Operation of and Demand for Public Transport during Covid-19: Descriptive Evidence from Sierra Leone

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July 23, 2020

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Research Question

Covid-19 restricted the operation of private businesses + increased businesses’ responsibility for health safety.

1. How do government regulations affect the operation of public transport?

2. To what extent do operators forgo profits and incur expenses to comply with recommendations?

3. How do citizens adjust their mobility, economic activity and expenditures to Covid-19 regulations and infection risk?

Pilot survey via phone with 53 bus drivers and 640 citizens in Freetown, April 22nd - May 16th.

- Citizens 75% age 18 - 35 years old. 93% completed junior or higher level education (secondary, tertiary).
Covid-19 Government Regulations - March 2020

Social distancing and stringent hygiene measures. Curfew 9pm - 6am.

Public transport:
- No sitting in middle rows, no standing in buses.
- Drivers required to provide hand sanitizers to passengers.
- All transport parks must have hand washing facilities.
- Wearing of face masks.

Citizens:
- Schools closed. Periodic market days banned.
- Worship in churches and mosques banned.
- Traditional engagements e.g. weddings limited to 20 people.
- Bars, clubs, restaurants reduced opening hours.
- Inter-district travel prohibited.
Public Buses in Sierra Leone: Big bus
Public Buses in Sierra Leone: Mini Bus
**Economic Impacts of Covid-19: Bus Operations**

- **Buses reduce operations.** Daily # of round trips dropped from 10 during normal times to 7-8 per day.
- **Revenue targets reduced** to 70% of normal times, drivers’ daily earnings from bus fares fell by 46%.
- **Passenger fare prices** remained the same.
- Negative economic shock shouldered by both employers and drivers. Bus owners reduce fees collected from drivers to 72% of normal times, and hold contractual salaries constant.
- Big buses hardest hit by revenue decline. Most affected by social distancing restrictions.
Health and Safety Measures on Buses

Self-reports from bus drivers, and passenger observations.

- **Loading restrictions**: only 8% of drivers report overloading. Higher among big buses: 21% of drivers.

- **Curfew compliance**: 92% of drivers work past 9pm, 64% past 10pm.

- **Hand sanitizer for passengers**: 8% of drivers report to provide. Less than 2% of passengers say they were offered. ⇒ High cost: large bottle 26,000 Leones (USD 2.60) ≈ 33% of drivers’ total daily income.

- **Hand washing stations “Veronica buckets”**: 35% (poda poda), 42% (big bus) of passengers report access when boarding bus. 68% carry own hand sanitizer, others mostly name lack of affordability.
Health and Safety Measures on Buses

- **Hand hygiene among drivers**: 31% say wash hands after each ride or more frequently, but 32% at most twice per day.

- **Cleaning of buses**: 42% report increase, avg. twice per day. Higher compliance among smaller buses.

- **Wearing of face masks**: 45% of drivers. 86% of passengers report to use masks in public: 96% compliance on buses, 87% and 74% on motorized rickshaws and taxis.

- **Enforcement by traffic authorities**: 67% of drivers stopped for loading, only 8% for use of hand sanitizer.
Most frequent means of transport:

- **...during normal times:** 64% use buses, 29% use motorized rickshaw, taxi or motorcycle; 2% do not take transport.
- **...during past one week Covid-19:** 44% use buses, 33% use rickshaw, taxi or motorcycle; 19% used no public transport.

⇒ People are less likely to go out, and switch from high capacity transport to modes with fewer passengers. 42% switch transport.

- **Reasons for switch:** 59% normal transport waiting time too long, 51% normal transport not safe given Covid-19.
- **Cost of transport:** one-way fare normal times 1,500 Leones; during Covid 2,000 Leones. Increase explained by switch to more expensive transport, not by fare increases.
28% could carry out economic activity as normal, 27% do not engage in economic activity. 45% of people were unable to carry out their regular activity. ⇒ 9% did not work at all. Large impacts on small businesses: 22% report less demand or fewer/no customers, 20% worked fewer hours.

Reasons for not carrying out activity as normal: (i) 49% government restrictions e.g. opening hours, social distancing, operation of markets, (ii) 44% fear of virus, not safe to work.
Daily income: normal times 30,000 Leones, during Covid-19 14,286 Leones. Median income ↓ by 50%. 37% borrowed money in the past one week to cover expenses. Median amount: 160,000 Leones.

82% changed their expenditure. Less spending on clothing (31%) and communication (13%). Higher spending on food (70%), electricity (8%) and medicine (14%).

Reasons for expenditure ↑: Fears over price increases and shortages ⇒ 57% of individuals stockpile, 43% concerns over future prices/inflation/tariffs, 31% higher consumption.
Physical and Mental Health

- **Health expenditure**: 53% of individuals bought products in past 2 weeks: 79% at pharmacies, 18% street vendors, 2% doctor/clinic ⇒ high demand, some stockouts, low utilization of qualified providers.

- 54% preventative products (e.g. soap, face mask). 66% curative medicine (e.g. paracetamol, cough and cold drug).

- **Mental health**: 90% of individuals report to have worries. Among those, 47% named Covid-19. 86% worry nearly everyday. ⇒ Coping mechanisms: going to church, praying (53%) and speaking to family or friends (35%).

- **Future expectations about virus** “When will things go back to normal?” 71% answered between April-July, 10% in August or September, 19% at the end of 2020.
A lot of scope for future research

Thank you
Knowledge: What are the symptoms of Covid-19?

N = 633 adults
Knowledge: How is Covid-19 transmitted?

- Others coughing/breathing same air: 0.82
- Touching contaminated surfaces: 0.36
- One can be contagious without symptoms: 0.06
- Shaking hands/touching others: 0.05
- One can be infected without symptoms: 0.00
- Eating bad/spoiled/unripe food: 0.00
- Witchcraft: 0.00

N = 633 adults
Knowledge: What do you do to prevent getting Covid-19?

What do you do to prevent yourself from getting infected?

- Increased hand washing: 0.85
- Not shaking hands: 0.82
- Praying: 0.61
- Drinking clean water: 0.35
- Eating garlic: 0.22
- Wearing a mask: 0.12
- Staying at home: 0.06
- Drinking hot water: 0.04
- Using hand sanitizer: 0.03
- Avoiding sick people: 0.02
- Drinking ginger tea: 0.01
- Not eating from a shared pot: 0.01
- Eating more healthily: 0.01

N = 633 adults
Social Distancing and Gov’t Regulations

N = 633 adults
Knowledge and Beliefs about Covid-19

- **Infection risk:** 53% of individuals believe that they could contract the virus during daily activities. 88% believe that if they had Covid-19, they would infect others.

  ⇒ **Reasons for risk:** “social distancing is difficult”, “interact with many people”, “can’t avoid touching surfaces in public spaces”

- **Health consequences:** 65% believe they would fall ill, but recover. 26% think they would die.

- **Traditional beliefs:** 50% of individuals agree with statements “If you eat a lot of garlic it will help protect you from the virus” and “If you drink tea with ginger it will help kill the virus”.

  ⇒ **Main reasons stated:** i) medical composition of garlic/ginger and ii) having heard from trusted sources of information.