The Economic Costs of a Resurgence of Disease in South Africa

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Abstract

Reductions in U.S. foreign aid are expected to have significant public health impacts. We estimate the economic costs of these reductions in terms of lost health and productivity for South Africa. We find that the reductions in foreign aid and expected significant increases in disease and premature death, will have very large and negative impacts on the South African economy. In our preferred specification, the costs exceed XX trillion rand (about $X trillion dollars) in net present value.

keywords: public health, demographics, general equilibrium, productivity, South Africa

JEL classification: C68, E24, E37, I15, J11, J17, J24

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1 Introduction

Background on aid to SA and their history of disease. Cite Kenny and Sandefur (2025) on costs. Also cites Marcelo found on productivity effects.

2 Methodology

We use the OG-ZAF model (cite it) to estimate the economic costs of a resurgence of disease in South Africa. The model is a dynamic, general equilibrium model that includes a detailed representation of the South African economy, including its demographics, health, and productivity. The model is calibrated to match the South African data and is used to simulate the economic impacts of a resurgence of disease in South Africa.

Give brief overview of model, but omit equations etc in main text. Cite OG-Core as well as OG-ZAF (and footnote with links to docs for details).

Describe how we incorporate Kenny and Sandefur (2025) into the model:

Figure 1: Mortality rates with and without aid

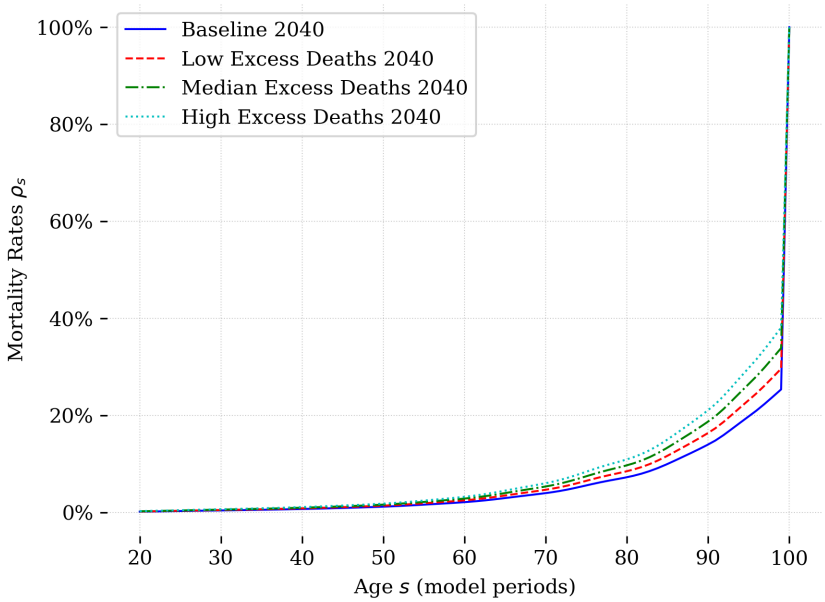
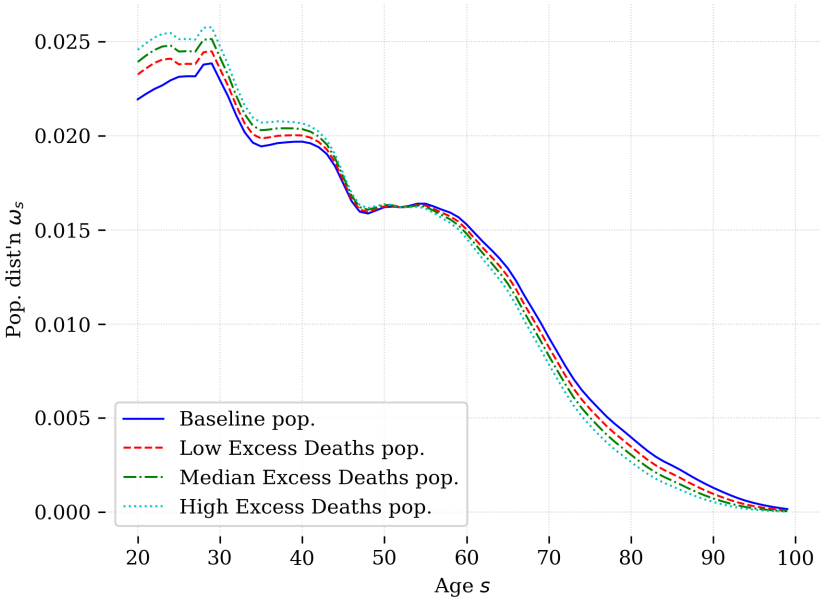


