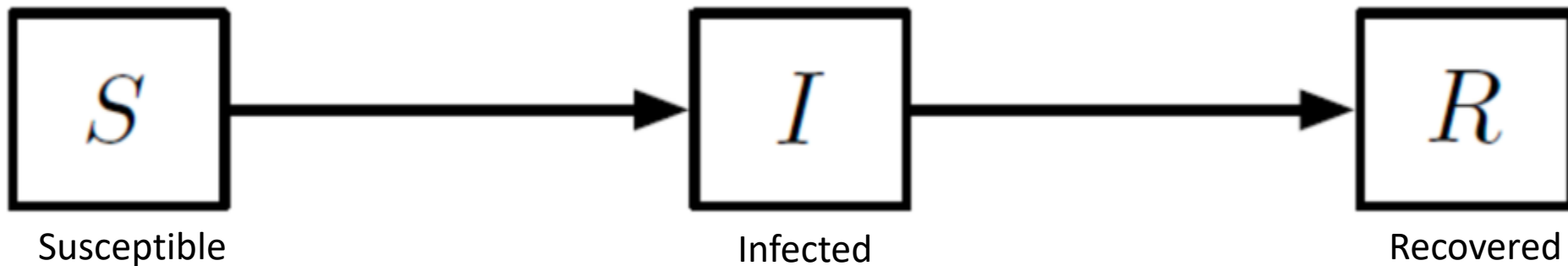
Some hard truths

- These are times of war being fought on at least two fronts:
- **Oil Price War:** 65% fall since end-2019
- **COVID-19:** a new shock with very hard tradeoffs between savings lives and saving livelihoods
- Each shock in itself is huge
- Both at the same time makes things much more complex

We are facing these challenges with important knowledge gaps

- About the basic epidemiological characteristics of COVID-19
 - How transmissible is the disease in different geographies
 - How many people are infected but asymptomatic
 - How effective are epidemiological policy measures
- About the relationship between epidemiology and (macro)economics
 - How costly is the epidemic and the fight against it
- About the uses and limits to government spending to fight the epidemic
 - What works in the US may not work in KSA

Let us look first at the
COVID-19 shock



Source: Pablo Andres Neumeyer

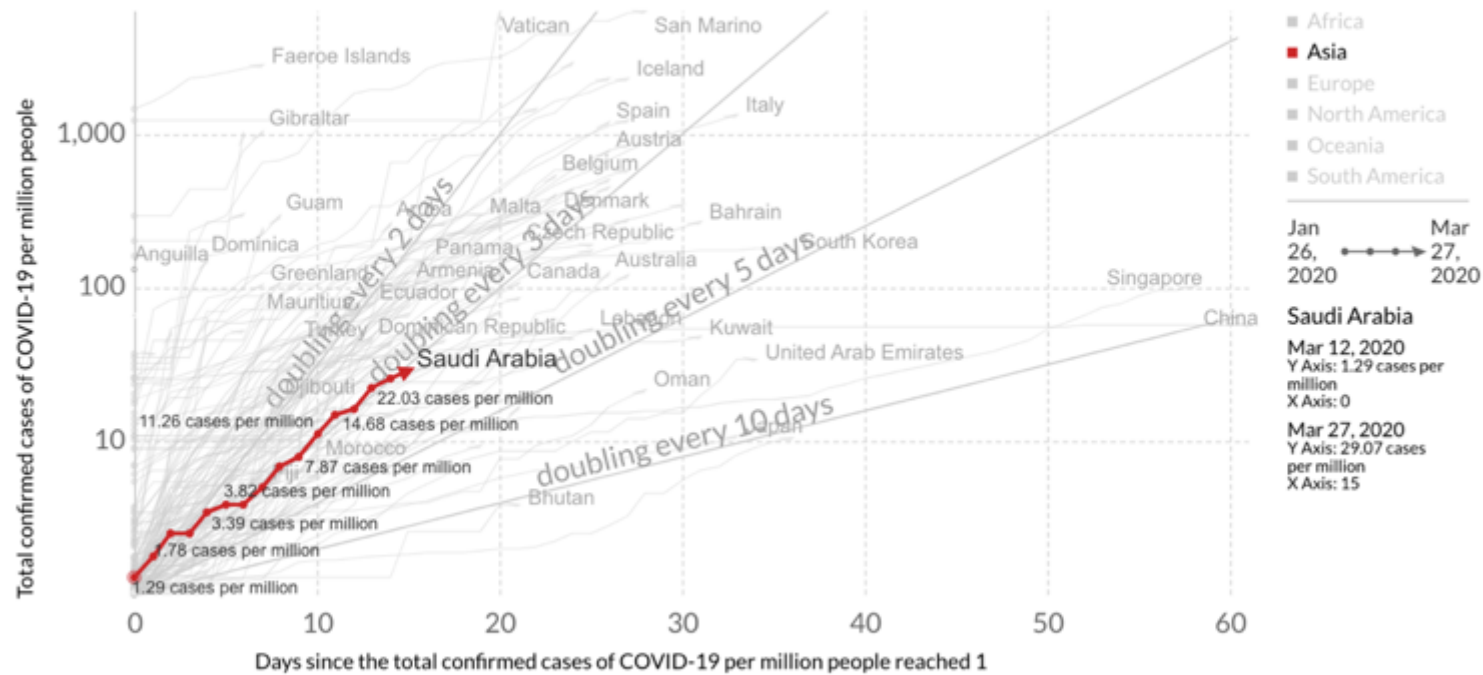
Exponential growth: Confirmed cases have been doubling every 3 days

Total confirmed cases of COVID-19 per million people

The starting point for each country is the day that country had reached 1 confirmed case per million people. This allows us to compare the trajectory of confirmed cases between countries. The number of confirmed cases is lower than the number of total cases. The main reason for this is limited testing.



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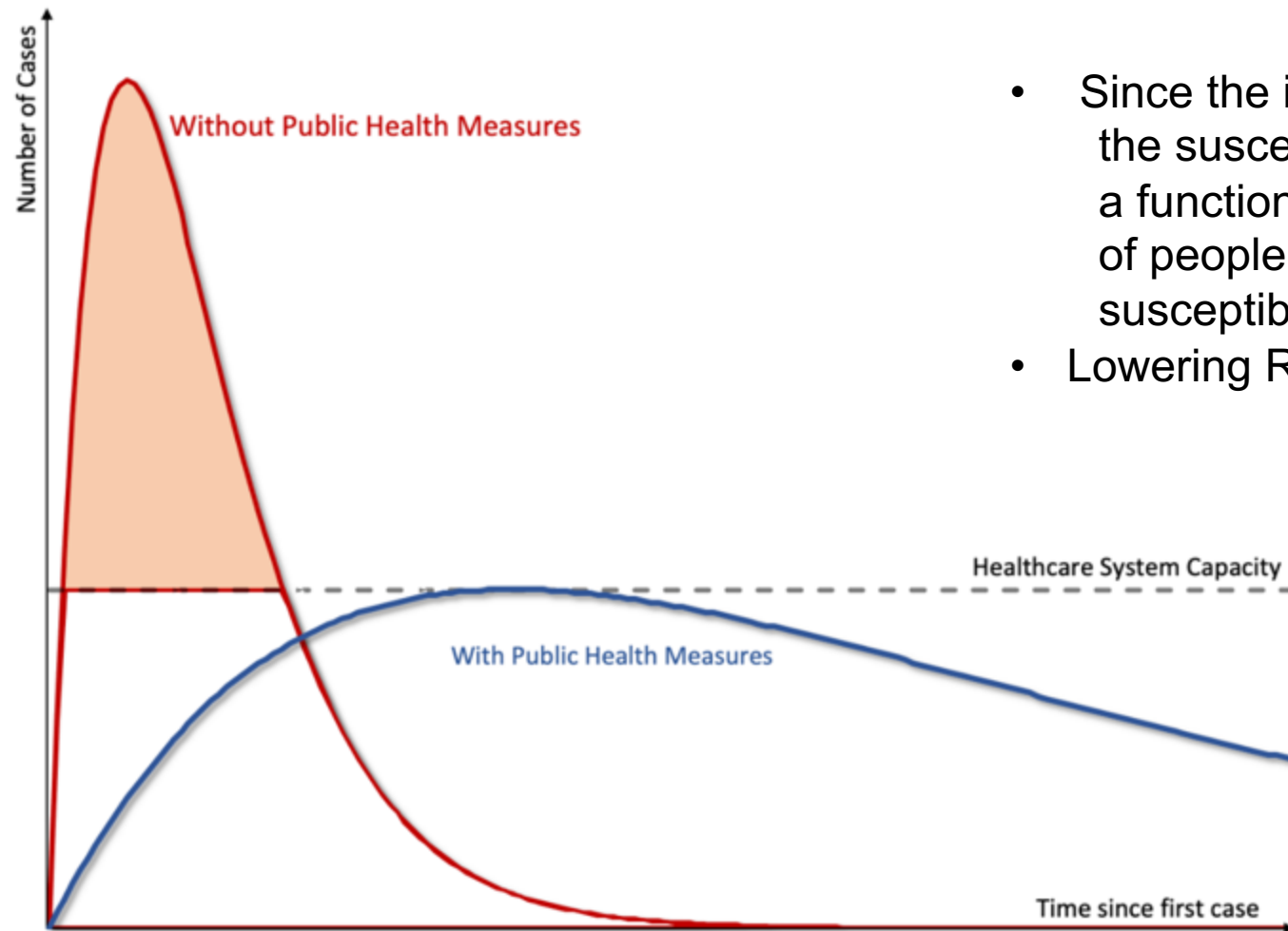


