

The background of the slide features a traditional Japanese woodblock print style illustration. It depicts Mount Fuji in the distance, partially obscured by mist or clouds. In the foreground, a boat with a single figure is shown navigating through turbulent, stylized waves. The overall color palette is muted, with greens, blues, and greys, giving it a historical and artistic feel.

# The Purely Economic Short-Term Case for Investing in Health in Middle-Income Economies

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# Economic Theory in the Face of the Global Health Crisis

- Complete physical, mental, and social well-being, that is, health, is a fundamental human right, as well as the third UN SDG - to be guaranteed by universal health coverage.
- Both for-profit commercial initiatives and charitable efforts led by non-profit organizations are unfortunately insufficient to deliver health for all and its substantive economic benefits (WHO 2021)



# The Transformative Power of Market Shaping

- A market-shaping role for policy tackling the ‘grand challenges’ of society would enable shifting not only the rate, but also the direction of economic growth, namely towards broader notions of public value creation driven by public purpose instead of private profit.
- The market-shaping view emphasizes how the creation and production of an entire health resource chain can provide numerous employment opportunities and innovation spillovers that will readily recover the initial investment cost.
- Market shaping has been successfully implemented in a variety of contexts, including global health.
- Need for new accounting frameworks beyond cost-benefit analysis



# Economic Multipliers in the Production Channel

Final demand equals the surplus product:

$$Y = X - AX; \quad X = (I - A)^{-1}Y = LY = L(C + I + G) \quad (1)$$

Expansion of Leontief matrix into a geometric sum:

$$L \equiv (I - A)^{-1} = I + A + A^2 + A^3 + \dots \quad (2)$$

In vector notation:

$$\begin{aligned} Y = \underbrace{\sum_i f_i}_{\text{final demand}} &= \underbrace{\sum_i x_i}_{\text{gross output}} - \underbrace{\sum_{i,j} a_{ij}x_j}_{\text{intermediate demand}} = \\ &= \sum_{i,j} (1 - a_{ij})x_j = \sum_{i,j} l_{ij}^{-1}x_j \end{aligned} \quad (3)$$



## Assistive Technology and Health Industries

## Mexico (822)

## Medical Equipment

## Eyeglasses

## Hearing Aids

## India (132)

## Wheelchairs

## Hearing Aids, Eyeglasses

Medical, Health

### South Africa (52)

## Medical Appliances

Health, Social Work

## Philippines (77)

## Medical Health Services

## Iran (148)

## Medical Equipment, Orthopaedic Appliances

## Eyeglasses

## Medical, Dental Services

## Other Human Health Services

## Uzbekistan (131)

## Medical Equipment

## Medical Products

## Health, Recreation

## Ukraine (121)

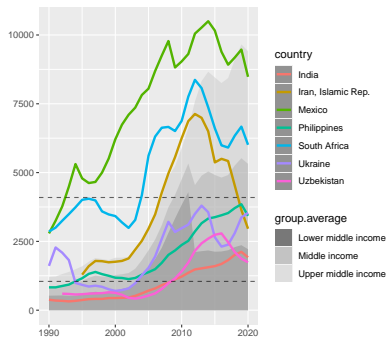
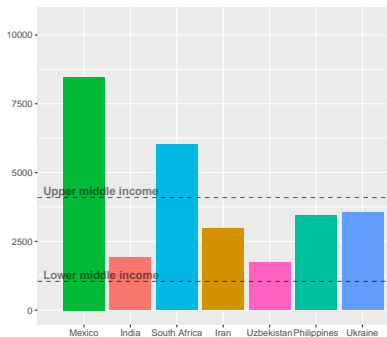
## Medical Equipment

