

Socioeconomic Status and Health: An exploratory analysis for Germany

Marcelo Avila

19 July 2021

Motivation

- ▶ Better health outcome is correlated with higher socioeconomic status (SES)
- ▶ Economic literature on topic relatively sparse due to intrinsic endogeneity of the problem
- ▶ SOEP provides rich information on several areas including health, wealth, income, lifestyle that allows for very granular examination on possible mechanisms
- ▶ Deaton (2003) exposes a few hypotheses
 - ▶ Education: with access to better education -> better health decisions
 - ▶ Irrationality: Too high discount rate -> failure to build capital & protect health
 - ▶ Absolute vs relative “income hypothesis” -> not only level of wealth but also ranking, i.e., inequality, affect health outcomes

Data

- ▶ Cross-sectional SOEPv36 data from 2019 with 24.429 observations including new sample on top-stakeholders (TS)
- ▶ Wealth module from 2017 for other samples
- ▶ INKAR data for geographic healthcare provision on district level (Landkreis)
- ▶ Item non-response imputed via Bayesian Networks as proposed by Göbler (2019)
- ▶ Drawback: Health module (from 2018/2020) with broader coverage of health variables not yet available for SOEP TS sample

Health Data

48 health related variables such as:

- ▶ Did you feel (x) in the last 2 weeks?
 - ▶ Lack of interests, Depressiveness, Nervousness, etc
- ▶ Has a doctor ever diagnosed you with (x) ?
 - ▶ Diabetes, Asthma, Cardiopathy, Cancer, Apoplectic Stroke, Migraine, etc
- ▶ How many days did you not work due to illness in the previous year?
- ▶ Number of hospital stays in previous year?
- ▶ Health insurance provider, and many more

Wealth Percentiles

Table 1: Percentile cuts of Wealth variables (*in thousand €*)

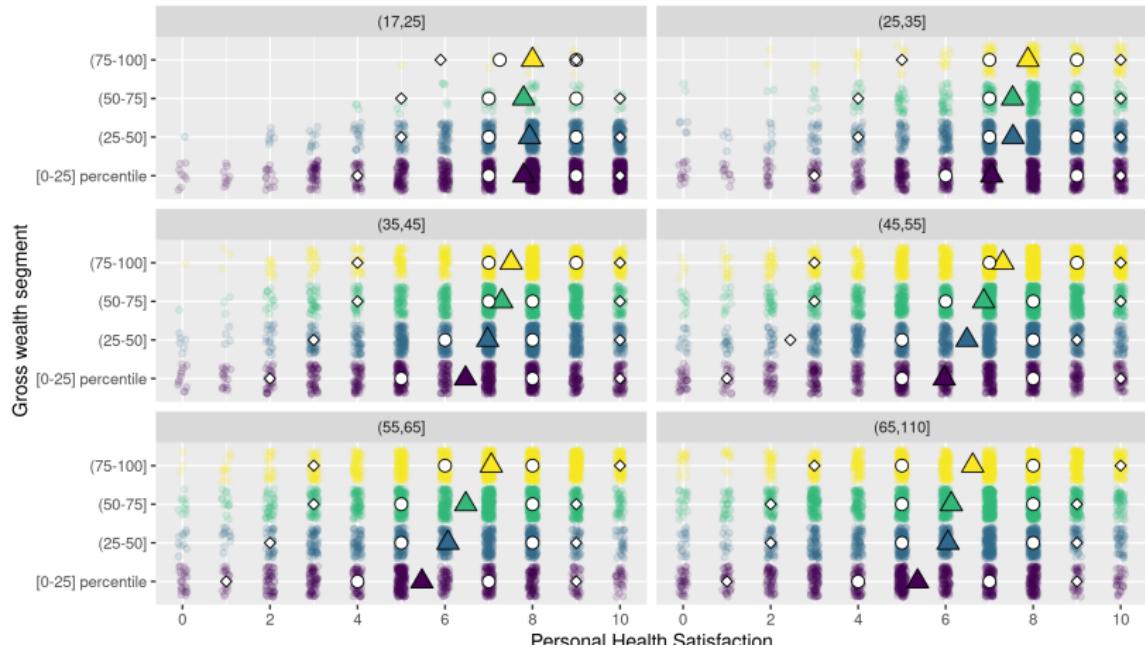
	25th	50th	75th	90th	95th	100th
Net	0,5	25,6	170	450	870	130M
Gross	3,5	49,9	225	530	1,0M	130M