Source: European CDC - Latest Situation Update Worldwide

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The logic of flattening the curve



- Since the infected are the ones who contaminate the susceptible, the number of infected grows as a function of the number of infected times the number of people they infect R_0 that are not immune (the susceptibles)
- Lowering R_0 flattens the curve

Figure 1: Flattening the Pandemic Curve

Source: Pierre-Olivier Gourinchas

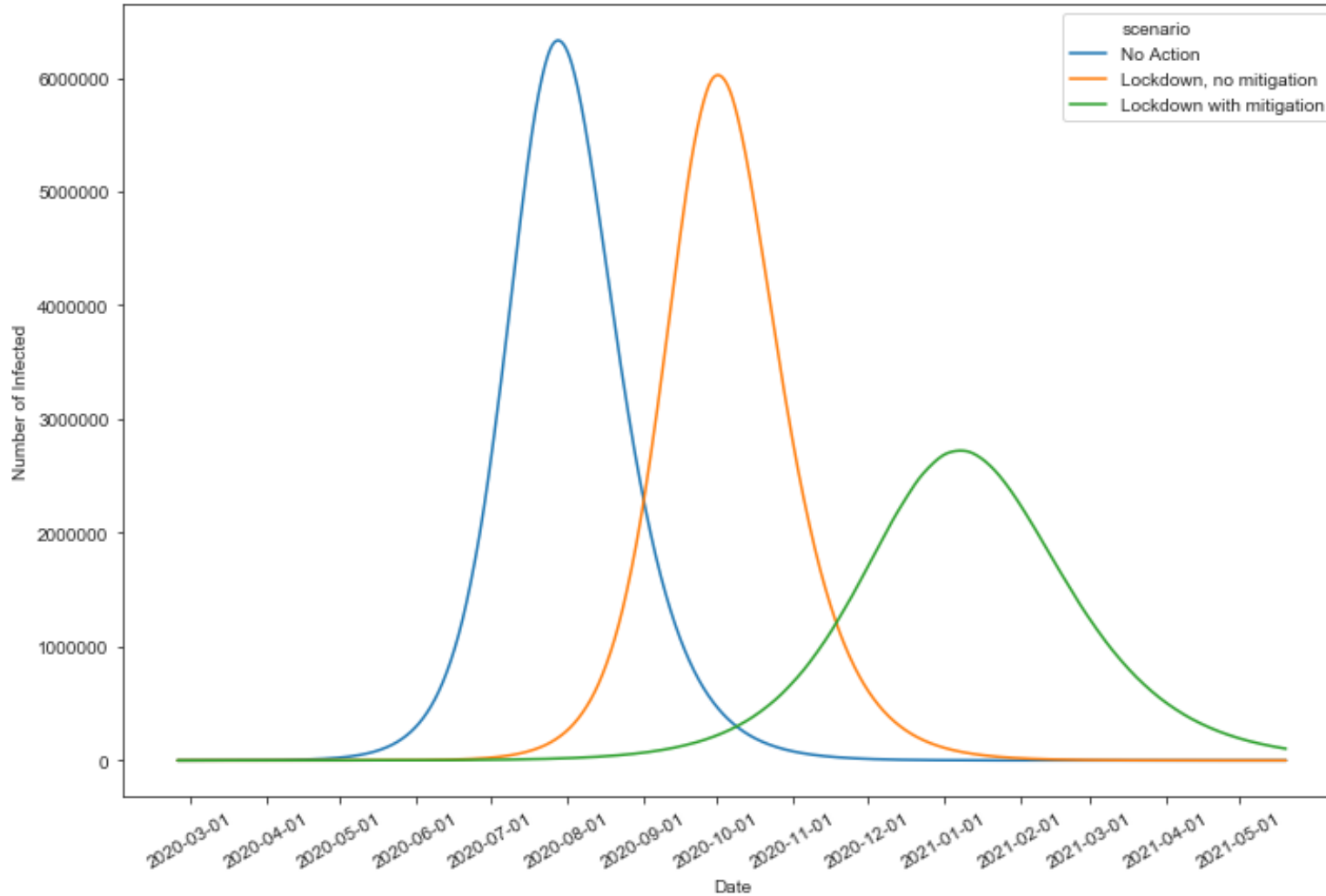
Things to notice

- Flattening the curve means that there will be fewer cases at any point in time
- It prevents the health care system from being overwhelmed
 - This should lower the death rate, as patients that need them, would have ventilators and ICUs
- ...and it may help reduce the total number of people who eventually get the disease
 - Depending on the policies used
- It delays the peak of the crisis
 - Makes the process longer
- Increases the chances that by then we would have better treatment and/or a vaccine

How to flatten the curve?

- Lockdowns
- Other social distancing measures
 - Shutdowns of specific activities, safety protocols
- We simulate three scenarios for KSA
- Scenario 1: No actions
- Scenario 2: Effective 2-month lockdown followed by return to normal
- Scenario 3: Effective 2-month lockdown followed by strong mitigation

Scenario Comparison – Number of Infected



Parameters:

$R_0 = 2.7$

$R_{\text{lockdown}} = 1$

$R_{\text{mitigation}} = 1.8$

Overview

Model	Infected at Peak	Total Deaths	Peak Date
No Action	6,328,132	148,807	29-Jul-20
Lockdown, no mitigation	6,023,491	147,280	2-Oct-20
Lockdown, substantial mitigation	2,722,998	54,549	8-Jan-21

Lessons

- Lockdowns alone only delay the peak
 - They buy time, at a very steep cost
 - They save very few lives
 - ...unless the time they buy are well utilized
 - Better hospital capacity
 - More testing capacity of the infected and the immune
 - Better treatment of the infected
 - Vaccines for the susceptible
- Lockdown with subsequent mitigation saves lives, but has a negative impact on GDP and delays the peak to early 2021
- The idea that the negative economic effects of COVID-19 are limited to the lockdown period is seriously misguided
- **Countries need a clear strategy for the post-lockdown period**

How do you get out of a lockdown?

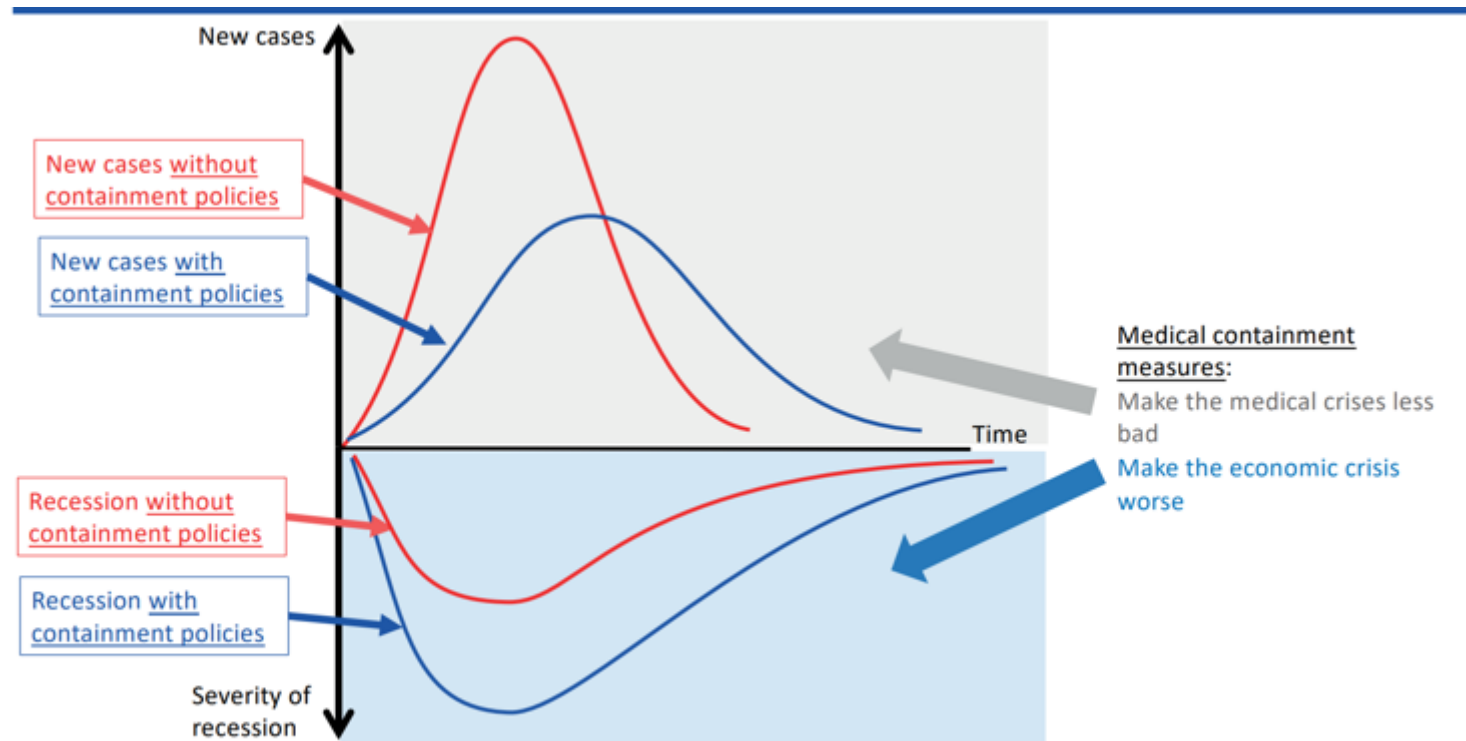
- Use lockdown period to invest in testing and treatment capacity
 - Markets for medical inputs may become congested
- Isolate the elderly and vulnerable before you re-open
 - Easier said than done
- Re-open activities gradually
 - Test a lot, quarantine the affected and allow others to work
 - Starting with the most critical and least “networky” activities
- Adjust speed of the re-start as more information is revealed
 - On cases, treatments, capabilities
 - Give yourself the flexibility to respond to events, do not over-commit
- You may have to reimpose future lockdowns

The economic effects of COVID-19

What are the economic effects of social distancing policies?

