

Recovering from COVID-19: Economic Scenarios for South Africa

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Motivation

- South African economy hit negatively by pandemic and the use of lockdown to control it
- Recovery is urgent, but still need to contain the pandemic
- Autonomous recovery happens as agents adjust to looser restrictions, but heavy burden remains on marginalised households, workers, and industries
- The paper describes recovery in South Africa and uses modelling to consider the impacts of social policies on both protecting the poor and stimulating the economy

An uneven recovery Aggregate production and employment

GDP fell more than employment, but recovered faster



At the aggregate, trends mask the unevenness of the impact and pace of recovery

Variation across several dimensions

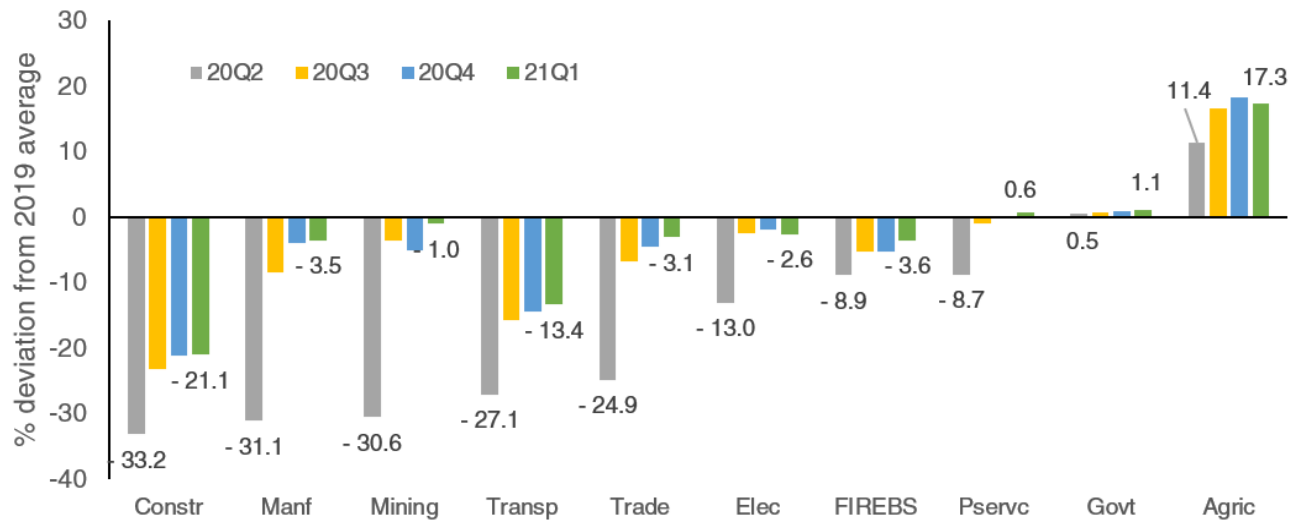
- Sectors and segments
- Workers by skills, ethnicity, gender, type of work, region
- Households by income/wealth

Distributional effects studied by many researchers in SA
We provide brief illustrations

An uneven recovery

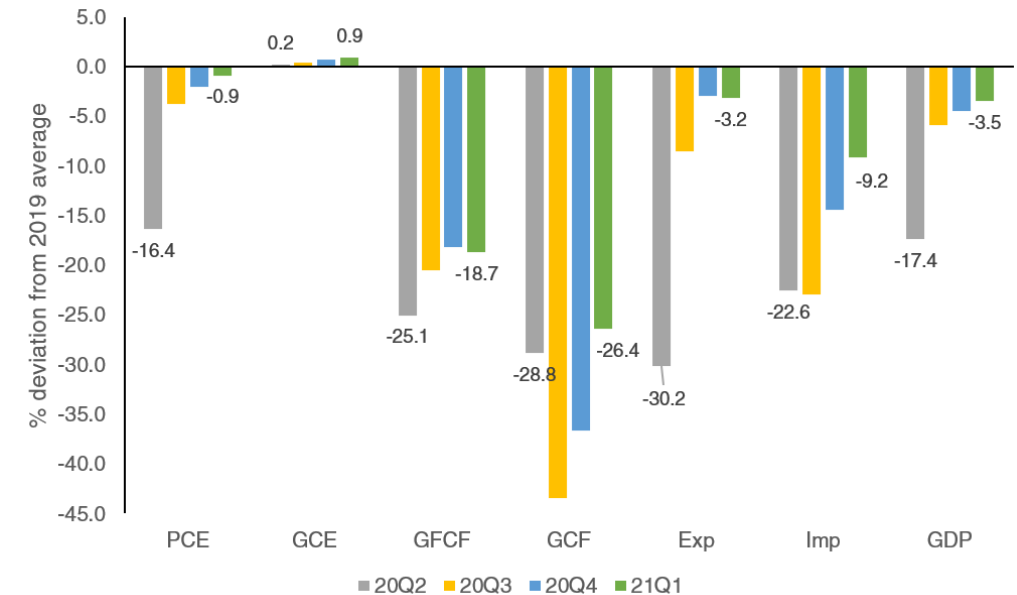
Sectoral production and expenditure by type