- ▶ Problematic to look at lower end of distribution looking only at wealth dimension
- ▶ Some distortion due to individuals with high socioeconomic status but vast amount of debt

Exploratory Visualisations I

Overall satisfaction with personal health

Decomposition by gross wealth segments (y-axis) and age group (facets)



Self reported health satisfaction on scale from 0 to 10
Mean value by segment depicted as a triangle and 5th, 25th, 75th and 95th percentiles as circles

Exploratory Visualisations II

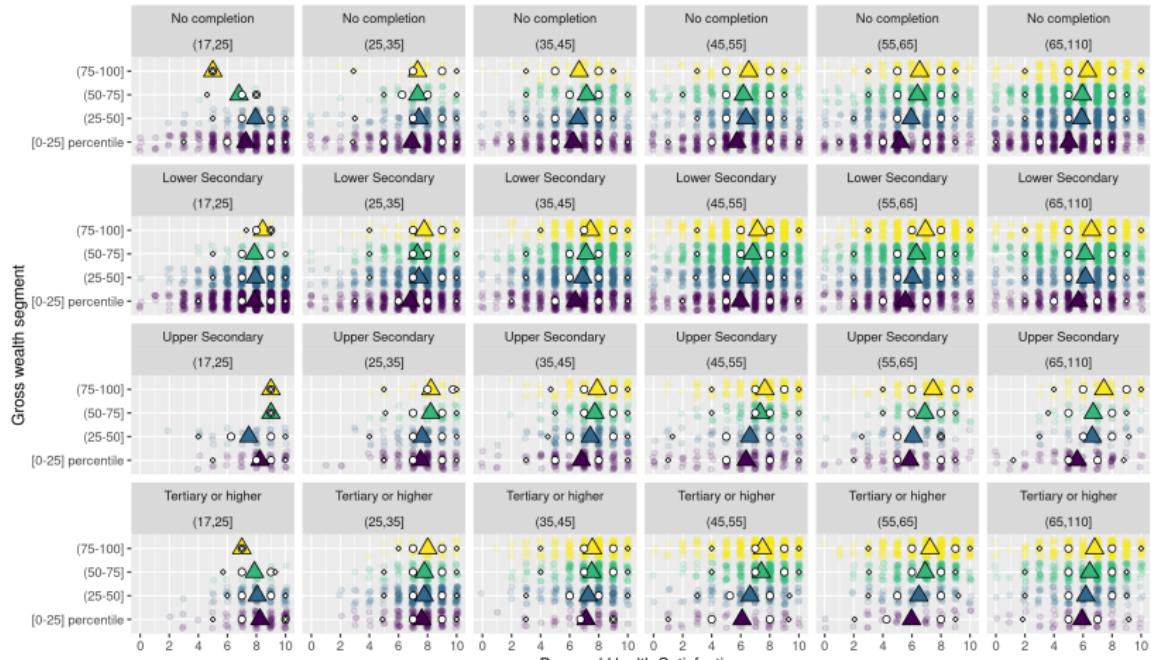
Overall satisfaction with personal health
Decomposition by gross wealth segments (y-axis) and education (facets)