- They restrict human activity and hence GDP
- Lockdowns impact many activities at once
 - Have very disruptive effects on GDP
- Selective closures restrict parts of GDP
 - Universities
 - Theaters
 - Airlines
 - International travel (Hajj)
- These decisions percolate through the economy amplifying the initial effect
 - Lay-offs, bankruptcies, non-performing loans in the banking system, supply-chain disruptions
 - Precautionary savings, delayed investment decisions cause a negative demand shock

Flattening the epidemic curve worsens GDP



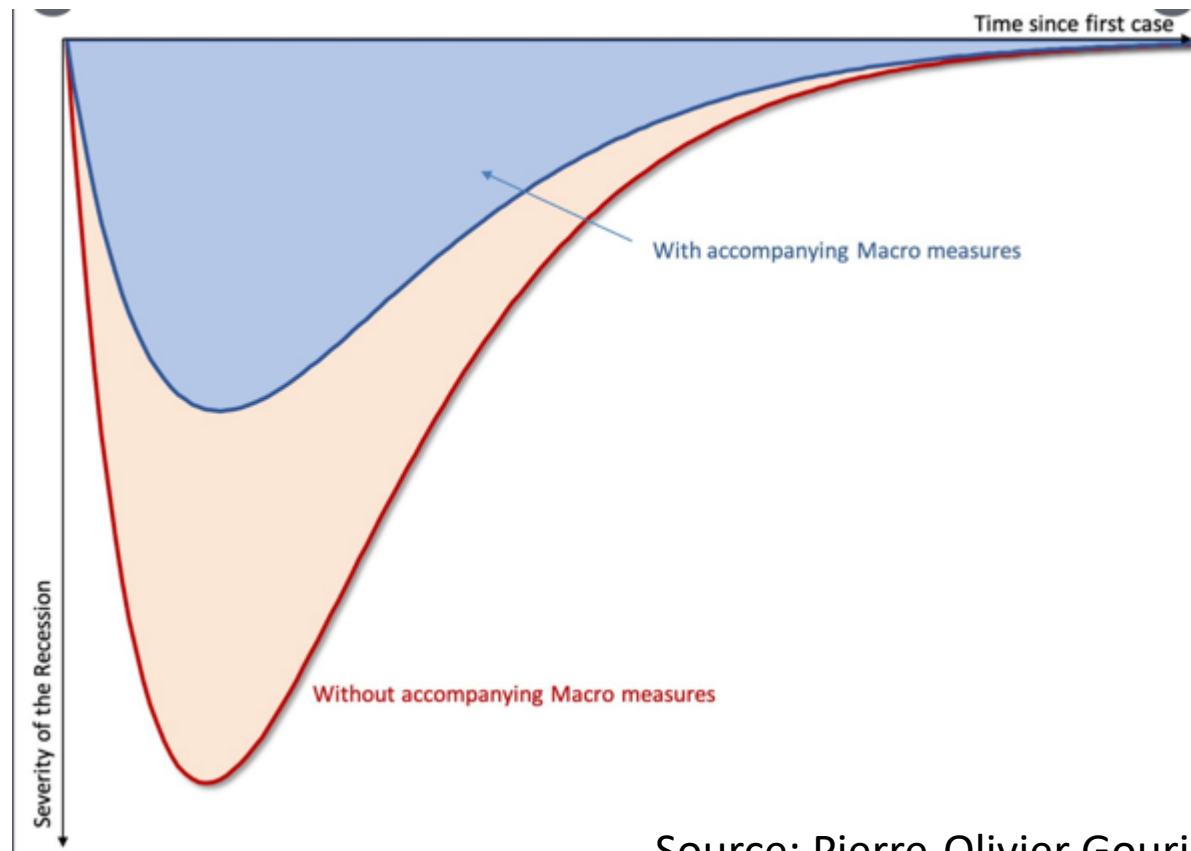
Source: Author's elaboration, inspired by illustrations in the chapter by Gourinchas.

Source: Richard Baldwin

What does this mean?

- These measures represent supply shocks to the economy
- But as these shocks percolate through the economy, they generate a sequence of secondary supply and demand shocks
 - Value chains are disrupted
 - Laid-off workers spend less, the employed are more cautious
 - Firms that do not go bankrupt will delay investments
- This amplifies the initial contraction
- While the initial shock may be hard to avoid, this amplification could be addressed
 - Protect workers, firms, banks
- ...using fiscal (i.e. public resources, capacity to borrow)

The difference between the shock with and without fiscal protection



Source: Pierre-Olivier Gourinchas

This is different from a garden-variety recession

- It is mainly a supply shock, not a demand shock
- Traditional Keynesian policies have limited effectiveness
 - More demand for sports games does not cause more games if these activities are restricted
- Lay-offs and bankruptcies make the recovery slower
 - Hard to hire a new team, hard to form new firms
 - It would be good to avoid them, if possible
- So fiscal policy can help but not through the standard channels
 - By helping people and firms withstand the shock

The US solution

- Lockdown and social distancing to prevent infections
 - Bad for GDP
- Fiscal action (with monetary accommodation) to prevent the amplification and long-term damage of the measures
 - Good for people short term
 - Good for the eventual recovery of the economy
- Instruments deployed
 - Subsidies to payroll and broader unemployment insurance
 - Central Bank liquidity, regulatory forbearance and public guarantees to encourage banks to lend to businesses

But what if countries have no fiscal space?

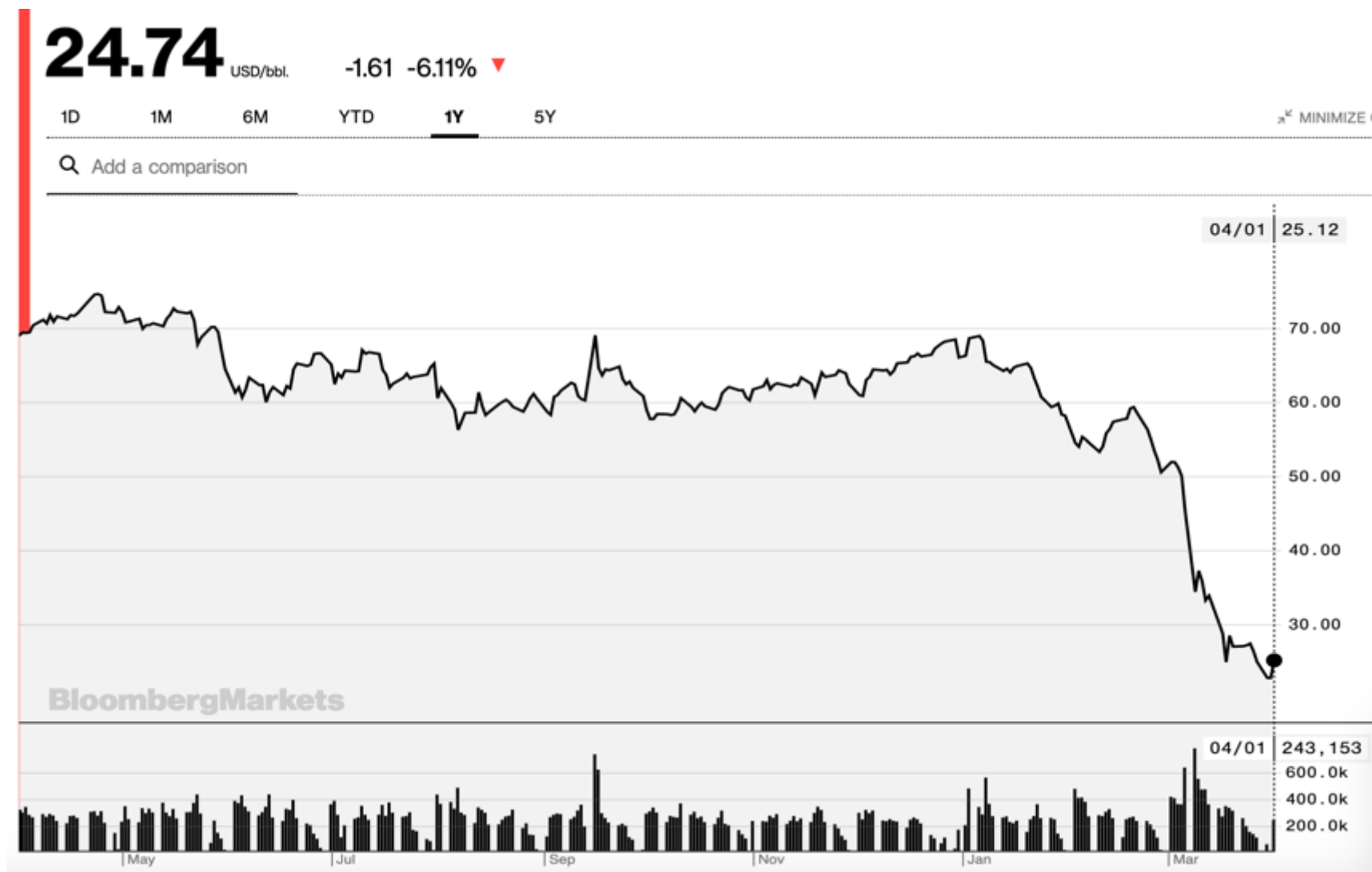
- Many countries are fiscally weak in good times
- With the COVID-19 shock, their fiscal space may have completely disappeared
 - tax revenues decline
 - Especially if they get a terms of trade, tourism or remittance shock
 - The crisis requires more health expenditures and ideally spending to cushion the blow
- None of this is good for the country's creditworthiness
- But if, in addition, financial markets shut down, the government may be even forced to cut back previous spending plans
- So fiscal policy cannot play the same role as in the standard recommendation, say for the US