Sectors hit hard initially, but many have returned close to 2019 levels



- Production in most sectors appear to have returned to pre-pandemic levels
- Construction and transport services lagging, due to a lack of investment, and caution on business and leisure travel (despite recovery in freight transport)
- Agriculture benefited from relatively loose restrictions, as well as good maize and citrus harvests, and higher export demand

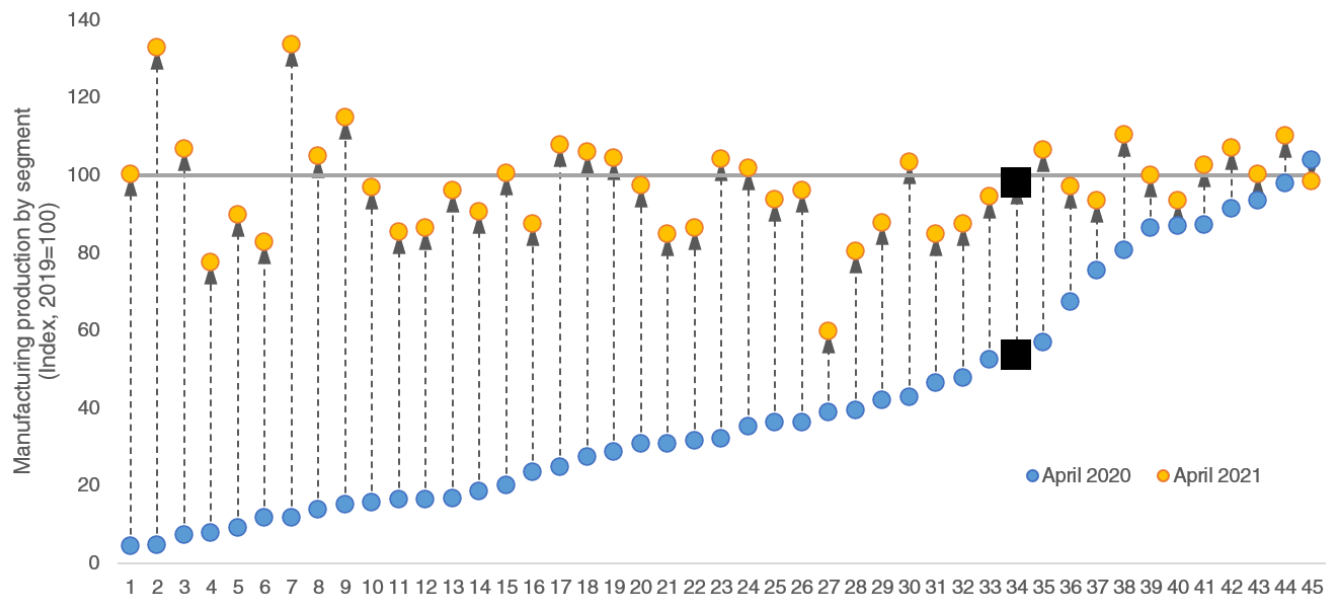
Recovery in expenditure driven by households



- Household consumption least affected in 2020Q2, and fastest to return to pre-pandemic levels
- Fixed capital investment slow to recover
- Sharp decline in inventories
- Export decline large, but also recovered relatively faster than imports

