



INTERNATIONAL
FOOD POLICY
RESEARCH
INSTITUTE



RESEARCH
PROGRAM ON
Policies,
Institutions,
and Markets

Led by IFPRI



Financial support from



Niger

Impacts of COVID-19 on Production, Poverty & Food Systems

Karl Pauw¹, Josée Randriamamonjy¹, Alkassoum Sangaré Saadatou², and James Thurlow¹

¹ International Food Policy Research Institute

² Cellule d'Analyse des Politiques Publiques et d'Evaluation de l'Action Gouvernementale (CAPEG)

Updated: 2 December 2020

Contact: Josée Randriamamonjy (J.Randriamamonjy@cgiar.org)

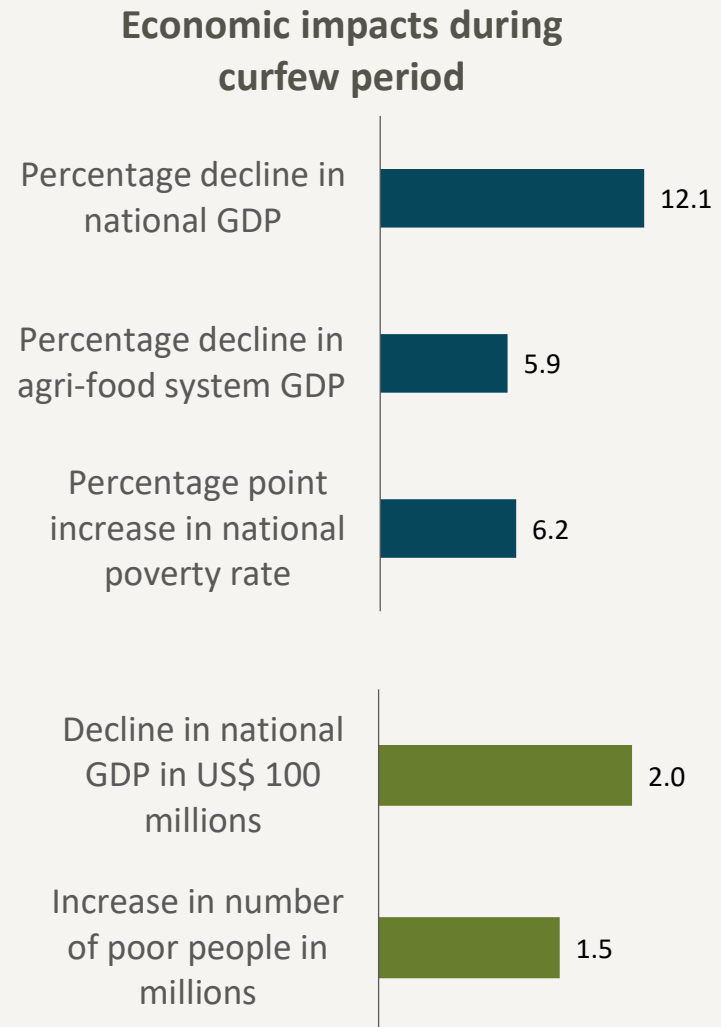
Disclaimer: The analysis presented in this slide deck are the authors' own
and do not necessarily reflect the view of the authors' institutions.

Curfew Imposes Significant Economic Costs



Updated: Dec 2 2020

- **National GDP is estimated to fall by 12% during curfew period**
(US\$ 203 mil. in lost GDP)
- **Food system is adversely affected by falling consumer & export demand**
(6% agri-food GDP decline, despite exemptions)
- **Poverty rate increases by 6 percentage points during the curfew period**
(1.5 million more people temporarily living below the national poverty line)



Source: Niger SAM Multiplier Results

Costs Likely to Persist Throughout 2020



Updated: Dec 2 2020

- **Economy is reopening & some restrictions are eased**

- **But economic losses remain, even with a fast recovery**

(GDP may be 5.0-5.8% lower in 2020; losses extend into 2021, but likely to be minimal compared to a no-COVID scenario)

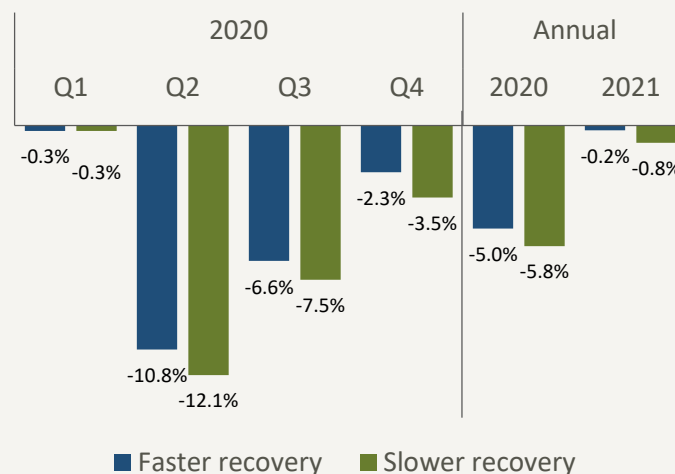
- **Average GDP & poverty rates for 2020 hide sharp mid-year deteriorations**

(some businesses & people will require government support to cope & recover)

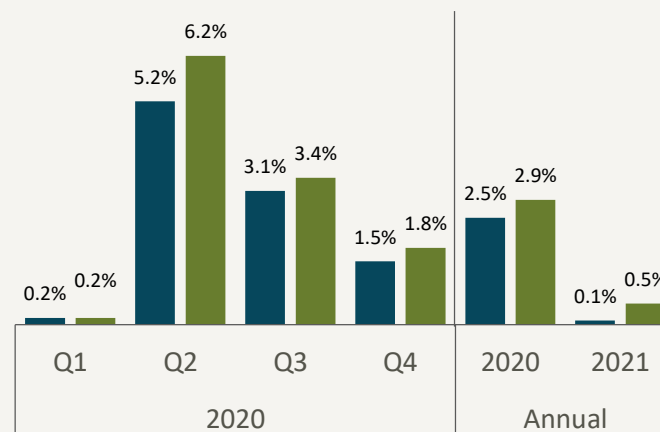
Quarterly national impacts under faster or slower easing recovery

(changes are relative to a no-COVID scenario)

Change
in quarterly
GDP



Change
in national
poverty rate
(national poverty
line)





Updated: Dec 2 2020



COVID-19 Outbreak & Restriction Policies in Niger

COVID-19 Cases & Policy Timeline

Updated: Dec 2 2020

- Curfew in Niamey, the Capital, declared from 7 pm to 6 am **03/28**
- Quarantine in Niamey declared for two weeks
- Public health emergency announced

- Closure of bars, nightclubs and others entertainment centers **03/20**
- Recommendations to follow good hygiene practices and social distancing protocols
- Ban on public gatherings of more than 50 people
- Prohibition of collective prayers, closure of places of worship and ban on religious gatherings
- Closure of schools and universities
- Closure of land borders (except for goods)
- Closure of Niamey and Zinder international airports (except for domestic, cargo, health and military flights)
- Closure of bus stations and suspension of public transportation

Cancellation of international meetings due to take place in Niamey (Francophonie and OIC) **03/13**

- Lifting of curfew and quarantine in Niamey **05/13**
- Reopening of places of worship
- Release of inter-urban passenger transportation

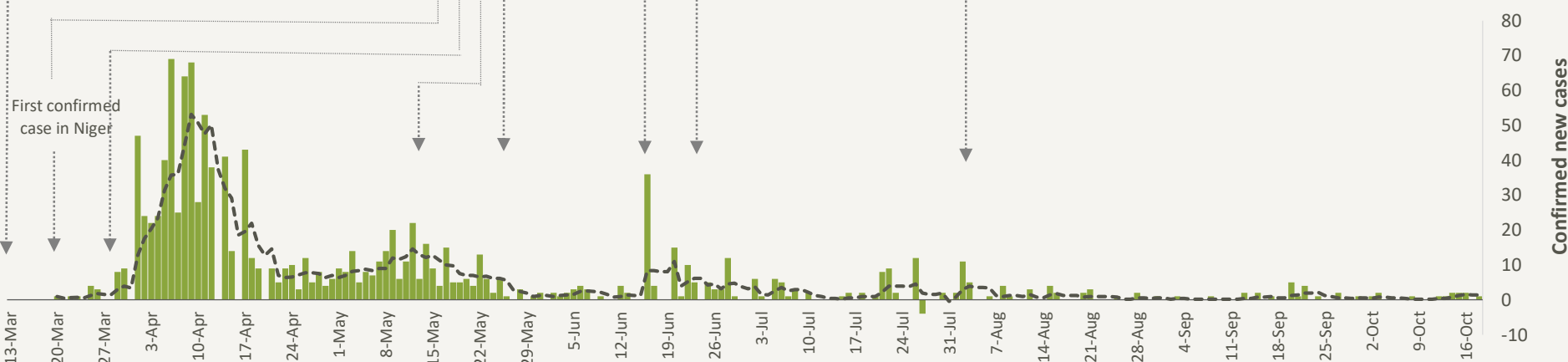
- Reinstatement of normal working hours, i.e. from 8 am to 5.30 pm, from Monday to Thursday and from 8 am to 1 pm on Fridays; lifting of the reduction of staff **05/25**
- Suspension of the ban on workshops and seminars
- Reopening of school **06/01**