In other words

- Without fiscal space, flattening the epidemic curve is costlier
- So countries may be forced to not to fight the virus by as much
- ...leading to faster spread,
- ...more deaths because of lower capacity to treat
- ... and a faster end to the epidemic, assuming no re-infection
- In other words, lack of fiscal space costs lives

The 2020 Oil Price War

Oil prices have declined over 60%



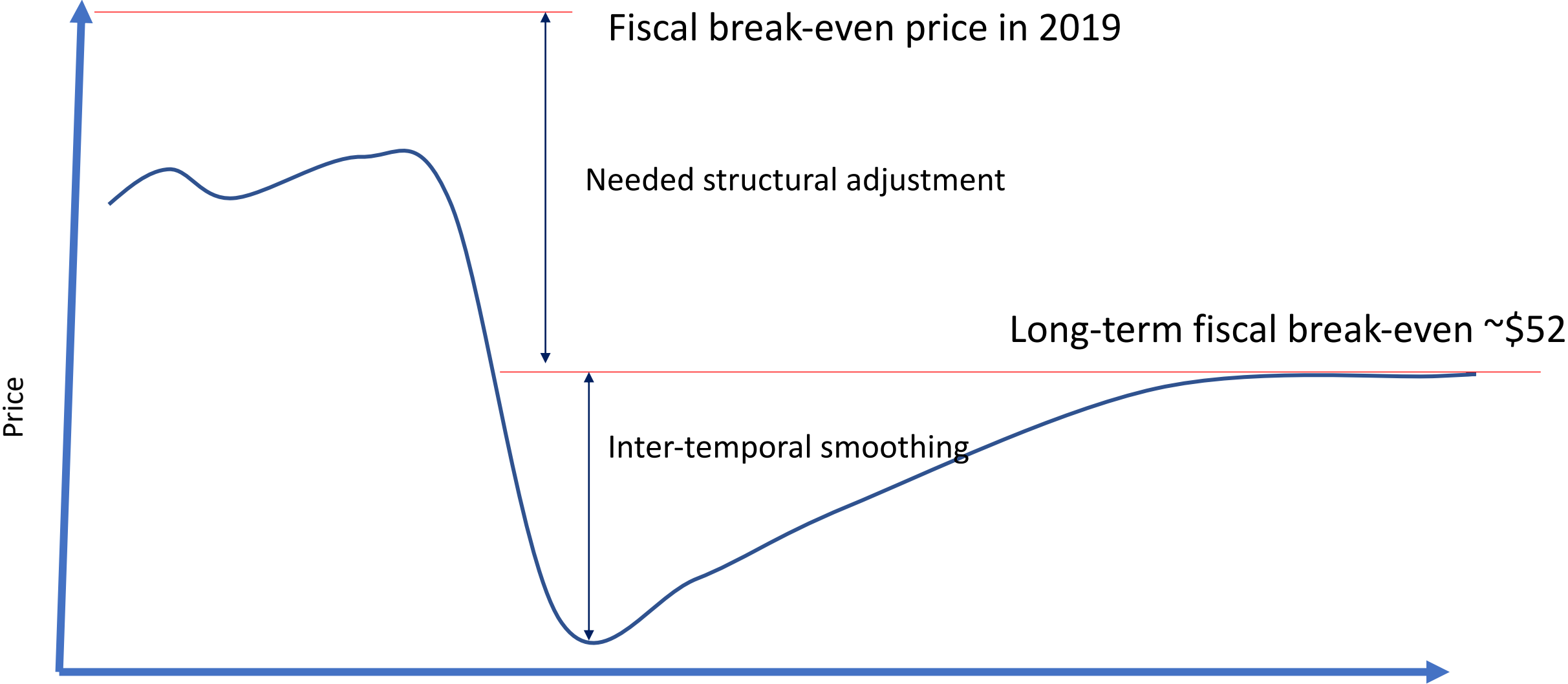
Interpretation

- The previous price level was creating a production boom in the US
- The COVID-19 shock caused a decline in oil demand
- If OPEC+ would have defended the price, they would have had to cut production by all of the global shortfall in demand
- ...but the US would have continued expanding supply
- A price war would get out the marginal producers
- ...and would do so quickly, given the production profile of shale oil
- But the price will be bounded by the marginal cost of shale oil
- US production will decline and KSA market share will increase

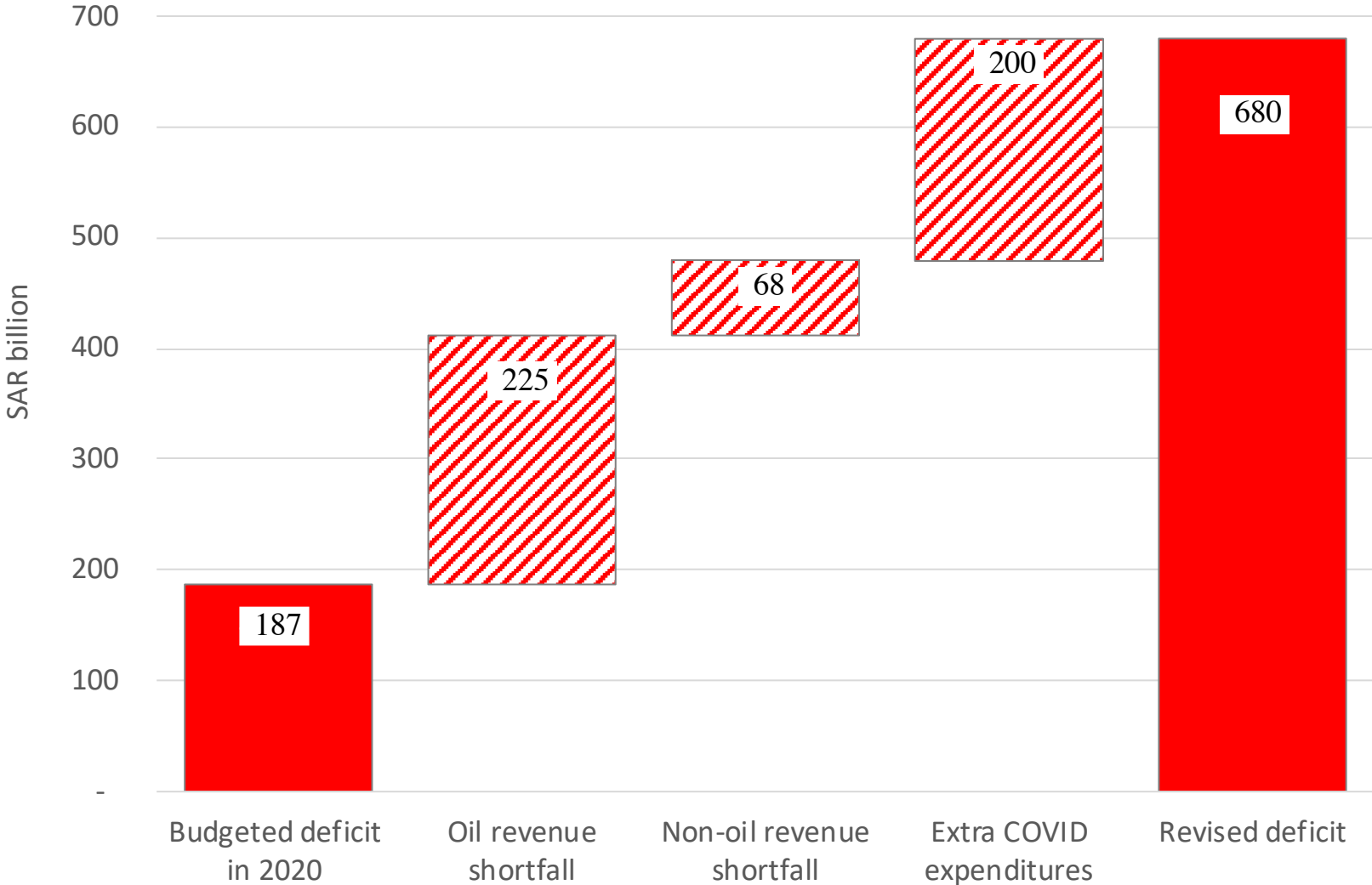
This catches Saudi Arabia at a bad time

- The country had a fiscal break-even price of oil of around US\$ 83
- It was attempting a gradual adjustment process
- Now the expected long-run price is lower
- The recession should cause a further decline of revenues
- And COVID-19 will require additional spending