An uneven recovery Manufacturing production

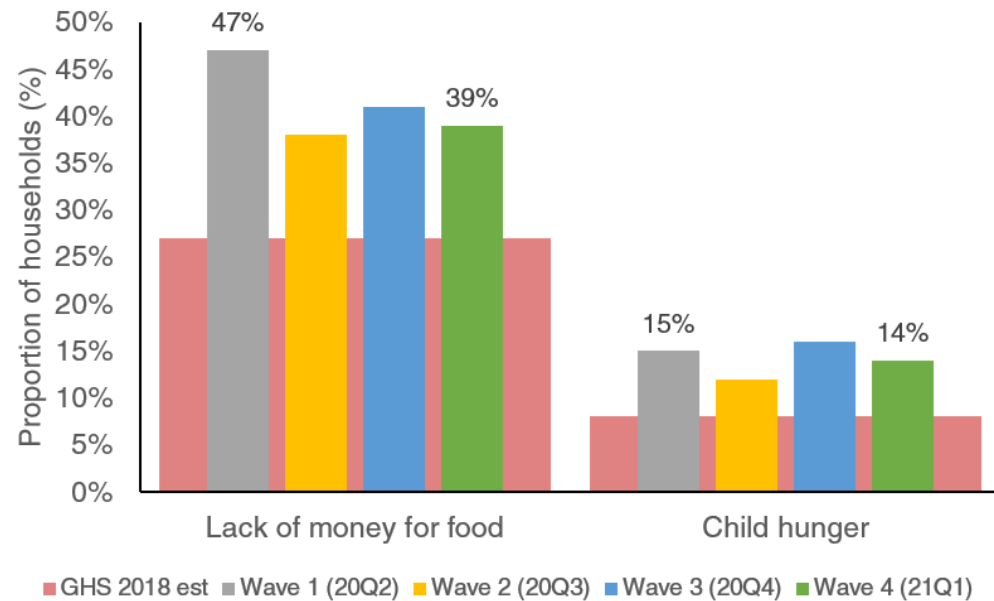
Large variation in initial pandemic effects across manufacturing segments



1	Footwear	16	Other textile products	31	Leather and leather products
2	Parts and accessories	17	Accumulators, primary cells and primary batteries	32	Electric motors, generators, transformers
3	Motor vehicles	18	Other fabricated metal products	33	Professional equipment
4	Knitted, crocheted articles	19	Beverages	34	Total manufacturing
5	Other transport equipment	20	Household appliances	35	Special purpose machinery
6	Furniture	21	Wearing apparel	36	Plastic products
7	Bodies for motor vehicles, trailers and semi-trailers	22	Rubber products	37	Non-ferrous metal products
8	Non-metallic mineral products	23	Products of wood	38	Other electrical equipment
9	Textiles	24	General purpose machinery	39	Other chemical products
10	Insulated wire and cables	25	Electric lamps and lighting equipment	40	Dairy products
11	Radio, television and communication apparatus	26	Other manufacturing groups	41	Paper and paper products
12	Basic iron and steel products	27	Coke, petroleum products and nuclear fuel	42	Other food products
13	Structural metal products	28	Sawmilling and planing of wood	43	Meat, fish, fruit etc.
14	Electricity distribution and control apparatus	29	Publishing	44	Basic chemicals
15	Printing, recorded media	30	Glass and glass products	45	Grain mill products

An uneven recovery Household vulnerability

Lower, but still elevated, proportions of households with hunger or lack of money for food



Source: Adapted from van der Berg, Patel, and Bridgman (2021), and van der Berg, Zuze, and Bridgman (2020)

Poorest quintile is least ready for lockdown, and most vulnerable



Source: Shifa, David, and Leibbrandt (2020)

Model and Data

- In light of unevenness, could policy intervention assist vulnerable households and promote recovery?
 - Looked to model recovery scenarios
 - Distinct from long-term reconstruction
 - As more data available, needed a SAM to represent the economy at the bottom of the downturn
- Thus, constructed a SAM for 2020Q3
 - First: create provisional 2019 SAM using new SUT & Nat Acc data
 - Next: use short-term indicators to set up shock:
 - $\Delta f \rightarrow \Delta x = (I - A)^{-1} \Delta f \rightarrow$ new SAM using fixed coefficients