Figure 2: The population distribution with and without aid



The population distribution is affected by the changes in mortality rates:

TODO: create and add a figure here with cumulative deaths.

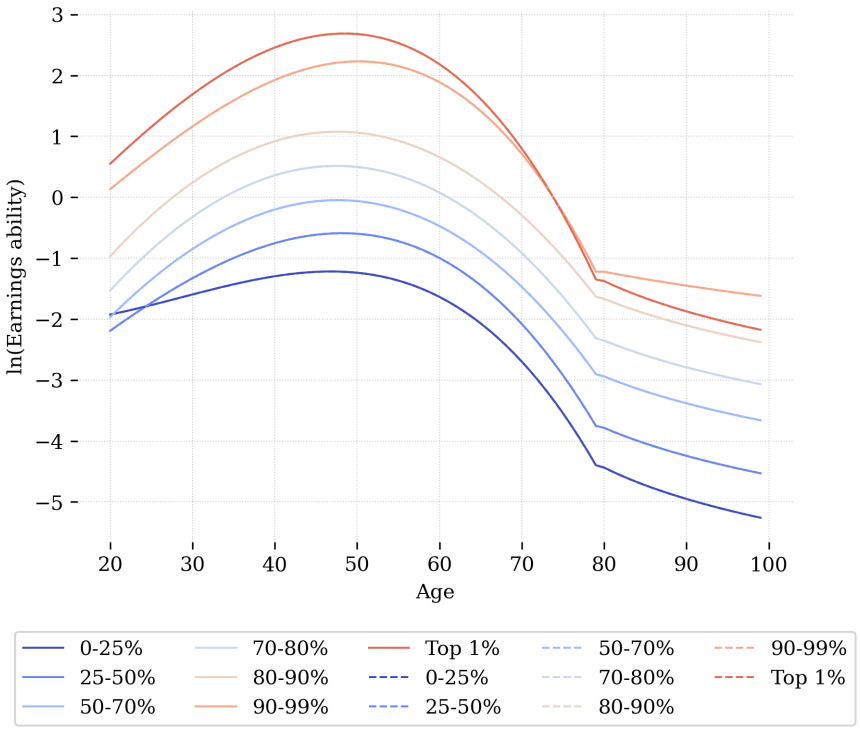
Describe how we incorporate productivity effects into the model (cite that research):

3 The Economics Costs of Disease

We find that the economic costs of a resurgence of disease in South Africa are very large. In our preferred specification, the costs exceed XX trillion rand (about $X trillion dollars) in net present value. The costs are driven by the large increases in mortality rates and the resulting reductions in labor productivity.

Put in tables and figures showing: Changes in GDP over first few years, NPV of effect, plot of cumulative deaths (or number of people).

Figure 3: Labor productivity with and without aid



Trillions per year. average over 20 years.

	Δ GDP, Trillions
Low Excess Deaths	-0.01
Median Excess Deaths	-0.02
High Excess Deaths	-0.02

NPV in trillions

index	Discount Rate	Low Excess Deaths	Median Excess Deaths	High Excess D
0	2%	-0.42	-2.27	
1	4%	-0.30	-0.91	
2	6%	-0.19	-0.45	

Have some robustness by looking at high and low values of the forecast of excess deaths/effects on productivity.

4 Conclusion

Sum up what we said. Compare economic costs to the amount of aid that is at stake.

References

Kenny, Charles and Justin Sandefur, "How Many Lives Does US Foreign Aid Save?," mimeo, Center for Global Development March 2025.