Extension of state of emergency for an additional 3 months in Diffa and in several departments of the Tillabéri and Tahoua regions **06/15**

Extension of state of emergency in Tillabéri and Gotheye departments **06/22**

Air border closure lifted but land borders remain closed

Niger never imposed a strict lockdown of business, instead opting for a curfew from March 28th to May 13th, combined with work from home and reduced working hours, school closures, domestic and international travel restrictions, and social distancing measures.



Sectors Affected by COVID-19 & Restrictions (1)



Updated: Dec 2, 2020

Sector	Restrictions or exemptions during national curfew period	Directly Affected?
Agriculture	Despite deficits from last growing season, agricultural production expected to resume due to favorable rainfall levels in 2020. Sector is exempted from direct COVID restrictions. Possible benefits from favorable weather not analyzed.	None
Mining	Extraction of crude petroleum and natural gas expected to decline 11% in 2020 as a result of supply chain disruptions	Some
Manufacturing	Direct effect of cross-border intermediate input flows from Nigeria, Burkina Faso, Benin, Togo, Ghana and Côte d'Ivoire (land borders still closed). Not included high transaction costs caused by measures imposed in supplier countries.	Some (high for pharmaceutical, chemical, wood products)
Utilities	Electricity & water distribution exempt (essential sector)	None
Construction	No direct effect of curfew anticipated for public or private construction (imposed from 7pm to 6am)	None
Wholesale & retail trade services	Border closures affect availability and domestic trade of imported goods (imports from UEMOA account for 54% of imports from Africa)	Some
Transportation, storage & cargo	Land borders closed to passenger vehicle traffic; cargo and freight exempt. Ban on urban transport at night. Suspension of all commercial passenger air travel	High
Hotels & food services	Hotels closures and/or significantly reduced patronage. Closure of night clubs, bars, and restaurants	High

Sectors Affected by COVID-19 & Restrictions (2)



Updated: Dec 2 2020

Sector	Restrictions or exemptions during national curfew period	Directly Affected?
Banking, finance & insurance	Direct effect of reduced working hours in formal service sectors anticipated for banking, finance and insurance sector	Some
Professional & business services	No direct effect of curfew anticipated for banking, finance and insurance sector, although work-from-home measures, job layoffs, and social distancing have some impact on supply or demand	Some
Public admin & law enforcement	Reduced working hours in public sectors (added to difficult adjustment to work-from-home measures)	High
Education services	All public schools closed mid-March to early June; limited scope for online delivery	Some
Health services	Health services exempt (essential service)	None
Sports & entertainment	Sports, religious, cultural and political gatherings suspended mid-March to mid-September	Some

Sectors Affected by COVID-19 & Restrictions (3)



Updated: Dec 2 2020

Sector	Nationwide	Directly Affected?
Export demand	Closure of the border with Nigeria affects uranium exports (-9%) - losses cushioned by rising uranium prices (12%)	Some
Remittances	Declines in the value of remittances sent by citizens working abroad	Some
Foreign direct investments	Falling foreign direct investment in machinery, equipment, vehicles, and construction activities	Some

See detailed sector-level assumptions about production & demand shocks in Annex at the end of slide deck



Updated: Dec 2 2020

2 Measuring Economic Impacts

Economywide Multiplier Analysis



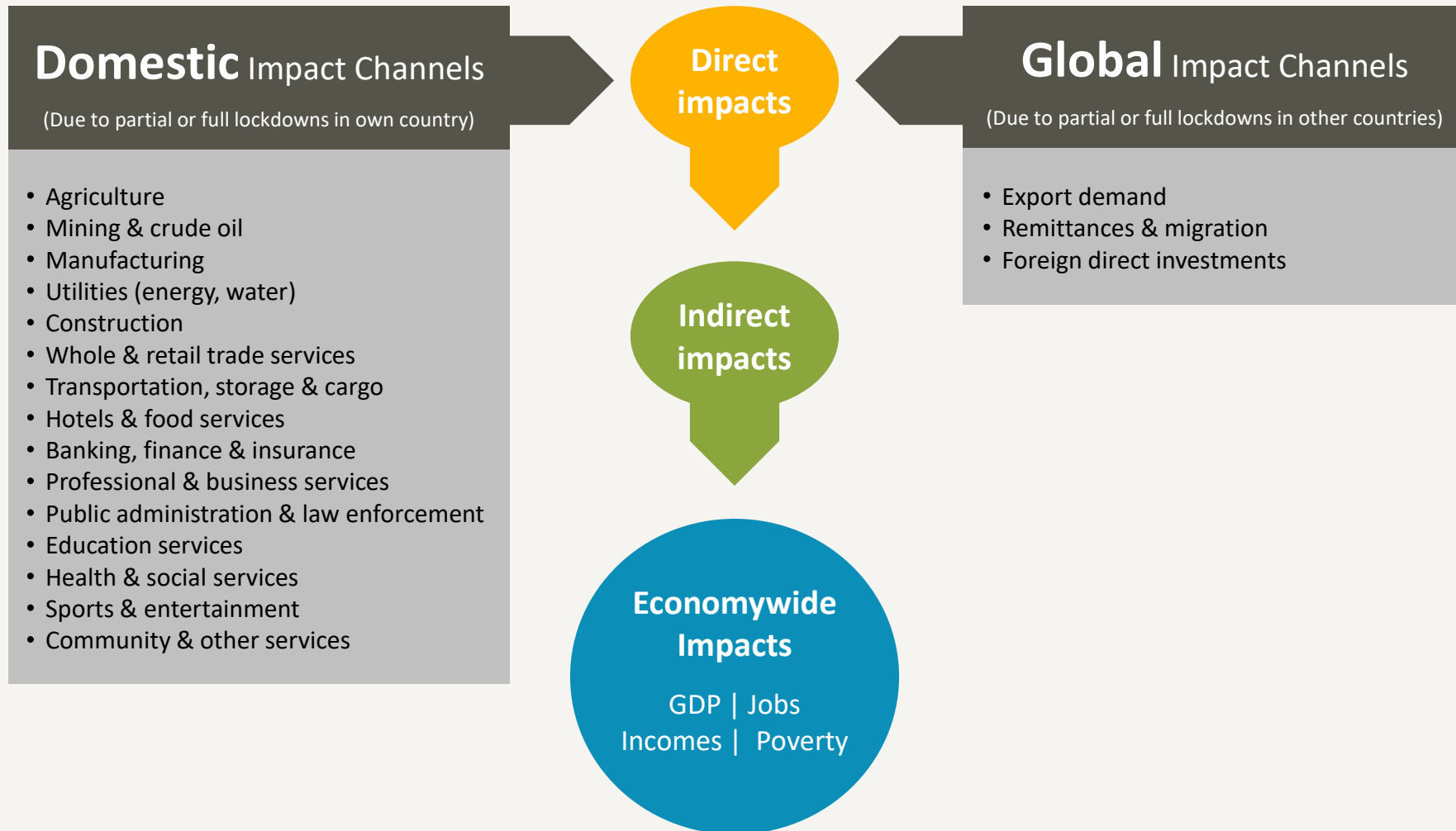
Updated: Dec 2 2020

- **Lockdown policies & other shocks have direct impacts on the operation of certain sectors**
(e.g., closing schools, banning sports events, restricting travel, etc.)
- **But they also generate indirect impacts on other sectors involved in supply chains**
(i.e., input suppliers & downstream users)
- **Multiplier analysis uses sector input-output data to measure direct & indirect impacts throughout & across supply chains**
(incl. impacts on GDP, jobs & household incomes)
- **Niger model based on 2018 SAM & 2014 household survey data**
(results scaled to 2019 GDP & employment levels)