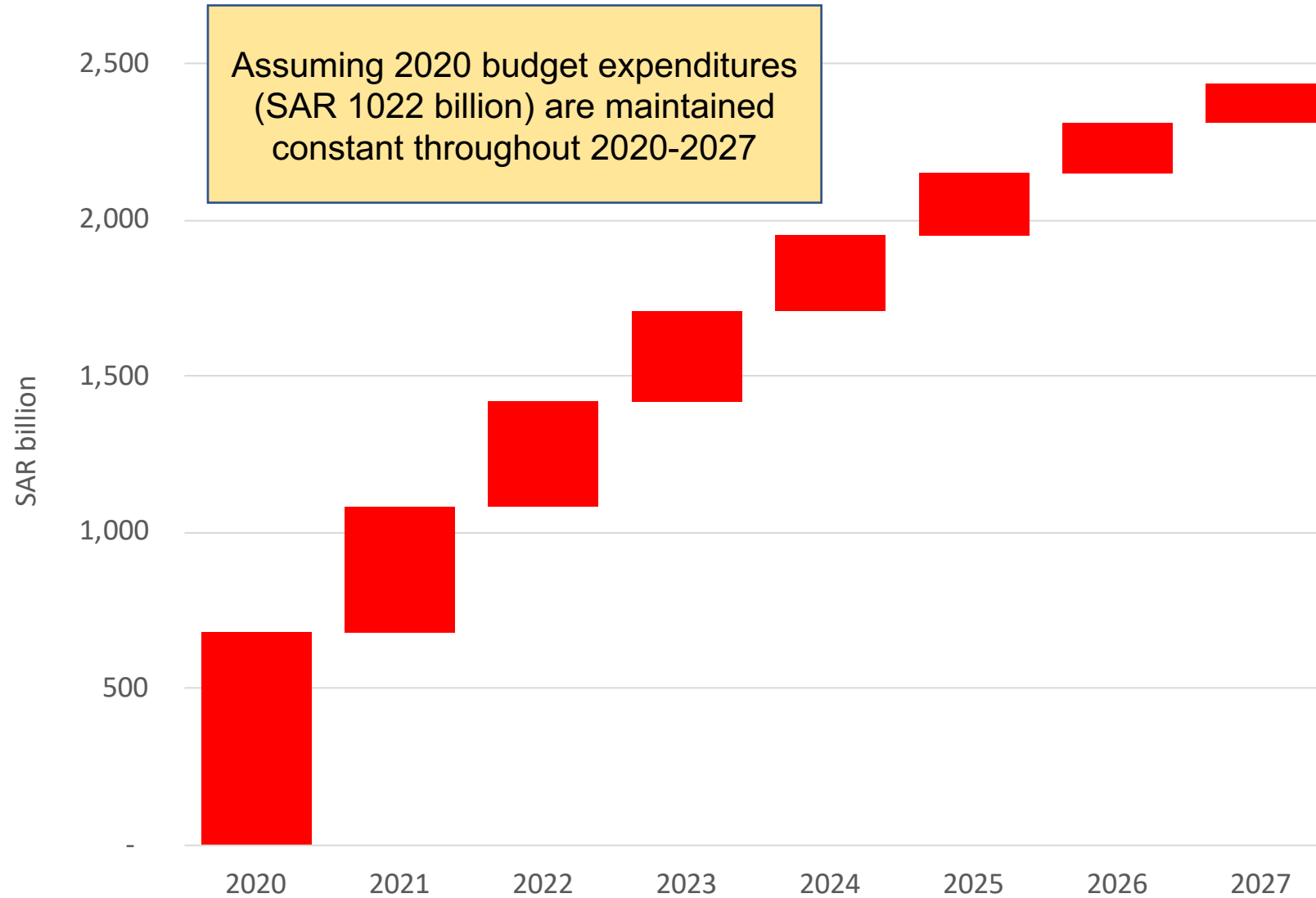
Adjustment to the new oil reality



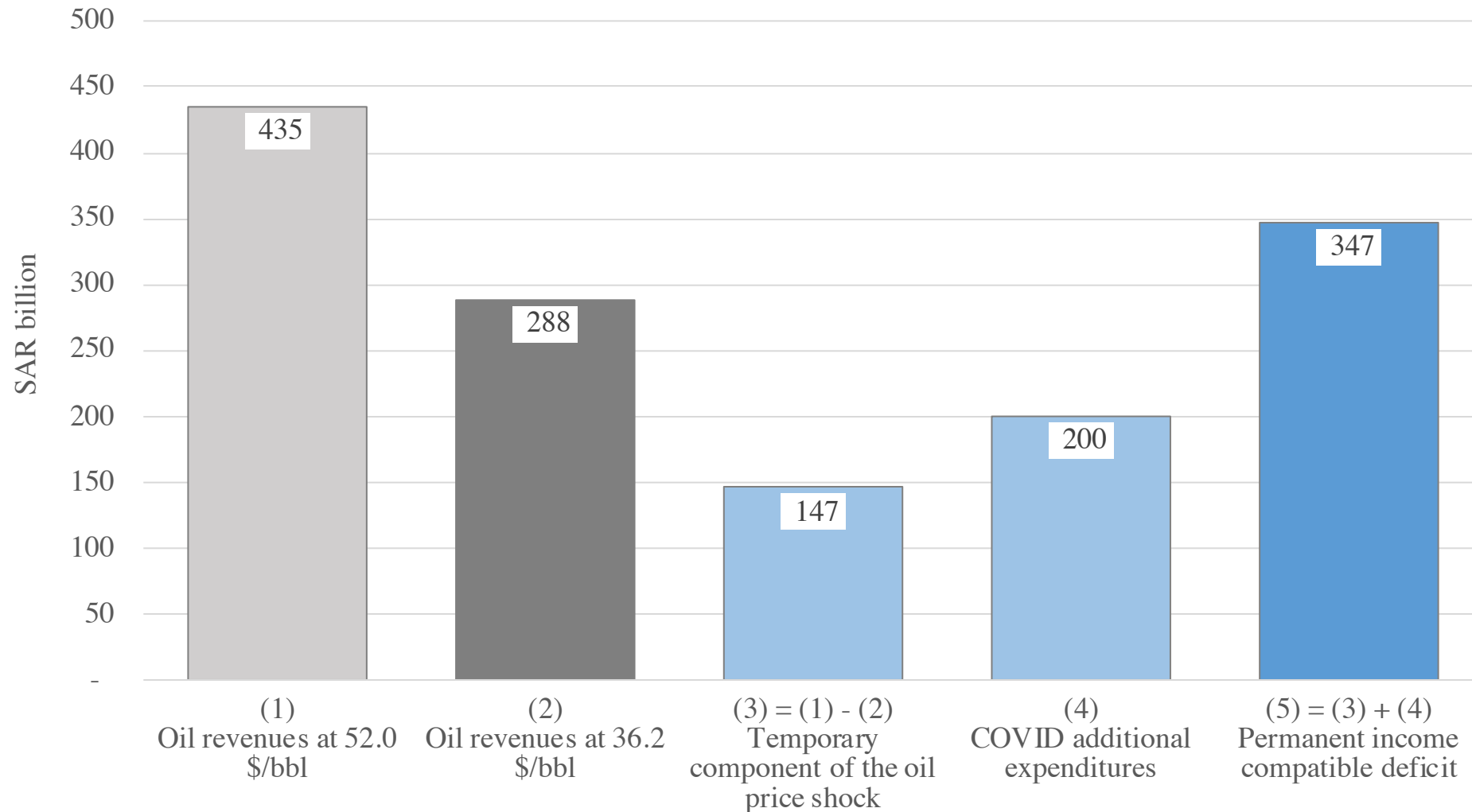
Projected fiscal accounts of 2020 without measures