## Medical Products

## Health, Recreation

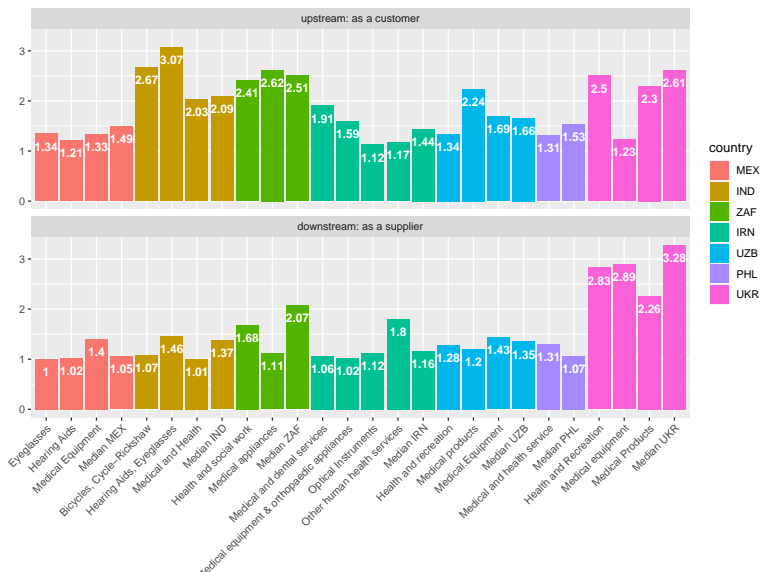


# Gross National Income per Capita of Selected Economies



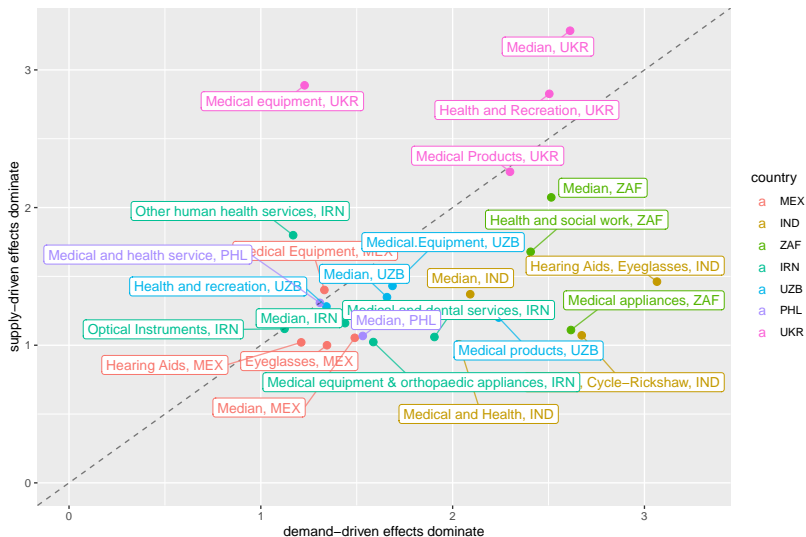


# Aggregate Leontief Output Multipliers



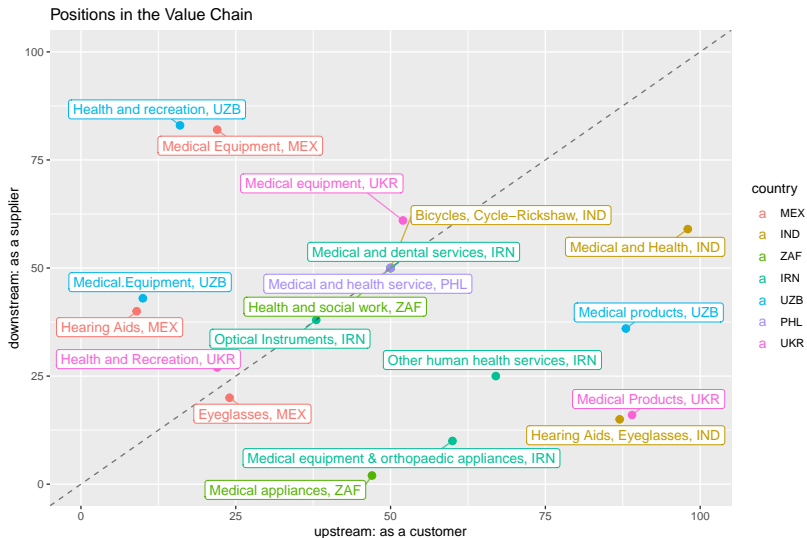


# Demand-Driven vs Supply-Driven Effects (Absolute)



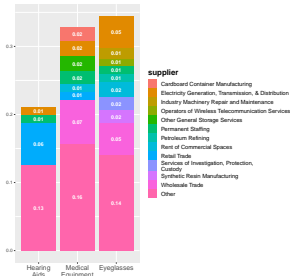


# Demand-Driven vs Supply-Driven Effects by Quantile

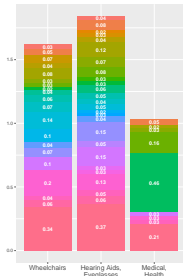




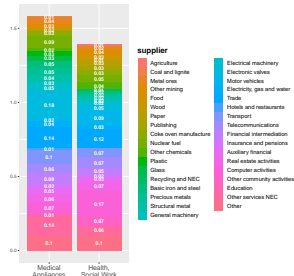