Framework for Analyzing COVID-19



Updated: Dec 2 2020



Impact Channels & Shocks



Updated: Dec 2 2020

- **Restrictions during curfew period are simulated using a range of impact channels**
 - Shocks to each channel are imposed on the model & impacts are simultaneously traced across all supply chains
- **Multiplier model separates Niger economy into 86 sectors**
(shocks are calculated bottom-up using supply-use data for 136 goods & services)
- **Size of shocks is estimated by IFPRI's staff & collaborators**
(see Annex)

Curfew Period & Recovery Scenarios



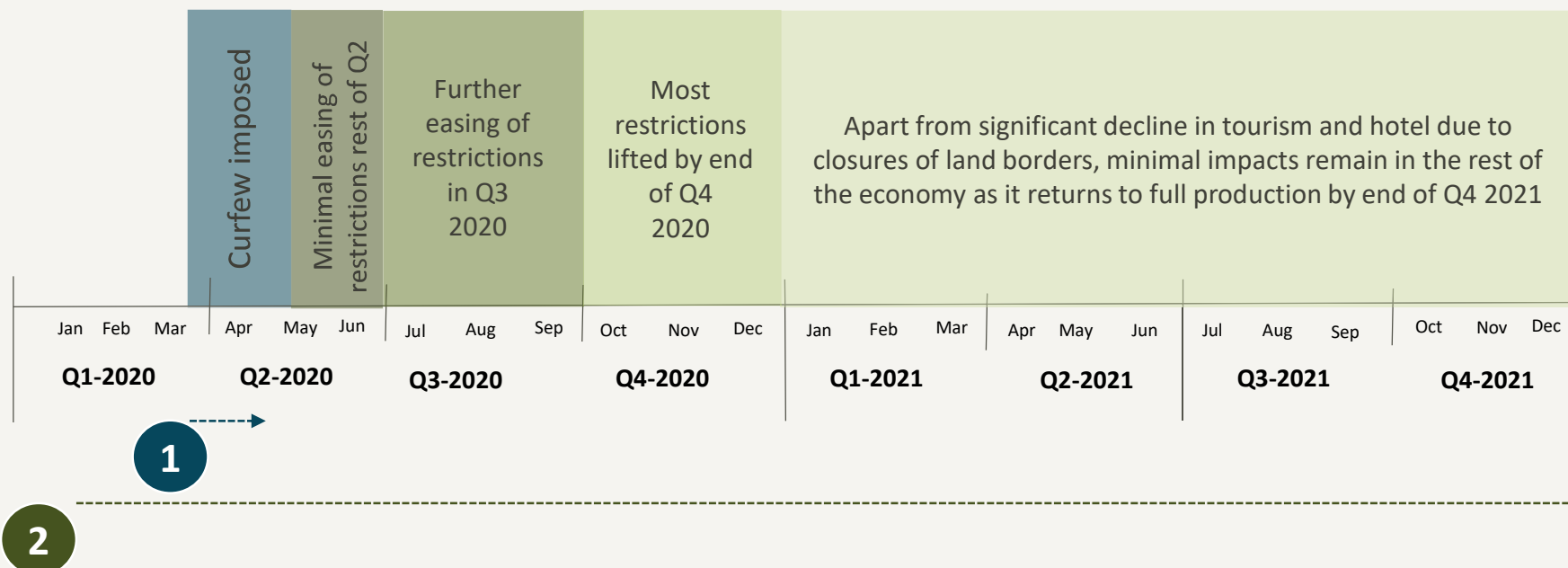
Updated: Dec 2 2020

1. Impacts during curfew period only

- Six-week period during which curfew is imposed and social distancing measures are most stringent
- Shocks assumed to be imposed nationwide

2. Impacts for rest of 2020 and 2021 as restrictions are lifted

- We will compare a faster vs. slower easing of restrictions over two years, although most restrictions are fully lifted by the end of 2020
- Analysis accounts for intra-annual seasonality





Updated: Dec 2 2020

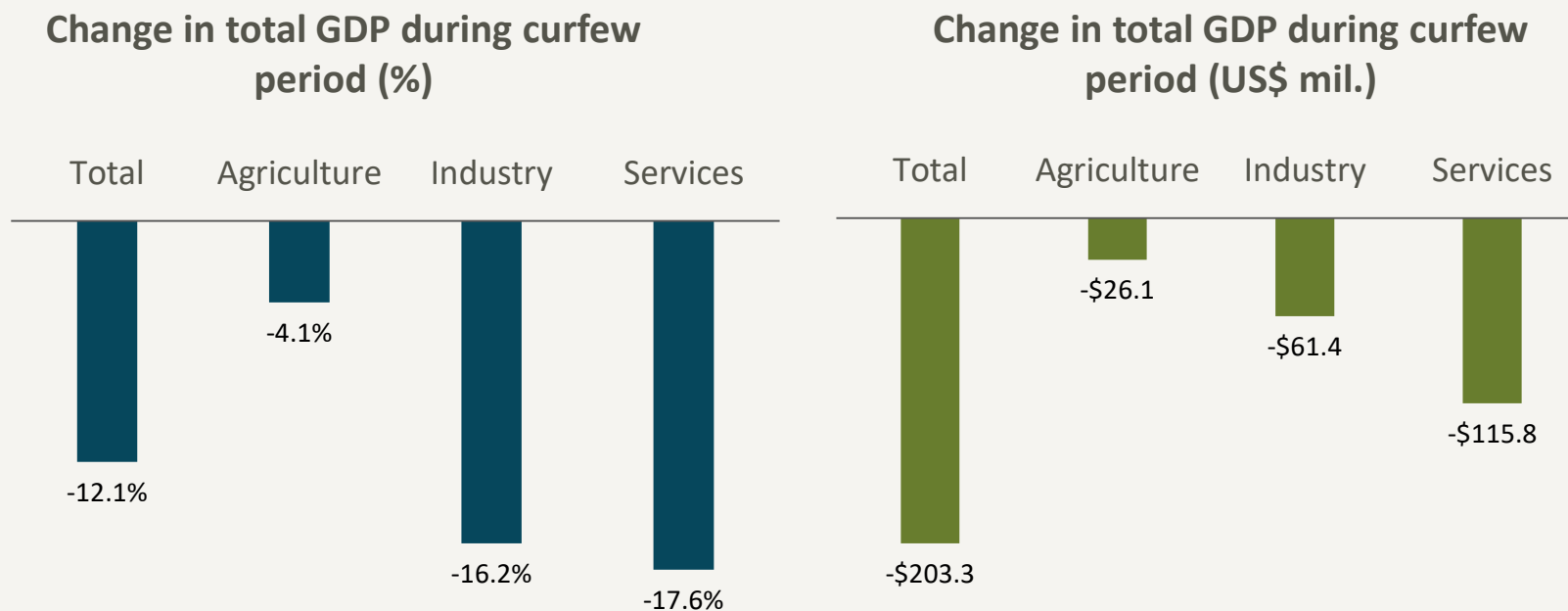
3 Economic Impacts During Curfew

GDP Losses During Curfew



Updated: Dec 2 2020

National GDP drops 12% during curfew
(economic losses largest in the services sectors, in both relative and absolute terms)