Exploratory Visualisations III

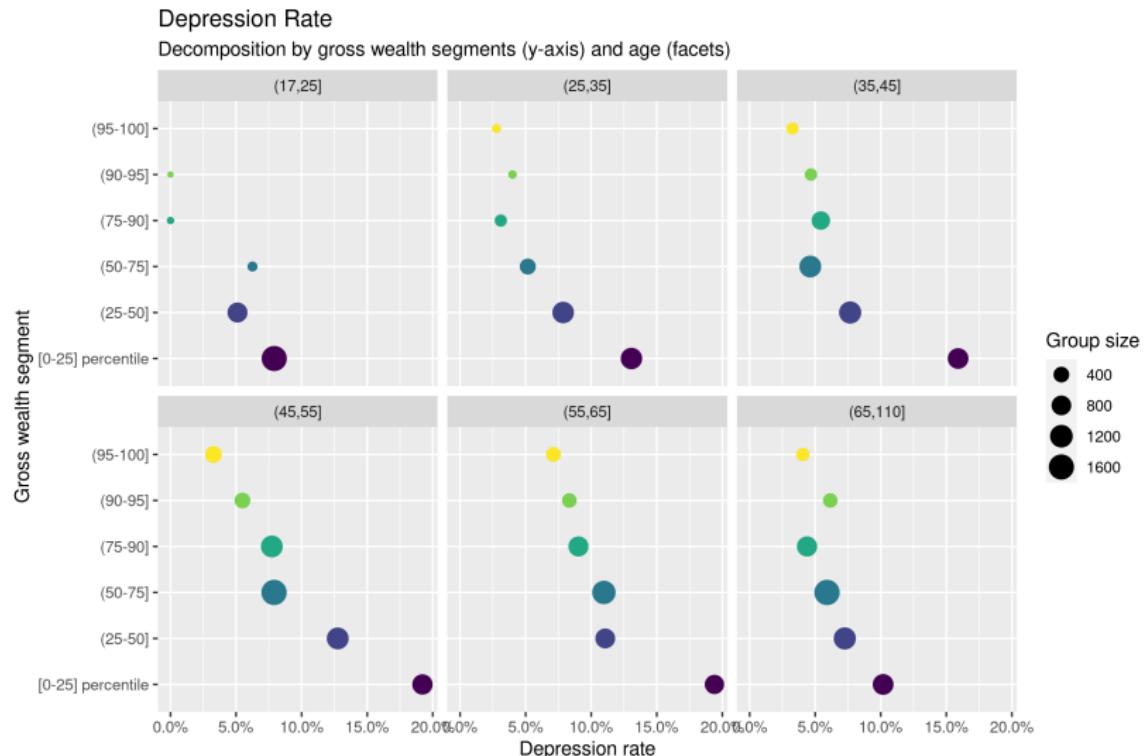
Overall satisfaction with personal health

Decomposition by gross wealth segments (y-axis) across education and age group (facets)