## Mexico



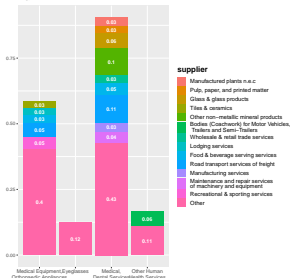
## India



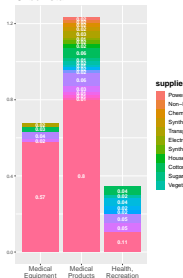
## South Africa



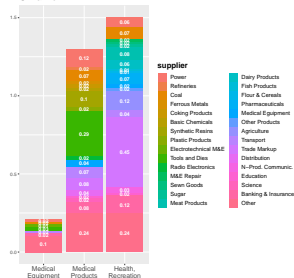
## Iran



## Uzbekistan

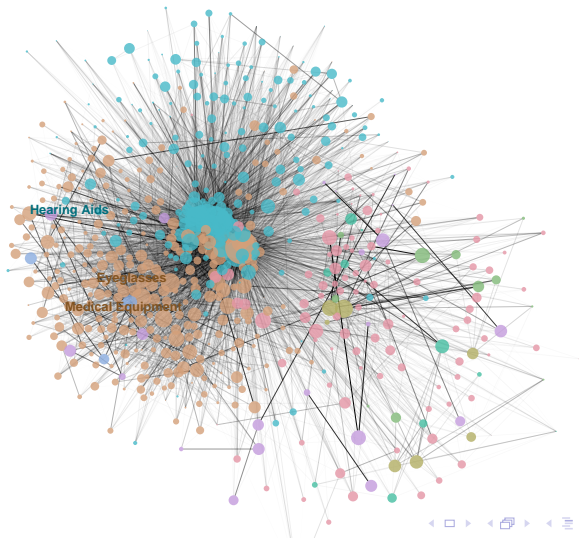


## Ukraine



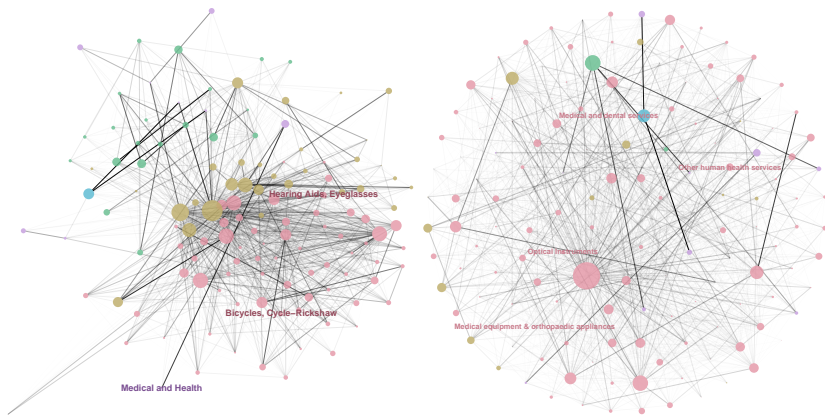


# Mexico's Input-Output Network



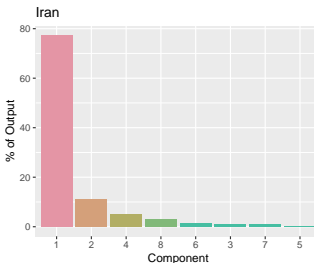
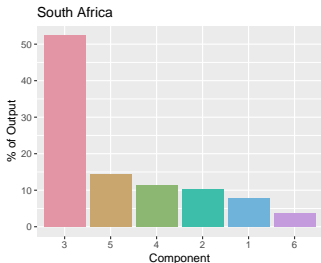
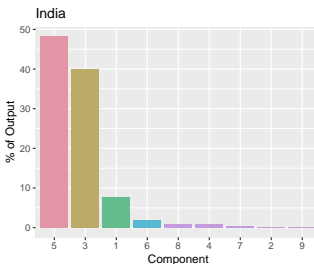
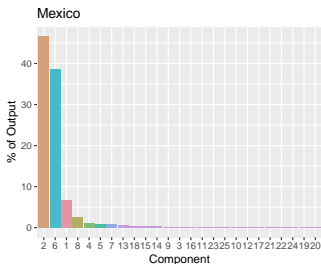