- A standard multiplier model is used

$$x = (I - A)^{-1} f \rightarrow \Delta x = (I - A)^{-1} \Delta f$$

- Usual assumptions: fixed price / perfectly elastic supply
- Why not CGE?
 - Covid shocks (incl recovery) are of short-term nature
 $\rightarrow$ fixed price appropriate
 - CGE may be more useful if expect large changes in relative prices, and whether these influence substitution and other behaviour
 - Multiplier approach used in Robinson *et al.* (2021) and Arndt *et al.* (2020)

Scenarios



Income support scenarios: Increase transfers to households, under two regimes

- **Full intervention:** Topping up existing income support AND extend COVID-specific relief
- **Reduced intervention:** Expand COVID-specific relief only

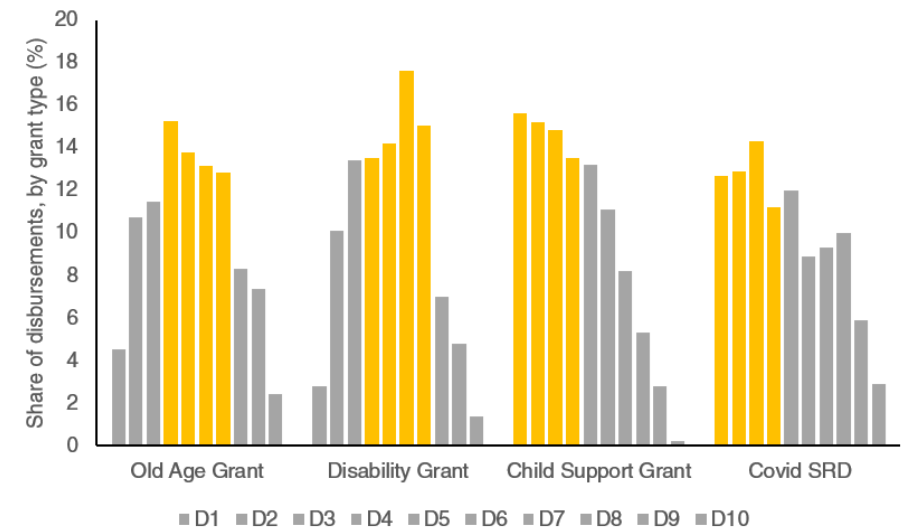
Alternative: Wage subsidies, in which transfers to primary- and middle-educated labour, instead of targeting households directly



Hypothetical financing scenarios

- Government savings-financed
- Raise taxes on highest-income decile
- Reduce government expenditure

Value of support and distribution across households, by income support type, informed by data from NT and NIDS-CRAM