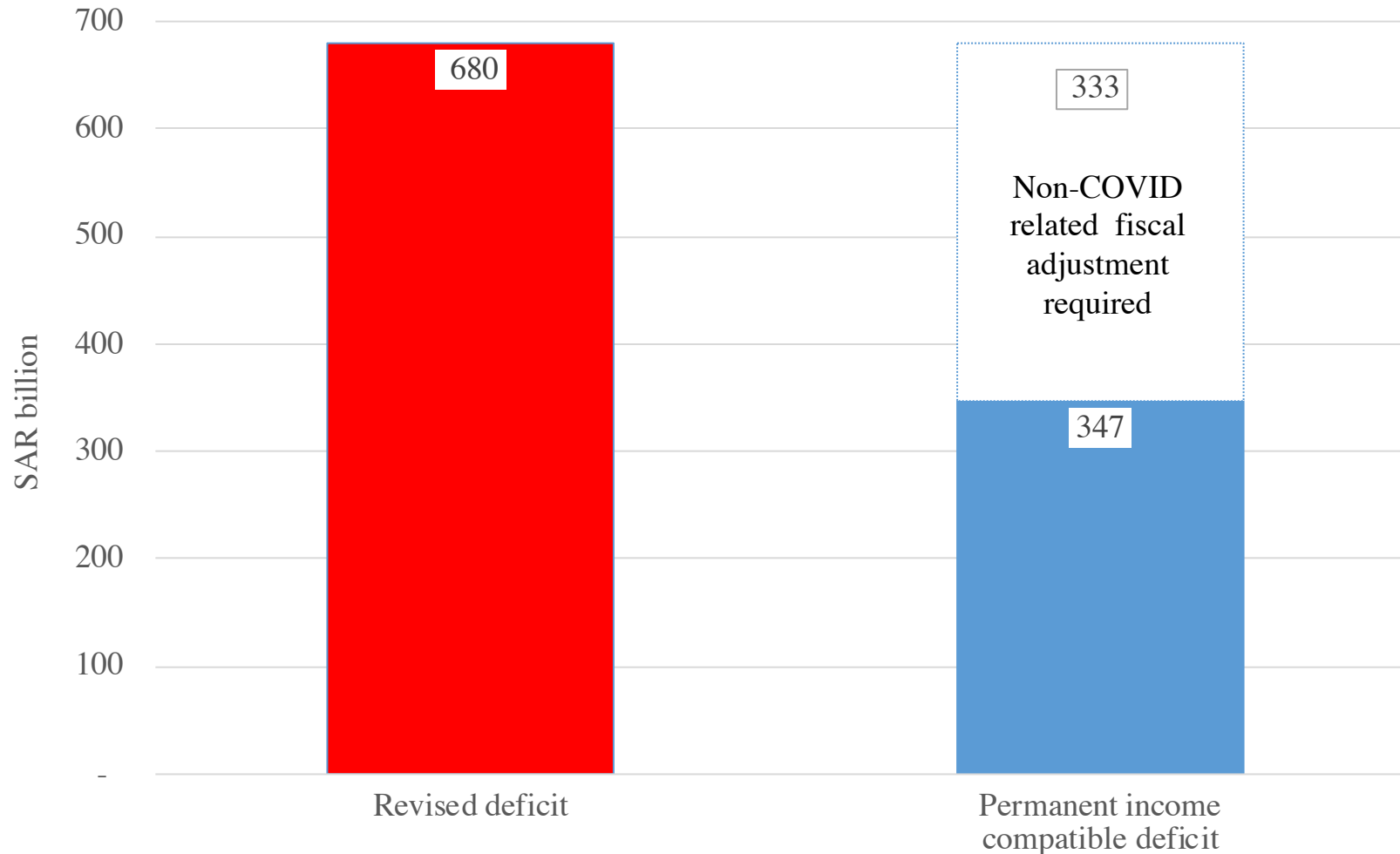
Passive scenario



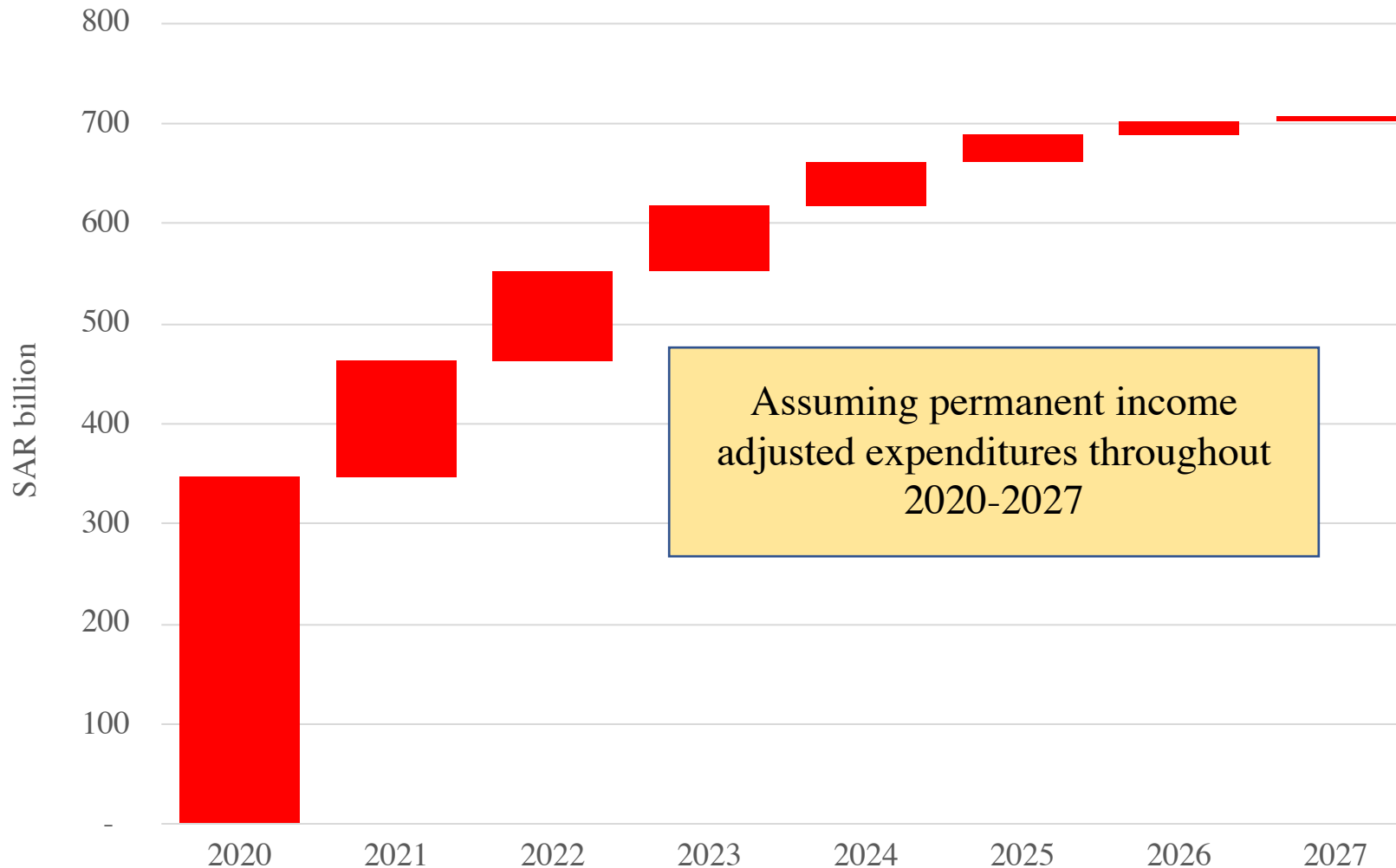
What could alternative fiscal targets be for 2020?