# India and Iran's Input-Output Networks



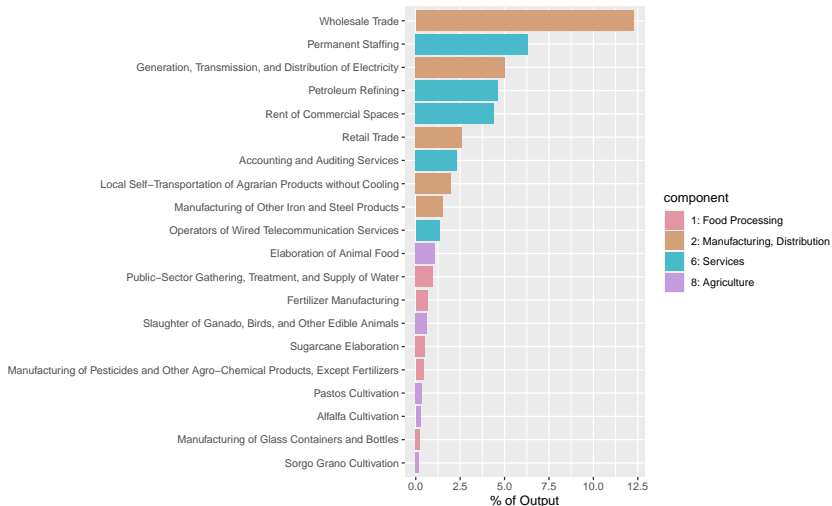


# Network Components of Selected Economies





# Largest Industries in Mexico by Component





# Conclusions

- Returns of mission-oriented investment are in fact immediate, involving rapid positive spillover effects in public revenue, output, employment, and productivity in the short run, as well as deep structural changes to the economy that push it towards public purpose.
- The network structure of input-output production highlights the common hierarchical community structure of input-output production, with health industries belonging to the largest components despite their small output.
- In agreement with industrial-policy logic at the basis of the market-shaping view, this paper finds strong empirical evidence in support of large-scale, mission-oriented investment into the upstream channel of health value chains, as their output multipliers are much higher in the upstream channel (i.e. as customers of intermediate goods) than downstream (i.e. as suppliers of intermediate goods), rippling through almost all industries (between 75% and 99% of the whole economy).
- Contrary to their conventional view as unimportant or peripheral, health and assistive technology industries are in fact as integral, well connected, and similar as most sectors of the industrial ecosystem, with an average network centrality and output and employment multipliers.



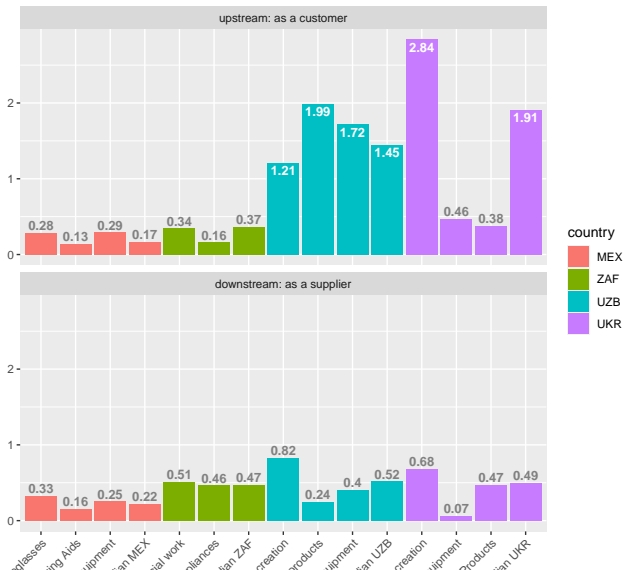
# Thank you!



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# Aggregate Leontief Employment Multipliers





# South Africa's Input-Output Network