Source: Niger SAM Multiplier Results

Sources of GDP Losses

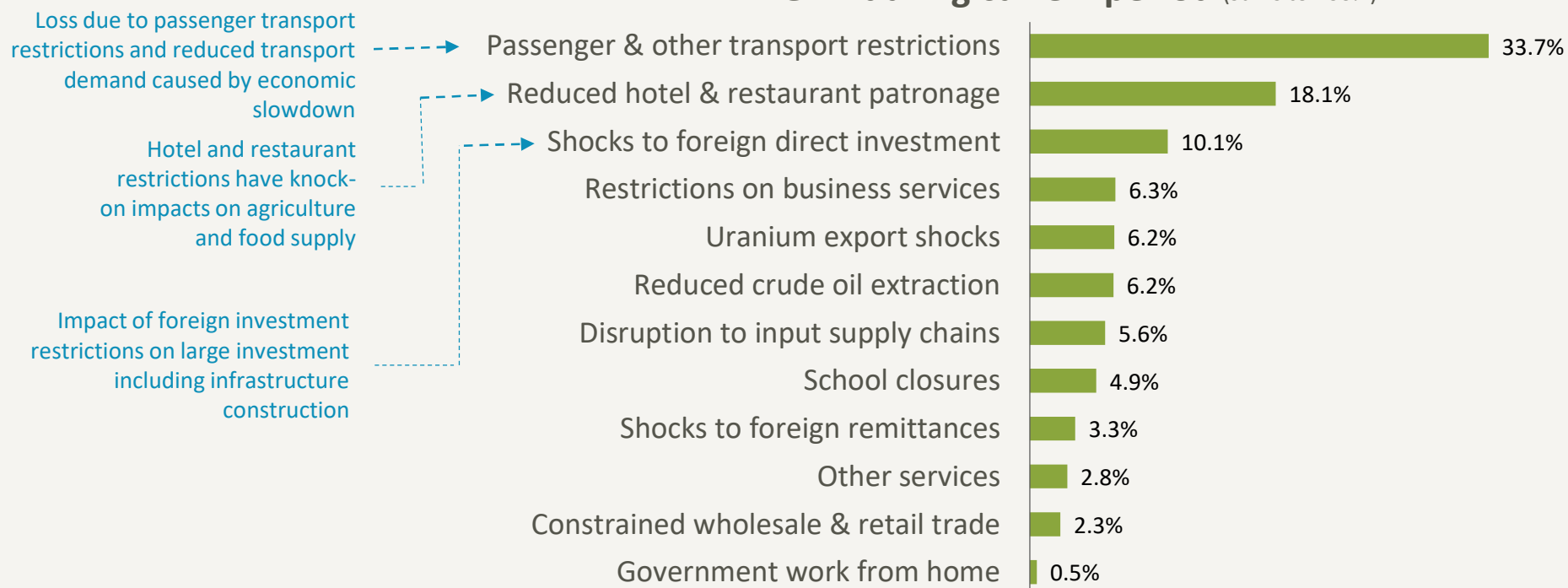


Updated: Dec 2 2020

Transport and hospitality restrictions account for half of GDP losses

(significant contribution of shocks to foreign direct investment)

Contribution of restrictions & shocks to loss in total GDP during curfew period (sums to 100%)



Source: Niger SAM Multiplier Results

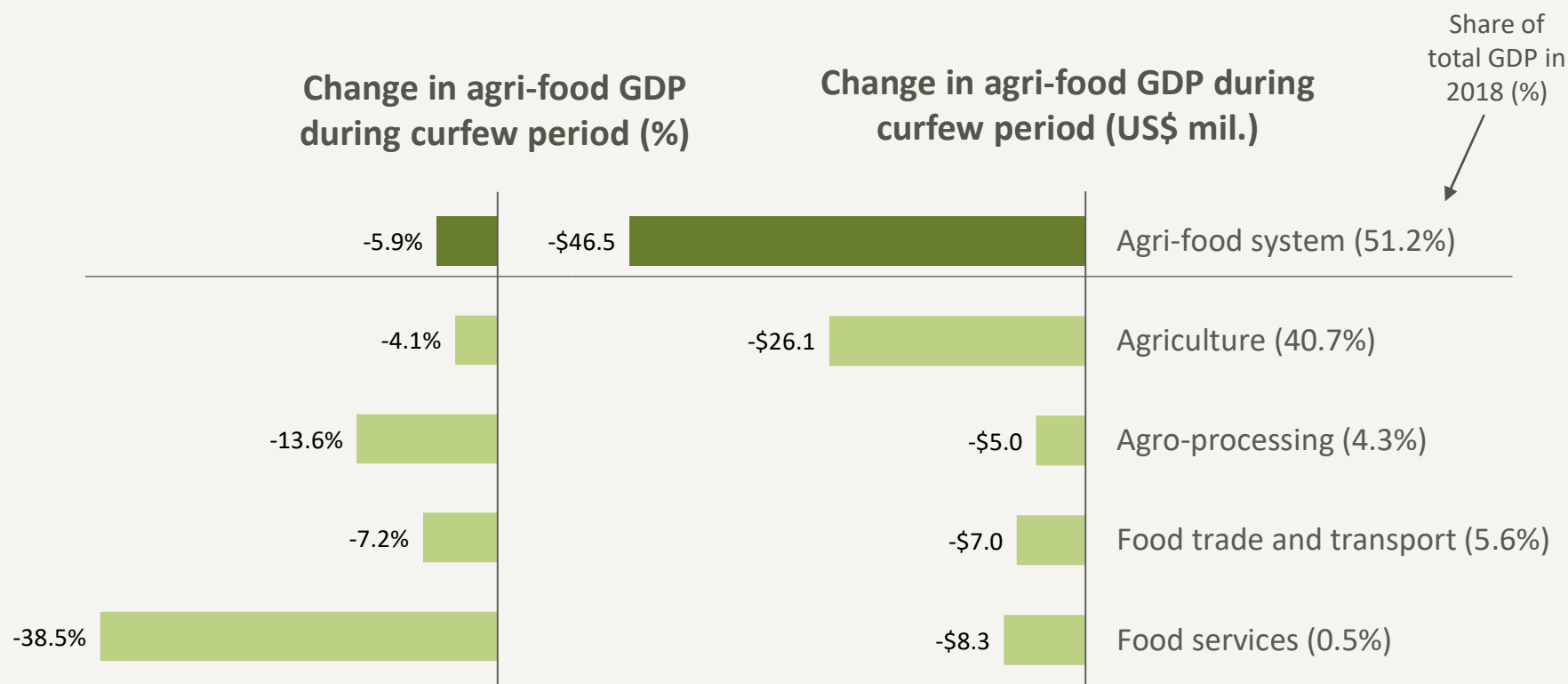
Impacts on the Agri-Food System



Updated: Dec 2 2020

Food supply is exempt from most restrictions, but it is still indirectly affected by falling consumer incomes & other shocks

(food services is directly affected by the closing of hotels, restaurants & bars, but this is a small component of the overall agri-food system)



Source: Niger SAM Multiplier Results

Sources of Agri-Food System GDP Losses

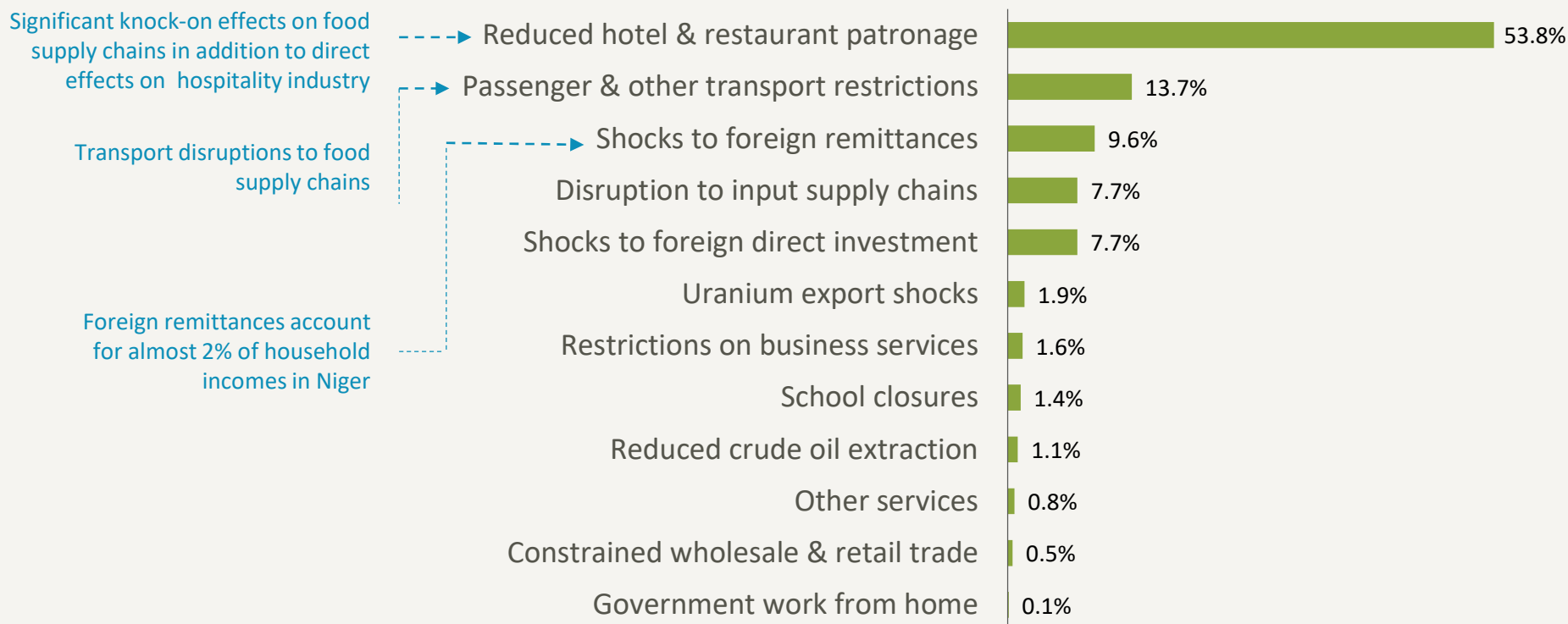


Updated: Dec 2 2020

Hotel and restaurant restrictions contribute most to agri-food GDP losses via its significant indirect impact on food supply