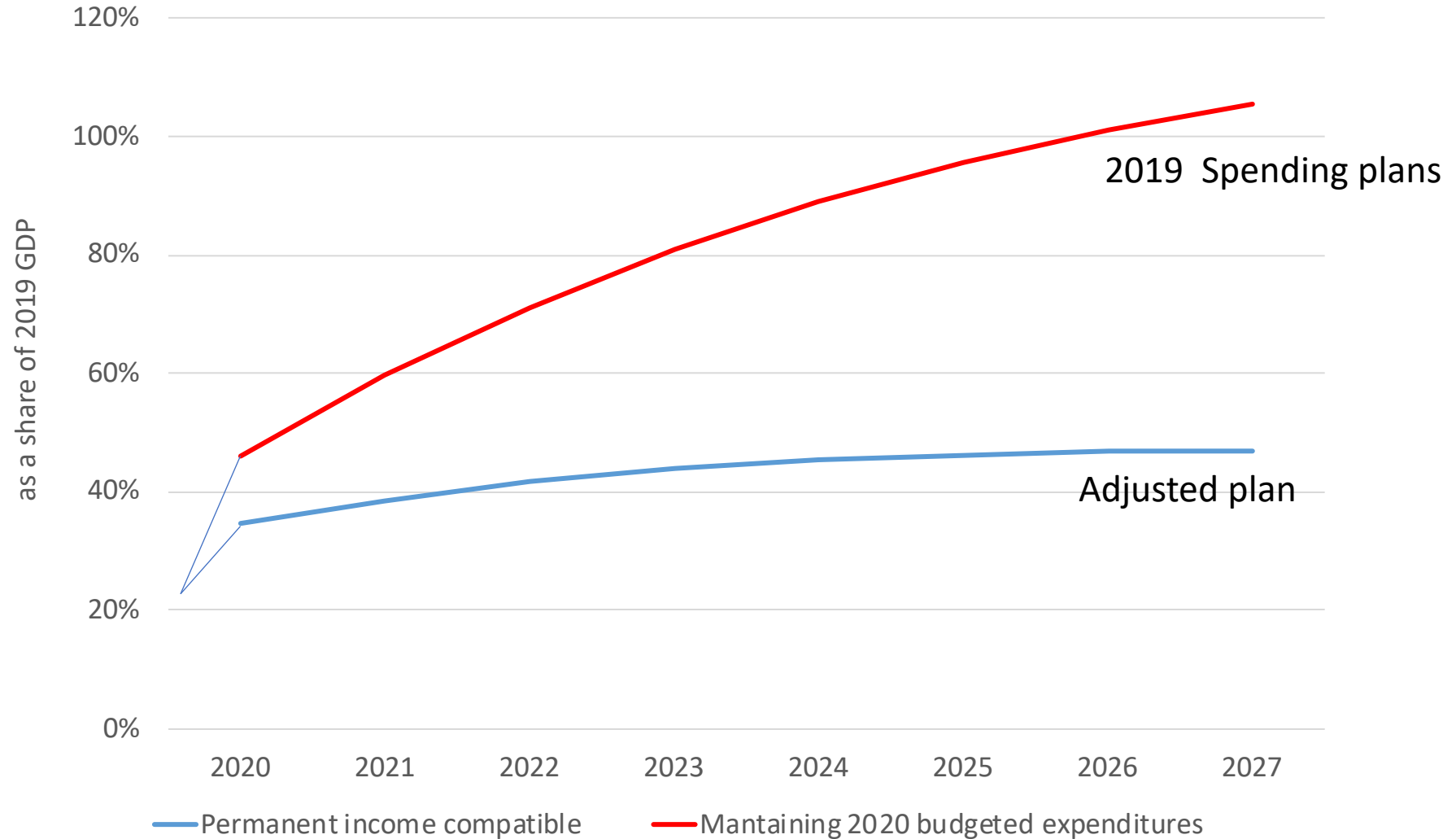
This alternative scenario requires permanent cuts to spending / new revenue of 333B SAR



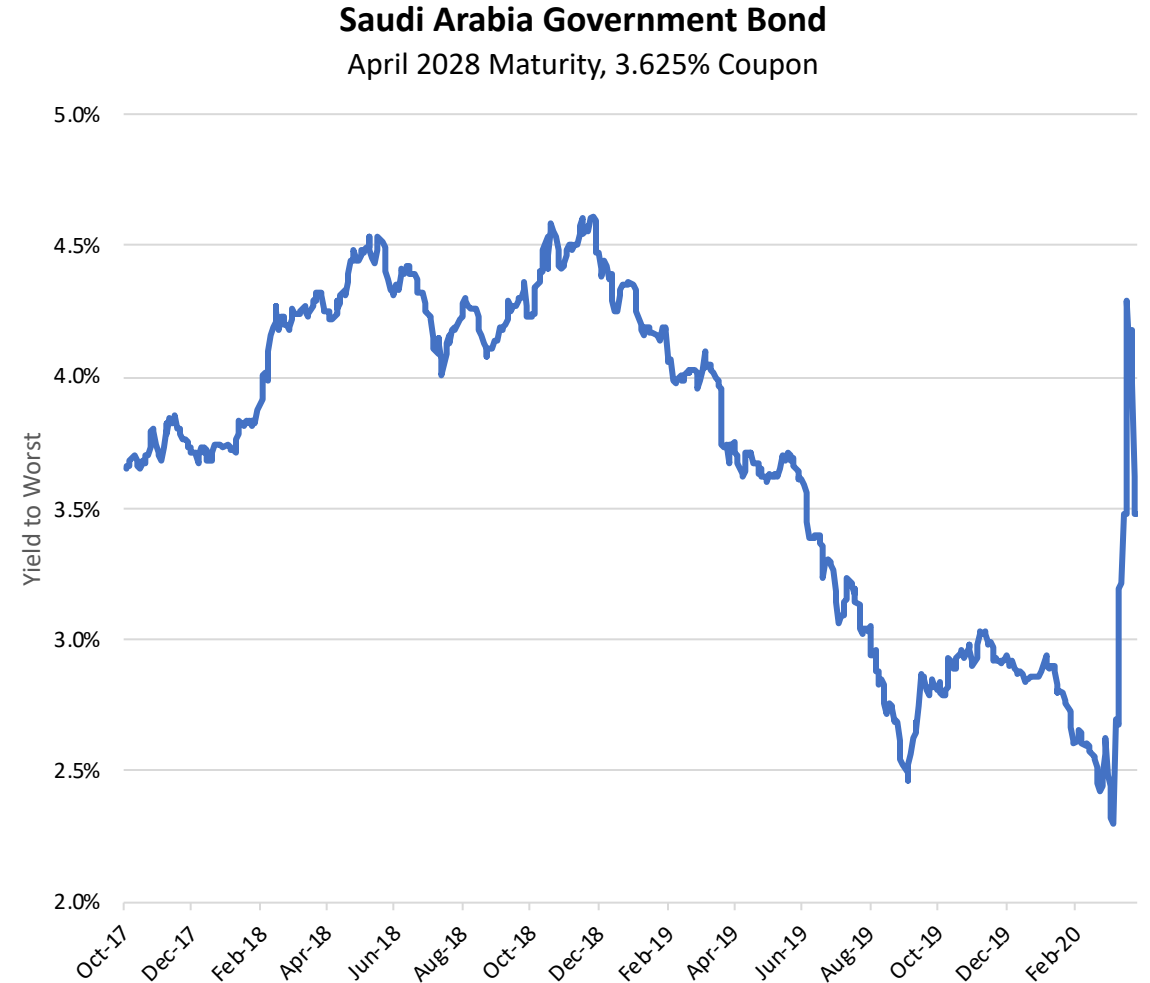
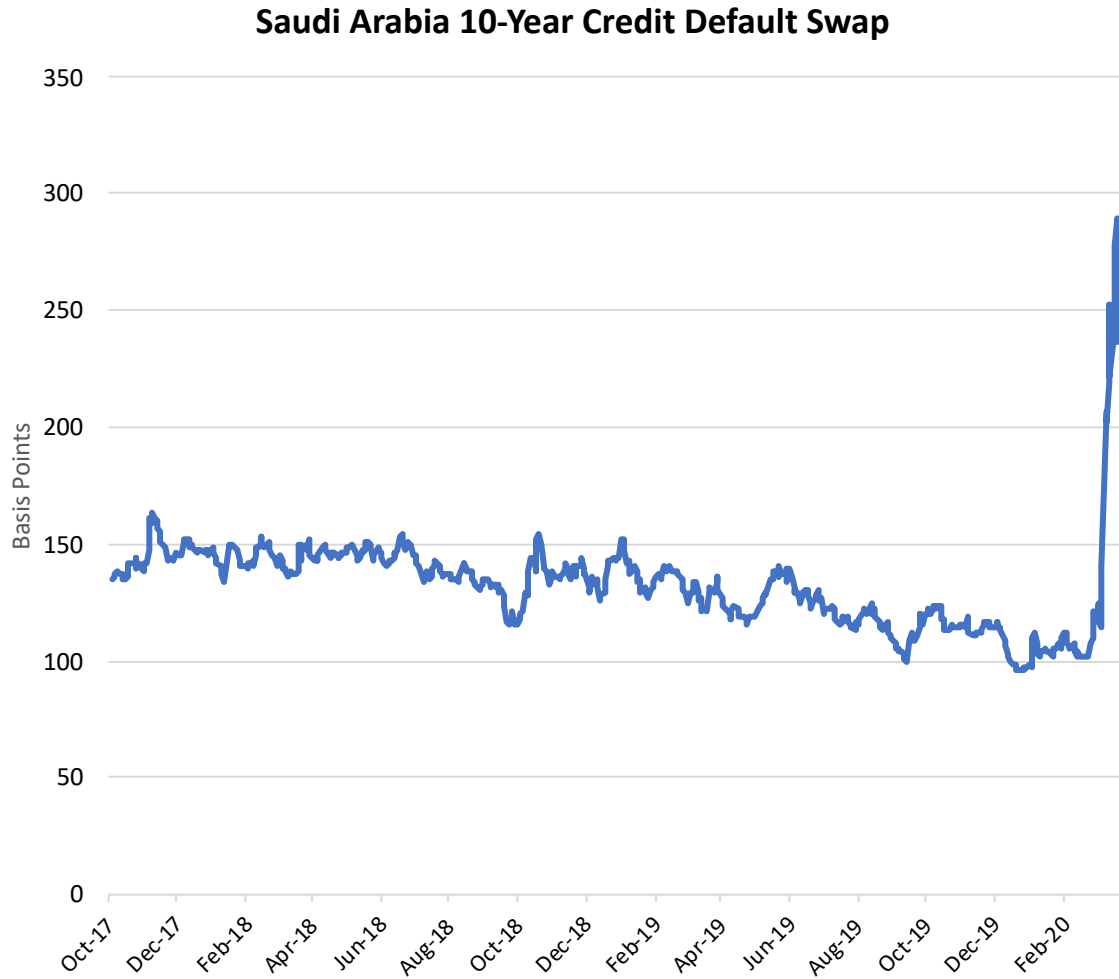
Cumulative deficit = SAR 707 billion (24% of 2019 Nominal GDP)