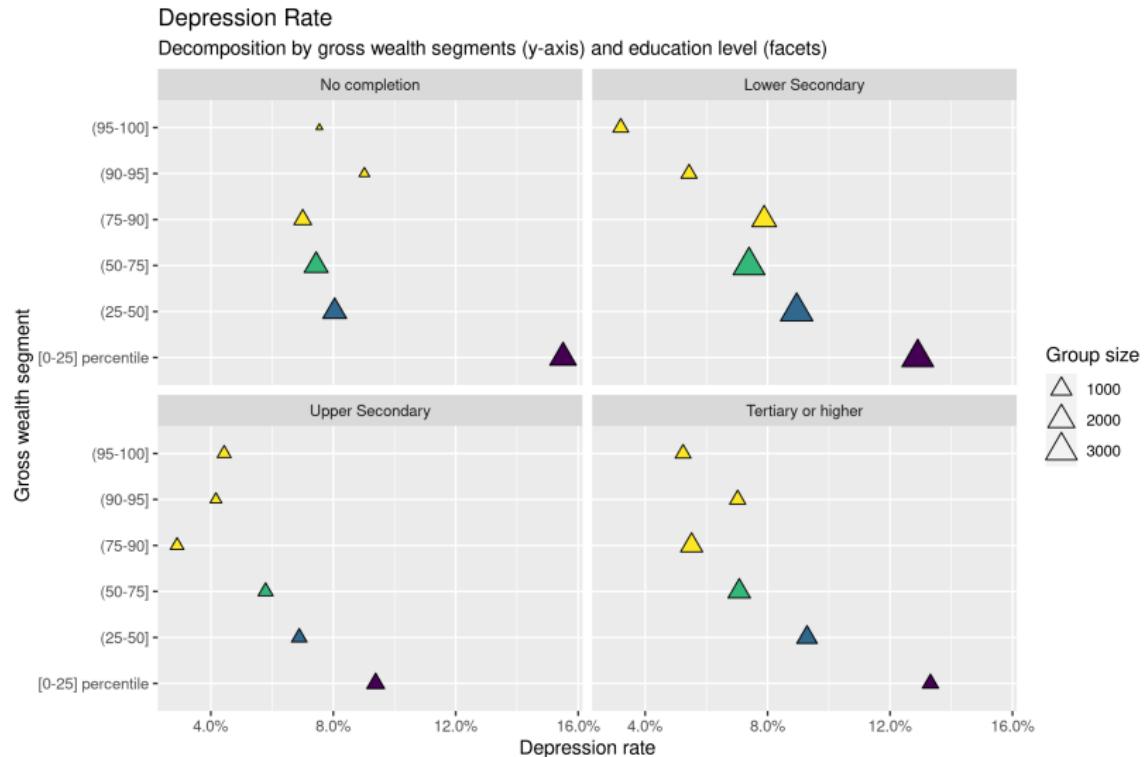


Mean value by segment depicted as a triangle and 5th, 25th, 75th and 95th percentiles as circles
Self reported health satisfaction on scale from 0 to 10