Results Impact on GDP



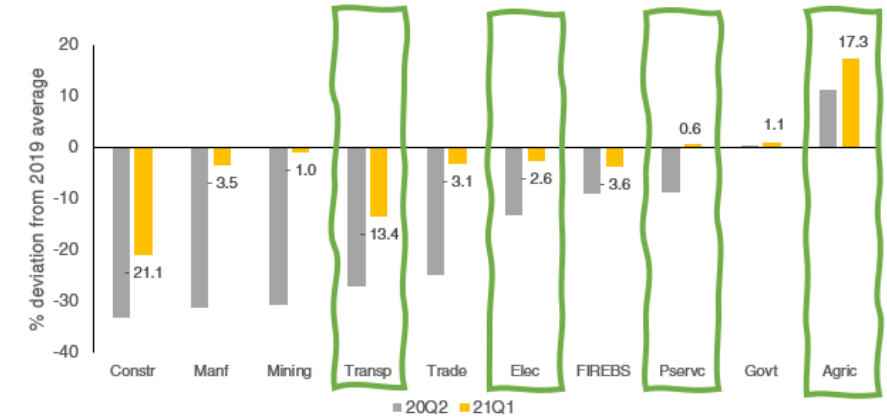
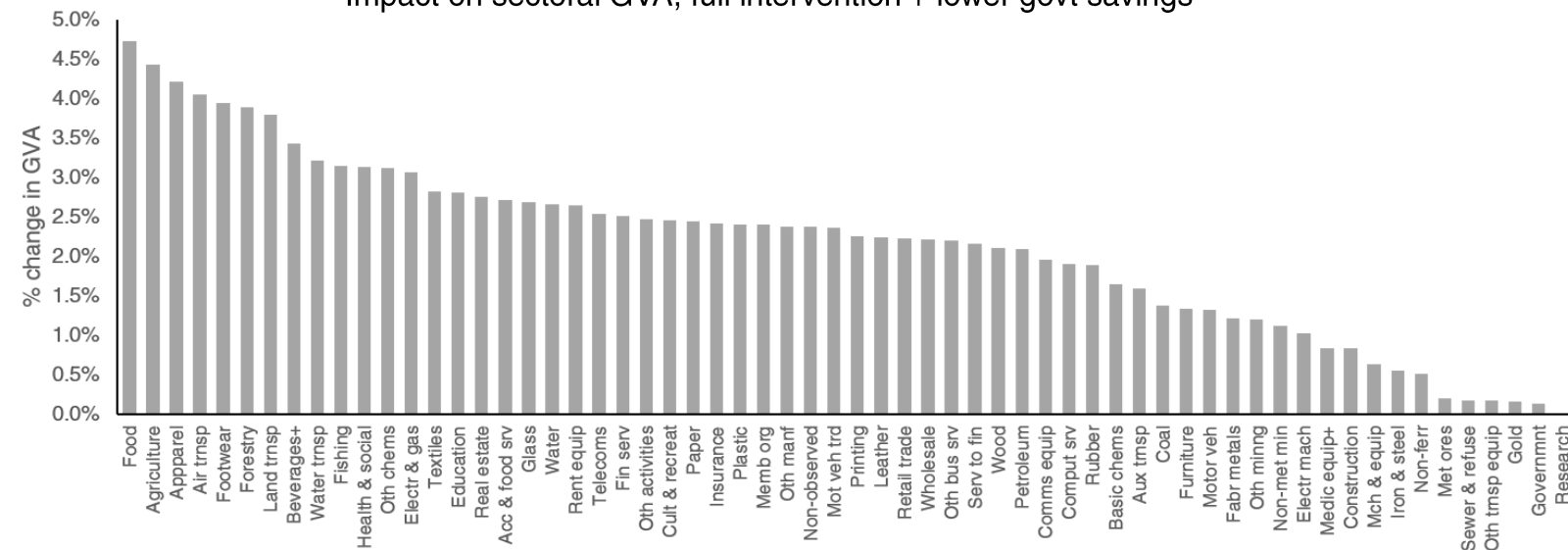
- Full intervention financed by lower government savings adds 2% to GDP
 - Least restrictive option, but has implications for government debt
 - Investment not influenced endogenously in this model
- Full intervention financed by higher taxes positively affects GDP, albeit at a lower level
 - Weaker GDP effect driven by lower disposable income of wealthier households
- Interventions financed by reallocation of current government spending has a negative impact
- Wage subsidy add just under 2% to GDP
 - Households that benefit from wage subsidies tend to benefit higher income deciles, which have higher propensities to save, and import
- Smaller impacts under reduced intervention, but similar pattern

Results Impact on sectoral GVA

Food, clothing, and transport activity increase relatively more, in line with household consumption patterns

Impact on transport services, and clothing and footwear, lends some support to lagging sectors