(effect of transport restrictions is also significant)

Contribution of restrictions & shocks to loss in agri-food GDP during curfew period (sums to 100%)

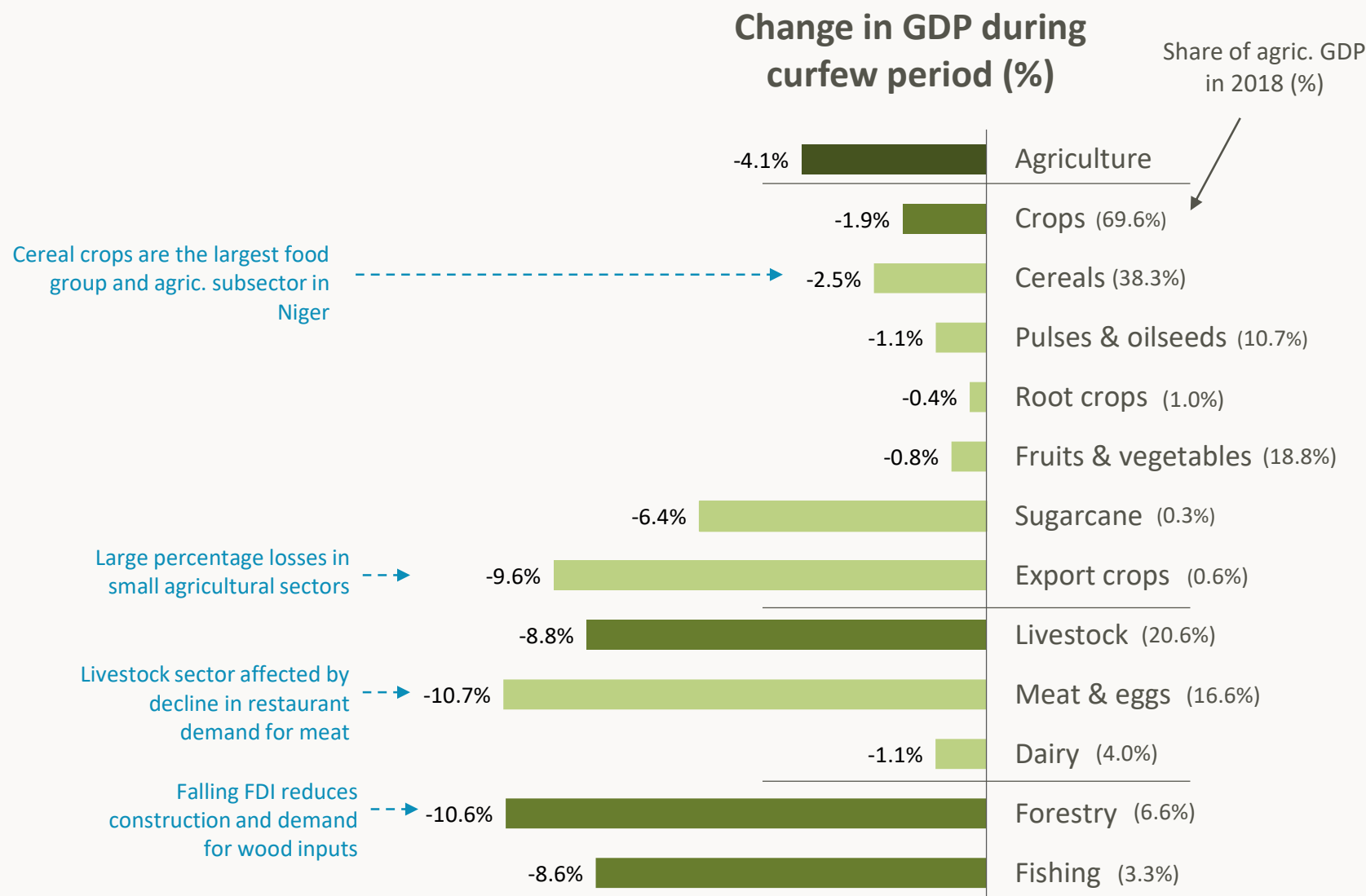


Source: Niger SAM Multiplier Results

Unpacking Agricultural GDP Impacts



Updated: Dec 2 2020



Source: Niger SAM Multiplier Results

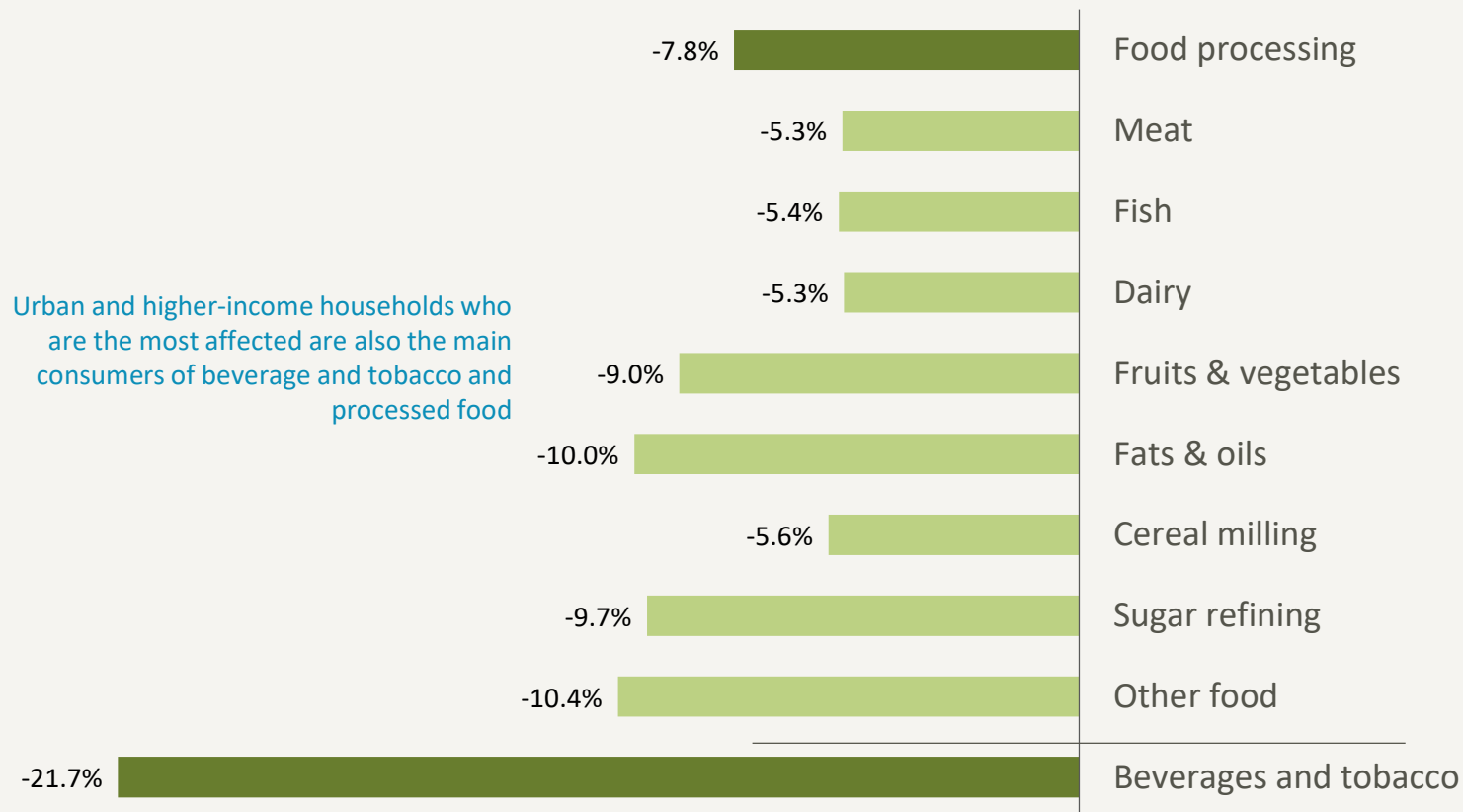
Unpacking Agricultural GDP Impacts



Updated: Dec 2 2020

Note: Agri-food processing is a subsector within manufacturing

Change in GDP during curfew period (%)