Exploratory Visualisations IV



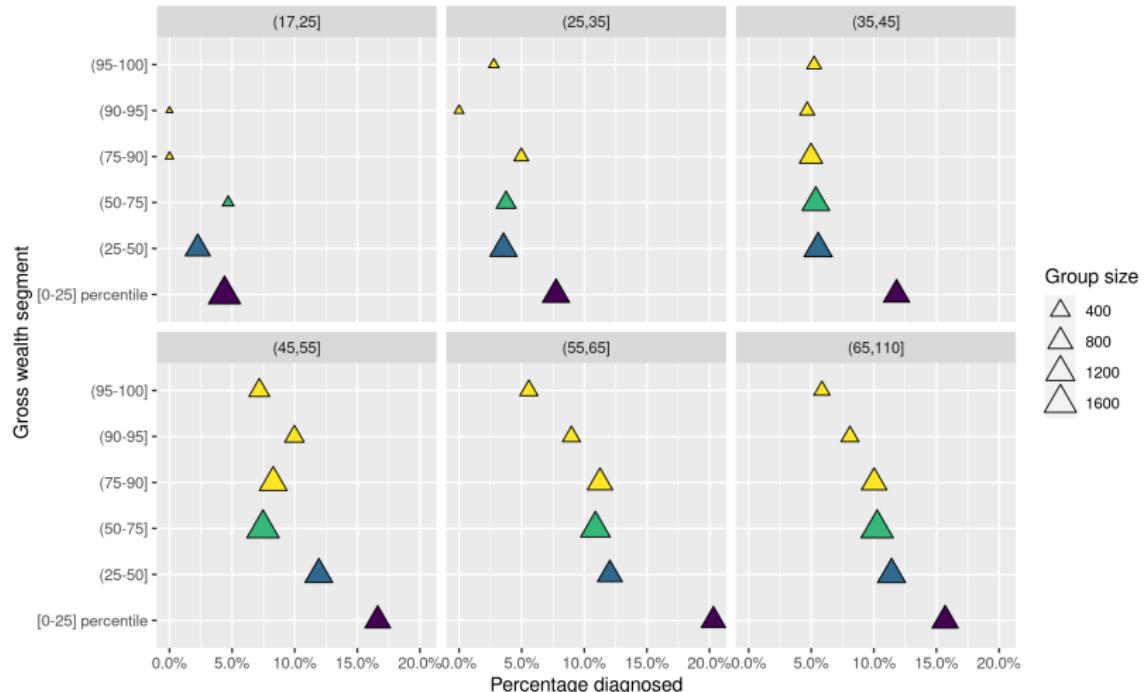
Exploratory Visualisations V



Exploratory Visualisations VI

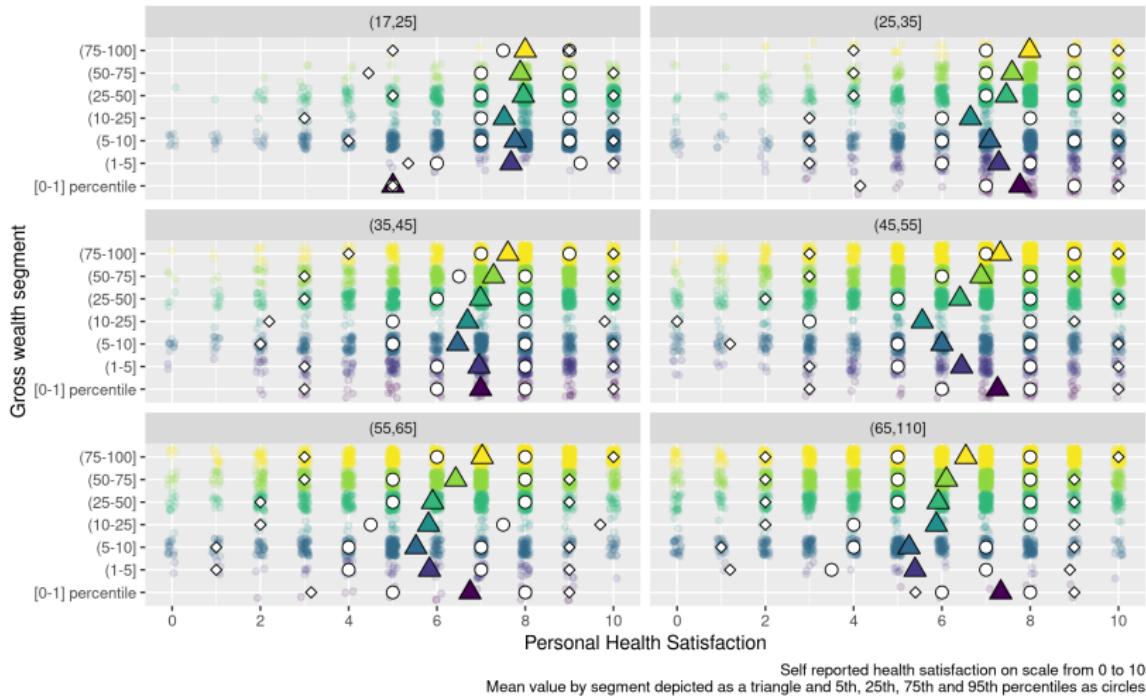
Ever diagnosed with Sleeping Disorder?