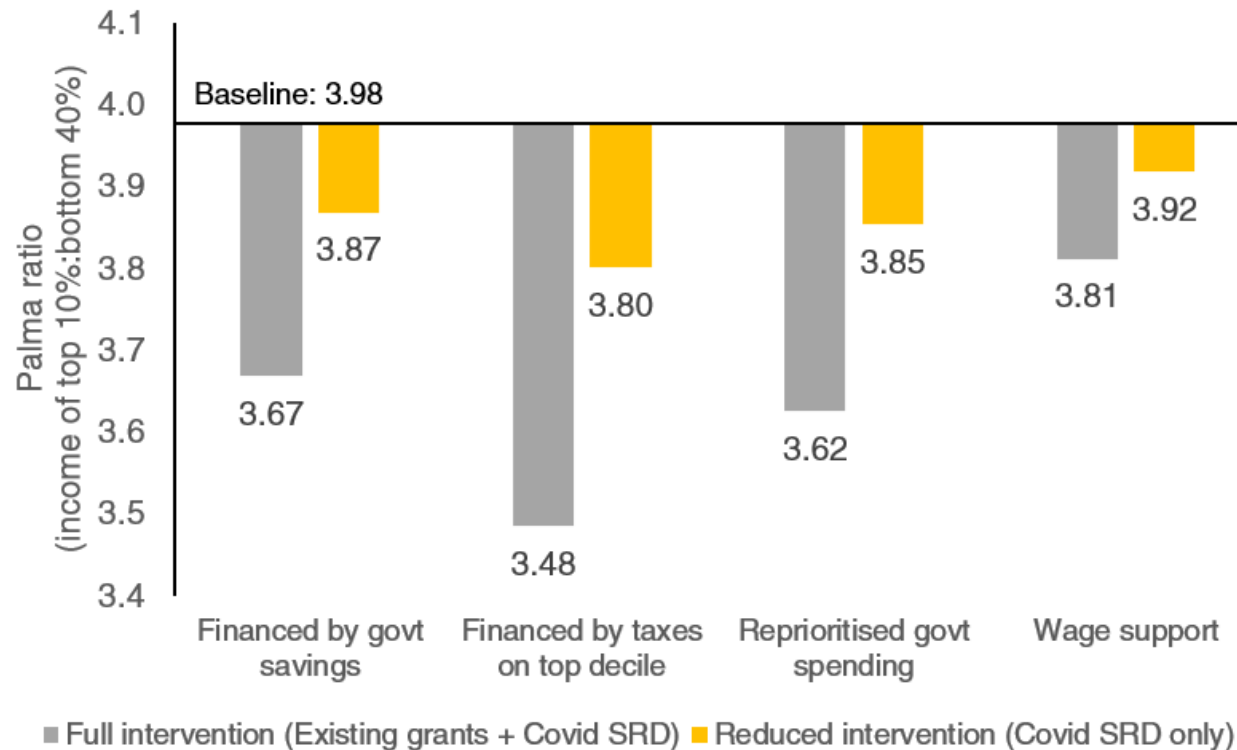
Impact on sectoral GVA, full intervention + lower govt savings



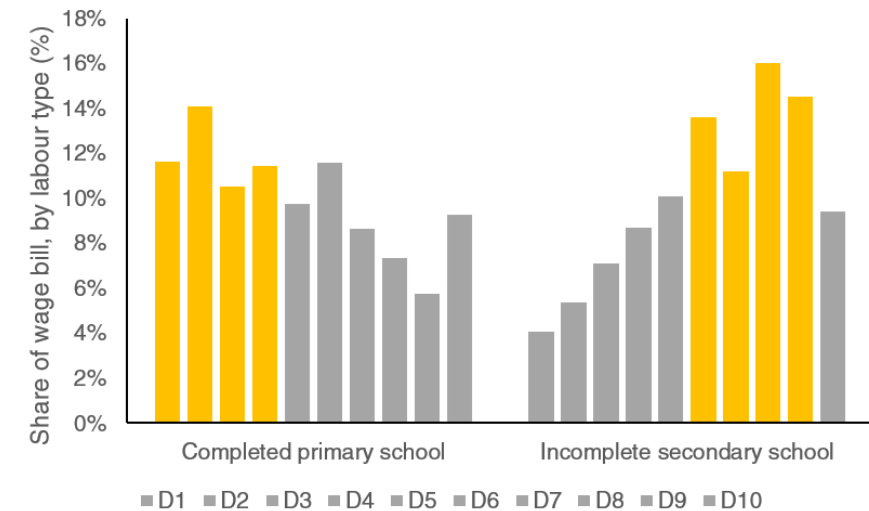
1	Footwear (0.3% above 2019 level)	24	General purpose machinery
2	Parts and accessories	25	Electric lamps and lighting equipment
3	Motor vehicles	26	Other manufacturing groups
4	Knitted, crocheted articles (22.5% below 2019 level)	27	Coke, petroleum products and nuclear fuel
5	Other transport equipment	28	Sawmilling and planing of wood
6	Furniture	29	Publishing
7	Bodies for motor vehicles, trailers and semi-trailers	30	Glass and glass products
8	Non-metallic mineral products	31	Leather and leather products
9	Textiles (14.8% above 2019 level)	32	Electric motors, generators, transformers
10	Insulated wire and cables	33	Professional equipment
11	Radio, television and communication apparatus	34	Total manufacturing
12	Basic iron and steel products	35	Special purpose machinery
13	Structural metal products	36	Plastic products
14	Electricity distribution and control apparatus	37	Non-ferrous metal products
15	Printing, recorded media	38	Other electrical equipment
16	Other textile products (12.6% below 2019 level)	39	Other chemical products (Same as 2019 level)
17	Accumulators, primary cells and primary batteries	40	Dairy products (6.6% below 2019 level)
18	Other fabricated metal products	41	Paper and paper products
19	Beverages (4.5% above 2019 level)	42	Other food products (7.1% above 2019 level)
20	Household appliances	43	Meat, fish, fruit etc. (0.3% above 2019 level)
21	Wearing apparel (15% below 2019 level)	44	Basic chemicals
22	Rubber products	45	Grain mill products (1.5% below 2019 level)
23	Products of wood		