Source: Niger SAM Multiplier Results

Impacts on Household Incomes

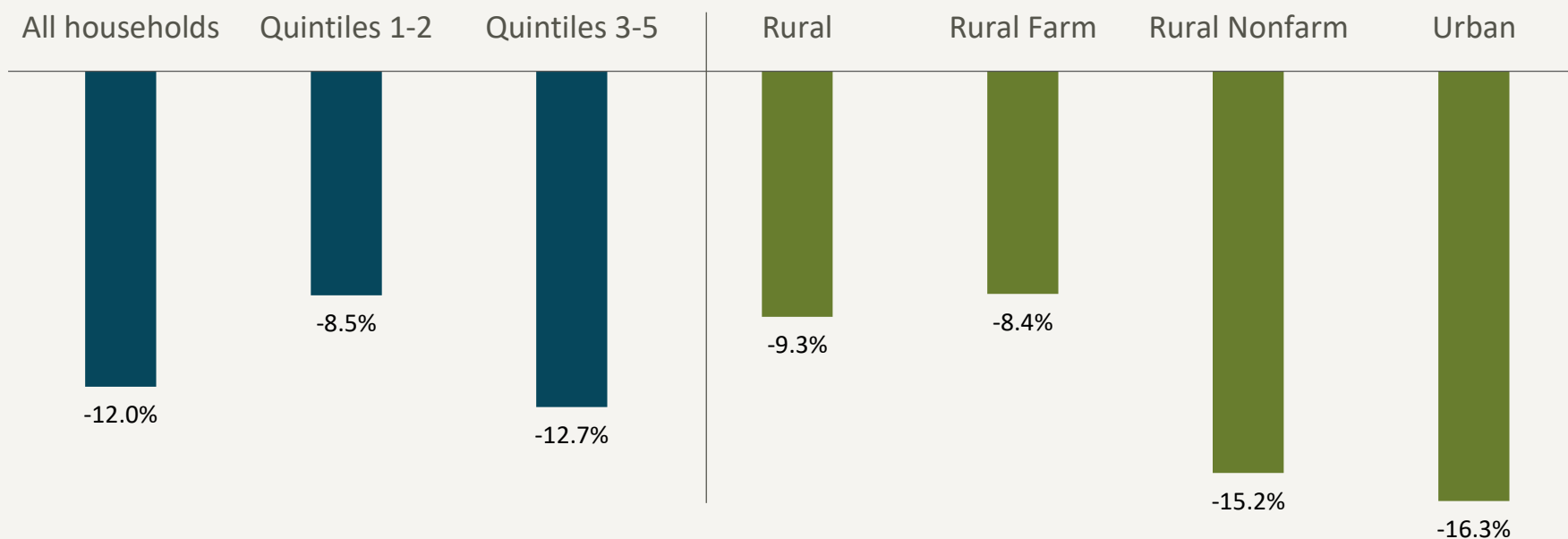


Updated: Dec 2 2020

All households experience large income losses

(larger income losses for urban and higher-income households who are more likely employed in sectors affected more directly by restrictions)

Change in household incomes during curfew period (%)



Source: Niger SAM Multiplier Results

Poverty Impacts During Curfew Period

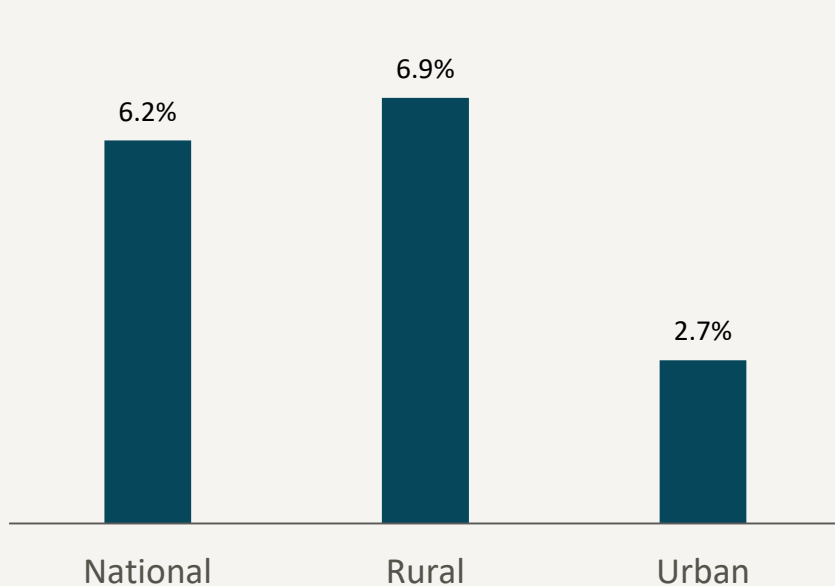


Updated: Dec 2 2020

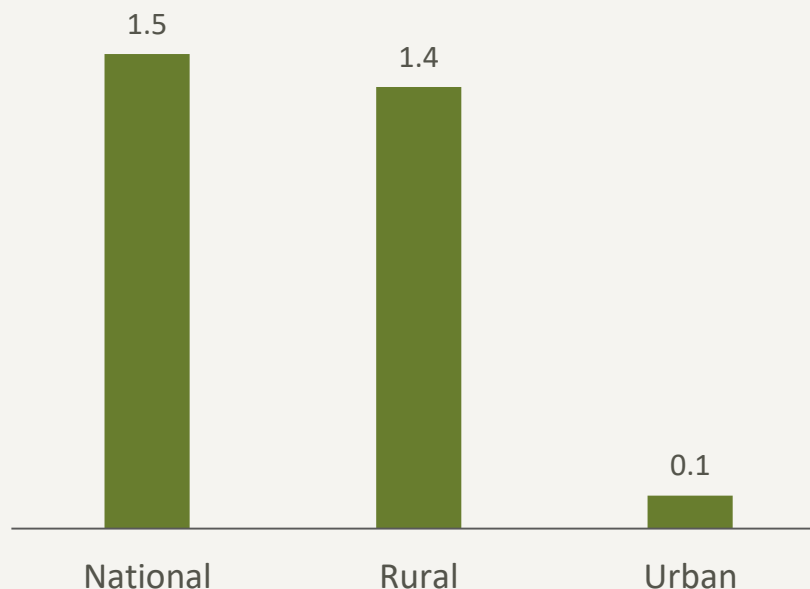
National poverty rate increases 6.2 percentage points during curfew

(equates to 1.5 million additional poor people)

Increase in share of population living in poverty during curfew period (%)



Increase in number of poor people in Niger during curfew period (mil.)