Debt to GDP ratios in the two scenarios



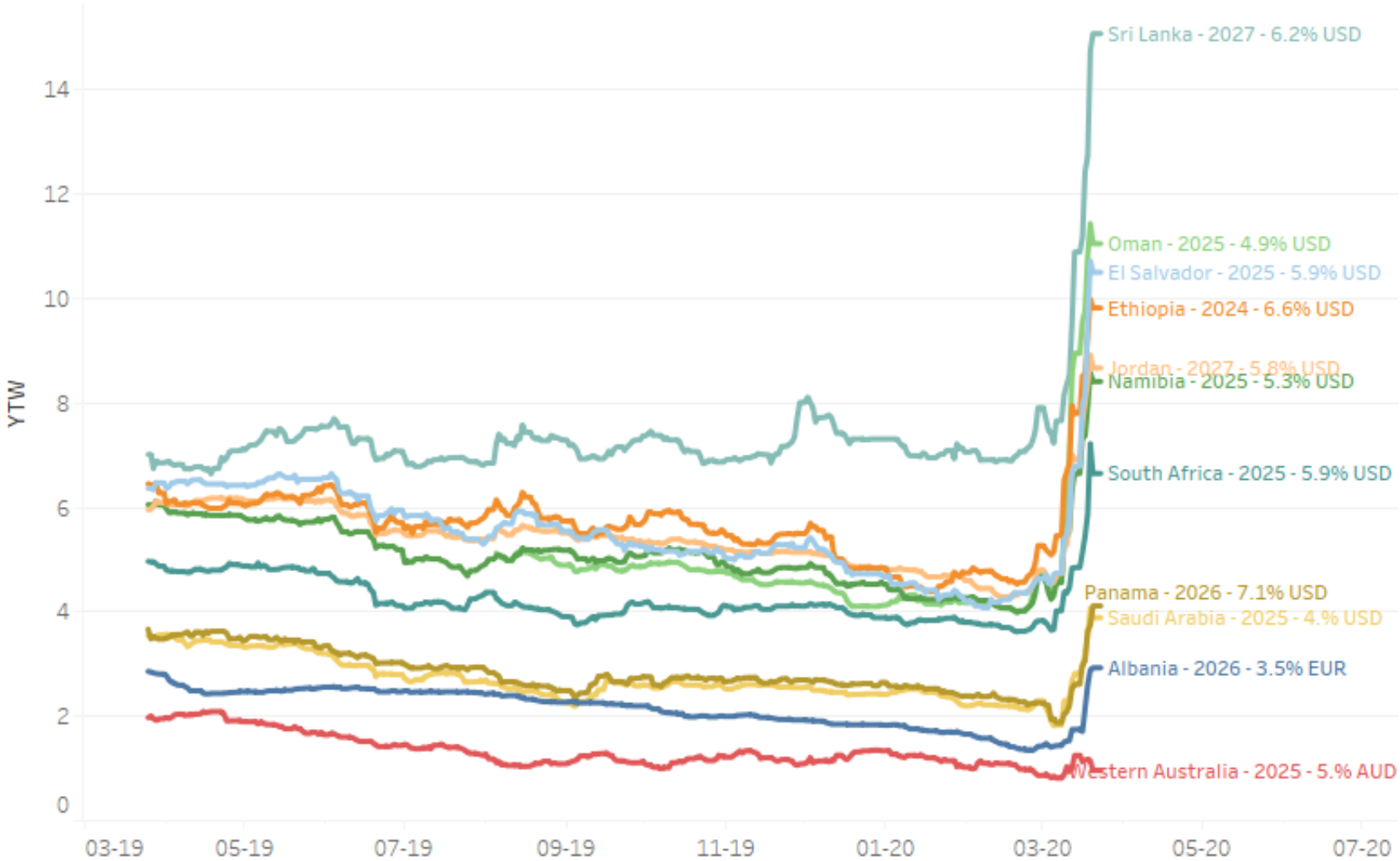
The capacity to borrow in order to fund such huge deficits is not guaranteed



Source: S&P Capital IQ

Cost of debt is partly endogenous to other fiscal policy decisions

Emerging market bond yields have sky-rocketed

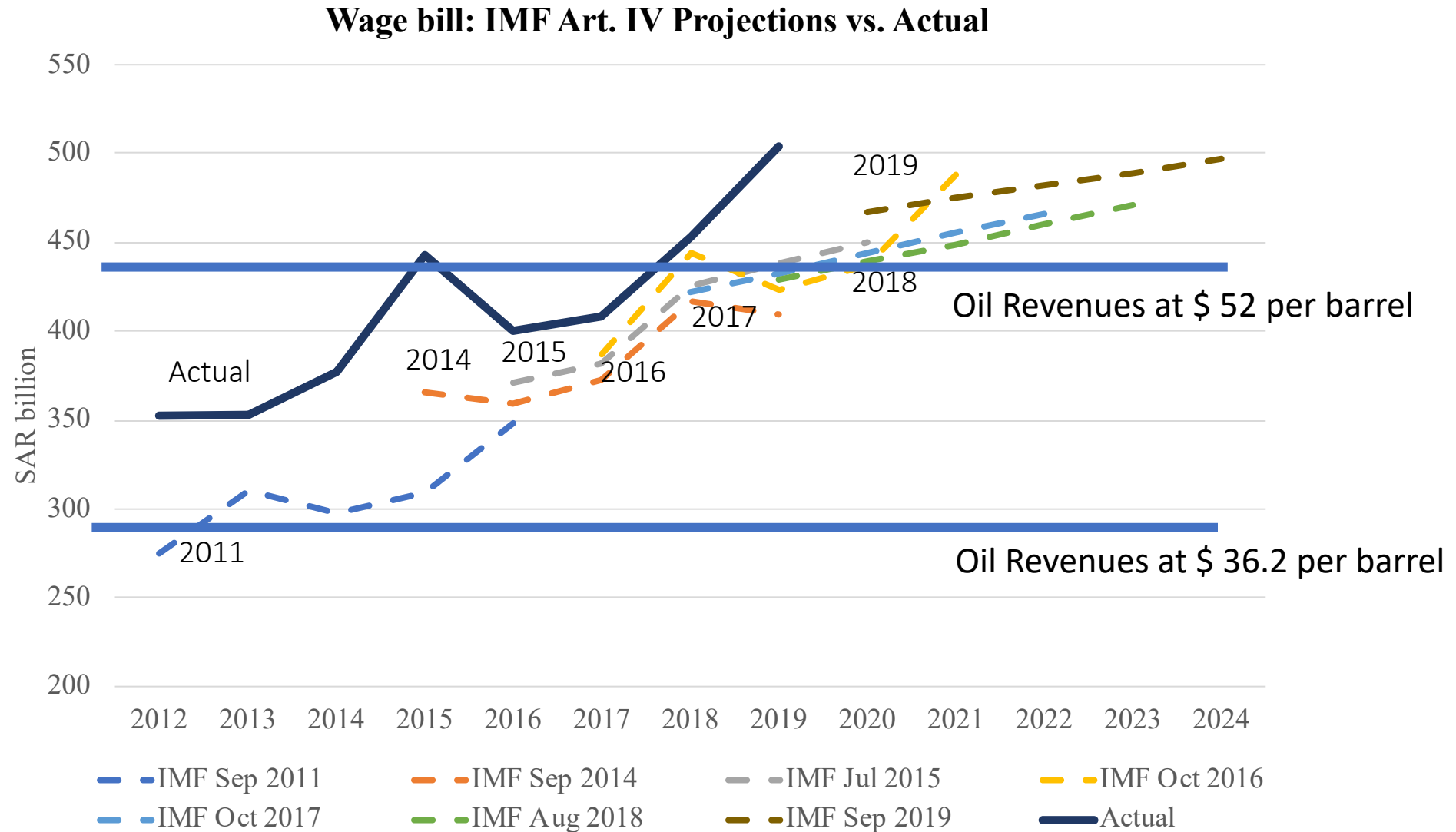


Source: S&P Capital IQ

Policy implications

- KSA will want to put resources to fight the effects of COVID-19
 - Make lockdowns and mitigation socially bearable
- But KSA starts from a weak fiscal position and has seen a major fall in short- and long-term oil income
- You will have to make a major adjustment in planned long term spending / non-oil revenue increase of over 300B SAR per year
- This cannot be done without major redefinitions of government plans and responsibilities

“The future is not what it used to be”: Expectations vs. reality of the government wage bill



Comments on how to do it

- Not by hiding the deficit in the rest of the public sector
 - PIF
 - Aramco (as in the example of SABIC)
- Not by increasing fees in a decentralized way
 - A very distortionary way to raise revenues
- You will need to cut the public wage bill
- Cut major planned investments
- And find ways to raise revenue in an efficient way
 - Through standard taxes

Thank you!

Raise your electronic hand to ask a question.