Results Impact on income distribution

Interventions, regardless of financing mechanism, are pro-poor

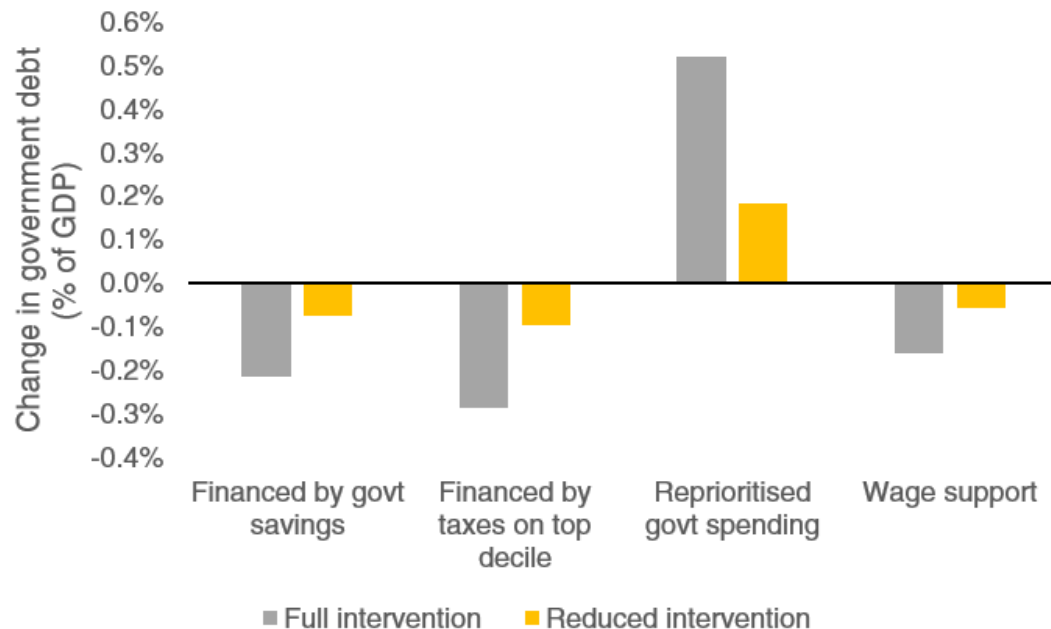


Wage subsidy less effective at reducing income inequality because of the distribution of middle-educated labour



Results Impact on government debt

Ex-post calculations on government debt suggest debt/GDP ratios could fall in some scenarios



- In all scenarios, level of debt increases
 - By design (scenario financed by lower government saving)
 - But indirect effects influence eventual impact on government savings
 - Higher indirect tax from higher consumption can be offset/supplemented by changes in direct tax revenue
- Impact on GDP positive in most scenarios
- In those scenarios, increase in GDP offsets increase in government debt
- Calculations ignore impact of, among others:
 - Government interest payments
 - Interest and exchange rates, and market sentiment
 - Government and private sector investment
 - Interactions of the above

Concluding remarks

- Sharp negative impact of pandemic, and lockdown restrictions to control it
- Recovery has been faster than expected, but unbalanced
 - Variation in recovery highlights lagging construction and transport activity
 - Employment not rising as fast as production, and poorer households still vulnerable
- Multiplier models help unpack some of the indirect effects of policy action, and remain suitable for short-term policy responses
- There is scope for temporary government support to assist a more balanced recovery
 - Social policies to protect the poor provide relief, and stimulate some sectors that have lagged the rest of the economy
 - Targeting and financing of interventions matter
 - Pro-poor
 - GDP gains can offset increases in government debt