Source: Niger SAM Multiplier Results



Updated: Dec 2 2020

4

Economic Impacts Under Fast & Slow Easing of Restrictions & Recovery

Easing of Restrictions & Recovery



Updated: Dec 2 2020

We consider two stylized scenarios:

Faster easing: Most restrictions are gradually lifted by the end of 2020, but significant shocks due to closures of land borders remain until the end of 2021

Slower easing: Restrictions are moderately relaxed till end of 2021

		Faster easing	Slower easing	Global shocks
Q1-2020	Jan - Feb	No shocks in pre-COVID-19 period		
	Mar	Curfew period from March 29th to May 13th		
Q2-2020	Apr			
	May	Shocks reduced by 20% (domestic trade by 50%)	Shocks to domestic trade reduced by 50%	Faster easing : Shocks to uranium exports (1), FDI (2), and foreign remittances (3) reduced by 20%
	Jun			
Q3-2020	Jul	Shocks reduced by 50% (domestic trade at 50%, tourism and hotel by 30%)	Shocks reduced by 40% in the rest of the economy (domestic trade at 50%, tourism and hotel by 30%)	Faster easing: Shocks to (1) and (2) reduced by 50%; (3) by 30% Slower easing: Shocks to (1) and (2) reduced by 40%; (3) by 30%
	Aug			
	Sep			
Q4-2020	Oct	Shocks reduced by 90% (tourism and hotel by 50%)	Shocks reduced by 80% (tourism and hotel by 40%)	Faster easing: Shocks to (1) and (2) reduced by 90%; (3) by 50% Slower easing: shocks to (1) and (2) reduced by 80%; (3) by 40%
	Nov			
	Dec			
2021		Apart from shocks due to closures of land borders, most shocks disappear before 2021	Shocks dissipate progressively as the entire economy returns to full production by end of Q4 2021	Faster easing: Shocks to (3) only remain in 2021 Slower easing: Shocks to (1), (2), and (3) persist in 2021, dissipate gradually to disappear by end of 2021

GDP Impacts with Recovery Scenarios

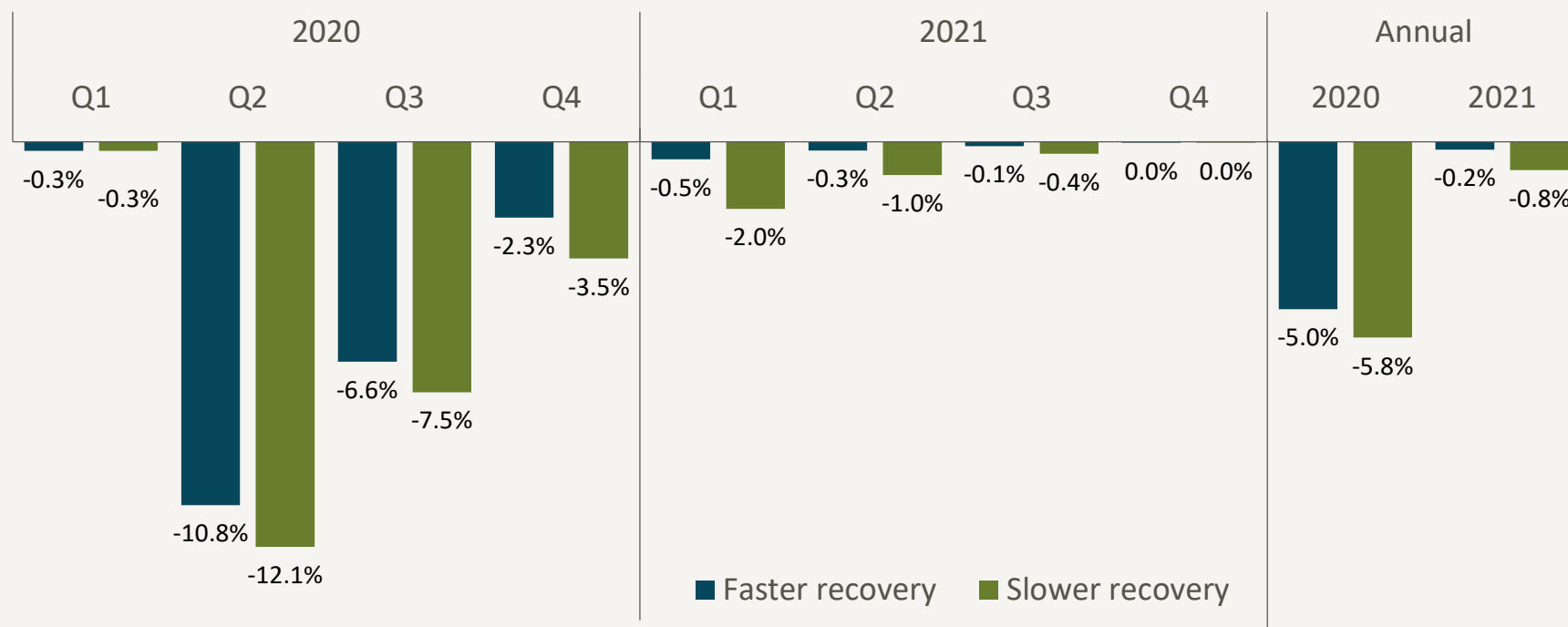


Updated: Dec 2 2020

National GDP may be 5.0-5.8% lower over 2020; losses extend into 2021, but likely to be minimal

Change in quarterly (2020) & annual (2020–2021) national GDP under fast or slow easing scenarios

(changes are relative to a no-COVID growth scenario)



Source: Niger SAM Multiplier Results

Cumulative Quarterly GDP Losses



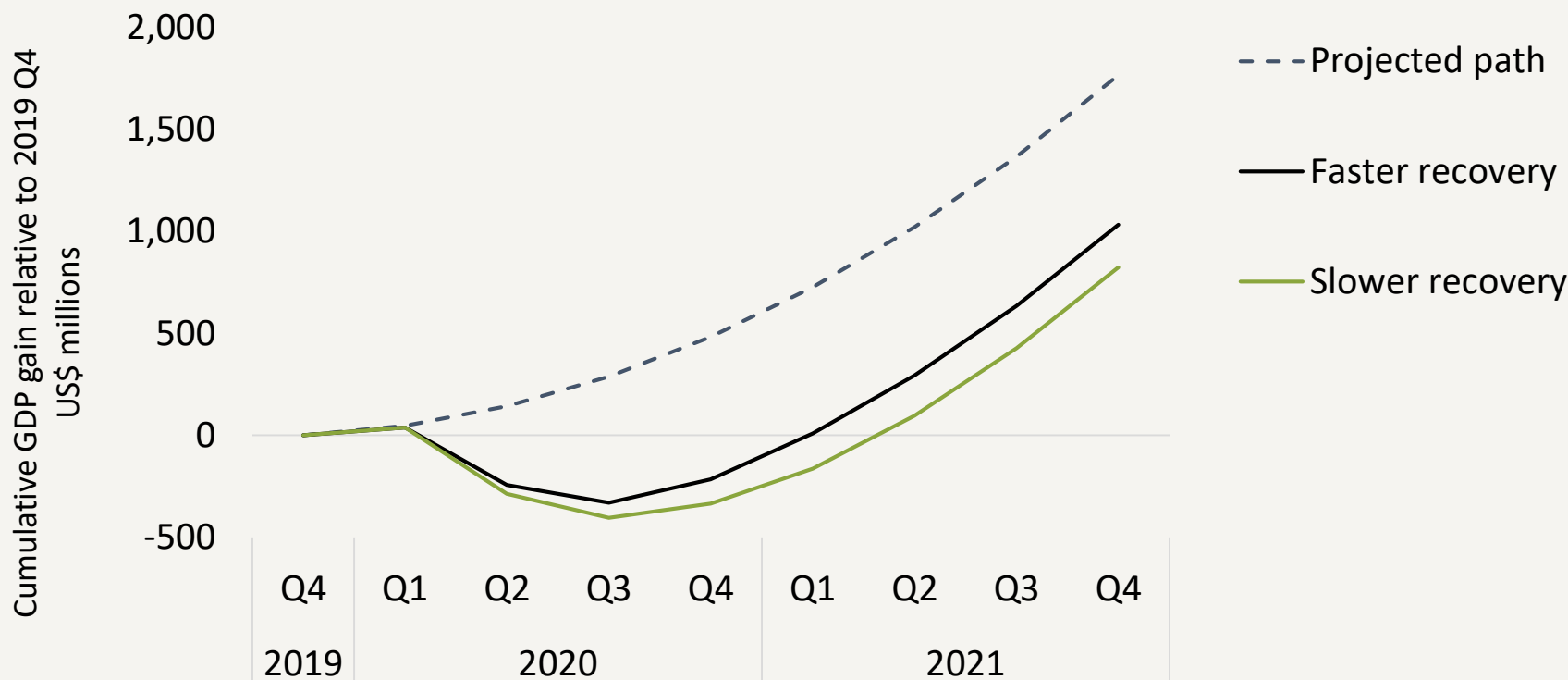
Updated: Dec 2 2020

Even with faster recovery, Niger ends 2021 with lower GDP

(GDP losses accumulate each quarter & will take time to recover to pre-COVID levels)

Cumulative changes in 2021 GDP from end of 2019

(pre-COVID expected growth rate for 2020 was 6% according to the World Bank Macro-Poverty Outlook)



Source: Niger SAM Multiplier Results

Poverty Impacts with Recovery Scenarios



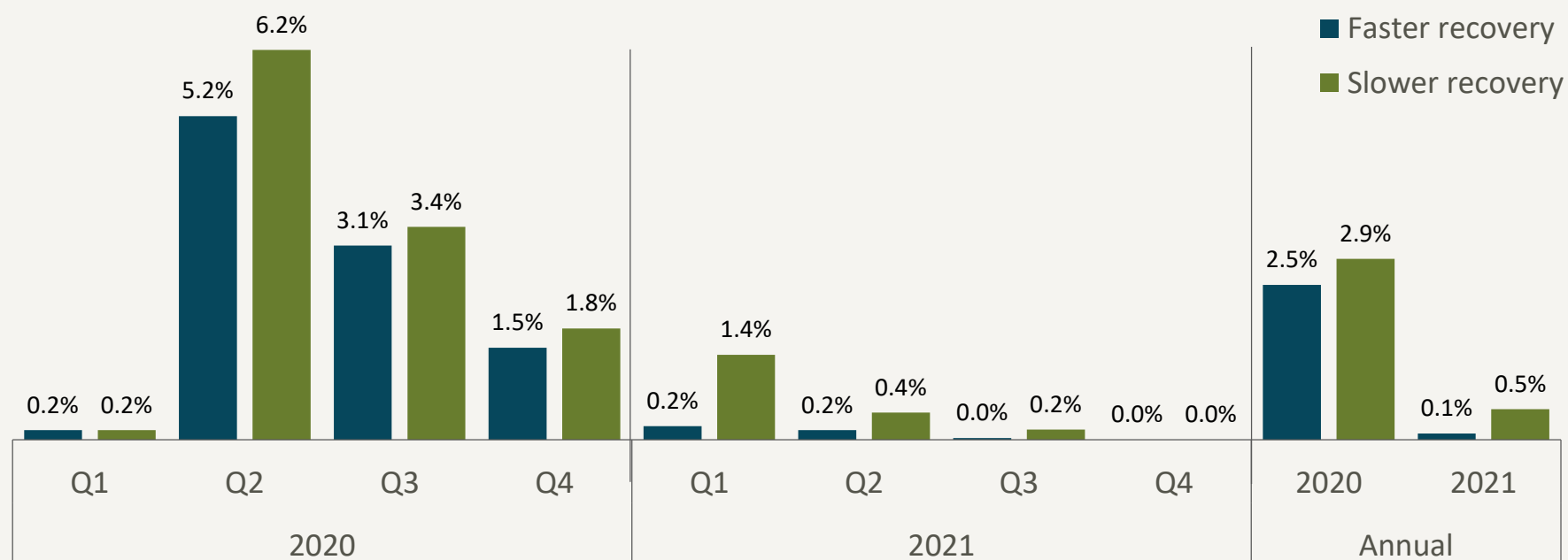
Updated: Dec 2 2020

Poverty should stabilize in 2021 as people return to work, incomes recover & consumer demand resumes

(this hides sharp spike in mid-year poverty, when many households living close to the poverty line may require government or other support to cope)

Change in national poverty rate under fast or slow easing of restrictions

(changes are relative to pre-COVID poverty levels)



Source: Niger SAM Multiplier Results



Updated: Dec 2 2020



Detailed Assumptions About Production & Demand Shocks

Channels, Shocks & Affected Sectors (1)



Updated: Dec 2 2020

Type of restriction or global shock	Major sectors affected ²	Size of shock	Detailed subsectors affected by shock ²
Direct restrictions on farming	Agriculture (A)	0%	Crop/animal production, hunting, related service activities (D01); forestry, logging (D02); fishing, aquaculture (D03)
Limiting mining operations	Mining, quarrying (B)	-11%	Coal, lignite (D5); crude petroleum, natural gas (D06); metal ores (D07); quarrying (D08); mining support service activities (D09)
Closing non-essential manufacturing operations	Manufacturing (C)	-5%	Food products (D10); Beverages, tobacco (D11-12); textiles, clothing, leather (D13-15); metals (D24-25); electromedical equipment (G266);
		-50%	Wood, paper, printing (D16-18); chemicals, rubber, plastics (D20-21)
		-6%	Coke, refined petroleum (D19)
		-66%	Pharmaceuticals medicinal chemicals (D21)
		-9%	Non-metallic minerals (D23); equipment, machinery (D26-28 excl. G266); vehicles, transport equipment (D29-30); furniture (D31), other manufactures (D33)
Disruptions to energy and water supply	Electricity, gas (D); water supply (E)	0%	Electricity, gas, steam supply (D35); water collection, treatment, supply (D36); sewerage, waste collection/remediation (D37-39)
Limiting construction activities	Construction (F)	0%	Construction of buildings (D41); civil engineering (D42); specialized construction activities (D43)
Closing non-essential trading activities	Wholesale (G)	-0%	Agricultural raw materials, live animals (G462); agricultural machinery, equipment, supplies (C4653); food, beverages, tobacco, incl. stalls & markets (G463 G471-472 C4781); construction materials, hardware, plumbing, heating equipment (C4663); automotive fuels (G473); wholesale trade (D46 excl. G462-463 C4653 C4663);
	Retail trade (G)	-10%	Motor vehicle trade/repair (D45); Retail trade (D47 excl. G471-472 G47 C4781)
Transport/travel restrictions	Transportation, storage (H)	-70%	Freight rail/road/air transport (C4912 C4923 G512); warehousing/storage (G521)
		-80%	Urban/suburban passenger/other land transport (C4911 C4921-4922)
		-60%	Passenger air transport (G511)
Government work-from-home orders	Public administration, defense (O)	-20%	Public administration, defense, compulsory social security (D84)
Closing hotels	Accommodation, food services (I)	-70%	Accommodation (D55); food/beverage service activities (D56)
Closing bars, restaurants		-60%	

Channels, Shocks & Affected Sectors (2)



Updated: Dec 2 2020

Type of restriction or global shock	Major sectors affected ²	Size of shock	Detailed subsectors affected by shock ²
Closing non-essential business services	Information, communication (J); finance, insurance (K); real estate (L); professional/scientific/technical activities (M); administrative/support services (N)	-10%	Publishing activities (D58); programming/broadcasting activities (D60); telecommunications (D61); computer programming/consultancy activities (D62); information service activities (D63); financial services, insurance, pension funding, auxiliary services (D64-66); real estate activities (D68); security and investigation activities (D80)
		-10%	Accounting, bookkeeping, auditing, tax consultancy (G692); head offices, management consultancy (D70); scientific research/development (D72); advertising, market research (D73); other professional/scientific/technical activities (D74);
		-10%	Legal activities (G692); architectural/engineering activities (D71); veterinary activities (D75)
		-10%	Motion picture/video/television program production, etc. (D59); renting/leasing activities (D77); employment activities (D78); travel agencies, tour operators (D79); building services, landscape activities (D81); office administrative, office support, other business support activities (D82)
Closing schools	Education (P)	-10%	Pre-primary and primary education (G851)
		-10%	Secondary education (G852); Other education (G854)
		-10%	Higher education (G853); Educational support activities (G855)
Disruptions to hospitals and clinics	Human health, social work (Q)	0%	Human health activities (D86); residential care activities (D87); social work activities without accommodation (D88)
Banning sports & other entertainment	Arts, recreation, entertainment (R)	0%	Creative/arts/entertainment activities (D90); libraries, archives, museums, other cultural activities (D91); gambling, betting activities (D92); sports, amusement/recreation activities (D93)
Domestic workers & other services	Other service activities (S); households as employers (T); extraterritorial organizations (U)	0%	Extraterritorial organizations/bodies (D99)
		-10%	Membership organizations (D94)
		-10%	Other personal services (D96); domestic workers/personnel (D97); Other production activities of private households for own use (D98)
		-10%	Repairing computers & personal/household goods (D95)

Note: Numbers in parentheses are International Standard Industrial Classification (ISIC Revision 4) codes (by major section with detailed subsectors, D is division, G is group and C is class).