Decomposed by gross wealth segment (y-axis) and age groups (facets)



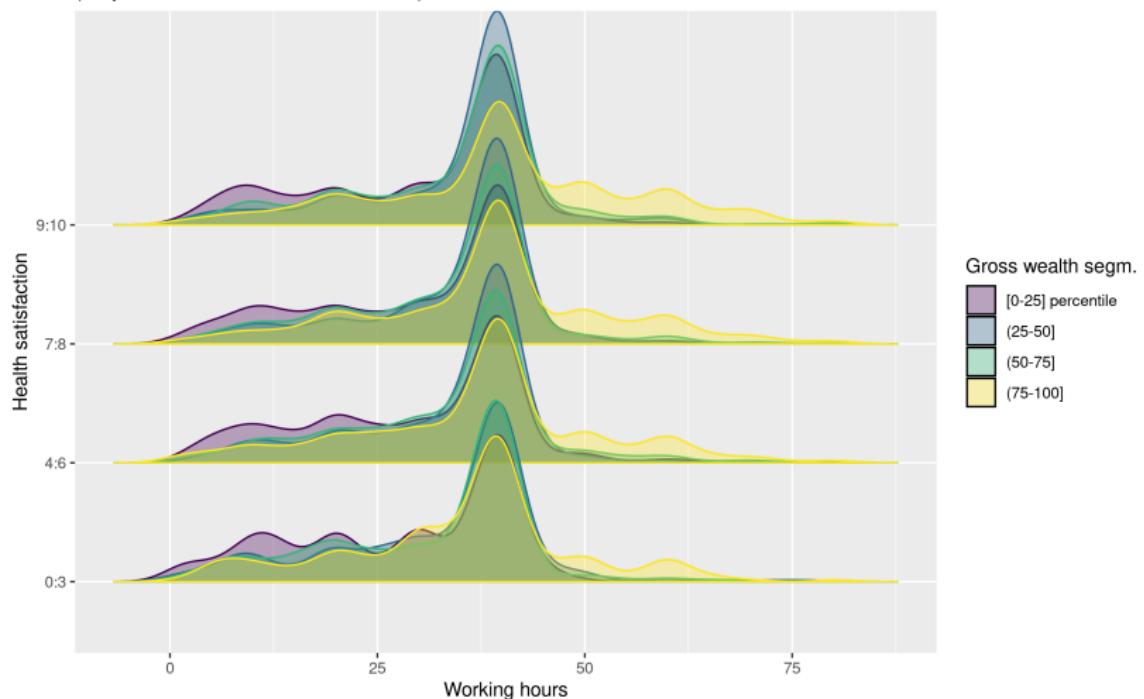
Exploratory Visualisations VII

Overall satisfaction with personal health - Distortion at the lower end of distribution
Decomposition by net wealth segments (y-axis) and age group (facets)



Exploratory Visualisations VIII

Distribution of working hours by health satisfaction across wealth segments
(Only active in labour market individuals)

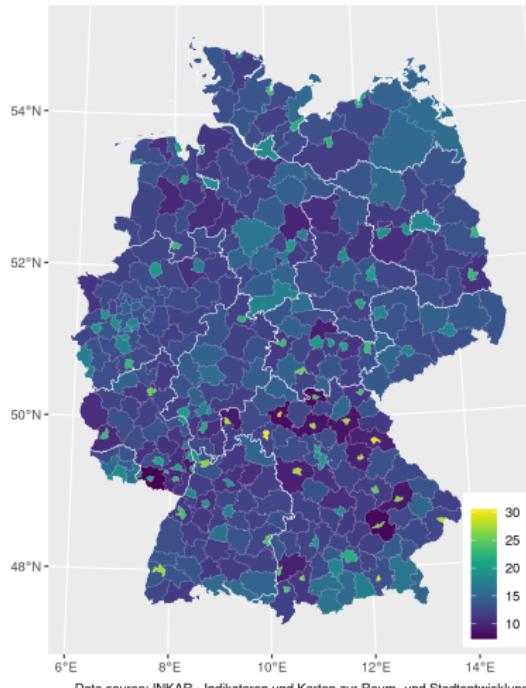


INKAR Indicators I

- ▶ Bundesinstitut für Bau-, Stadt- und Raumforschung im Bundesamt für Bauwesen und Raumordnung (BBSR Bonn) provides through INKAR (Indikatoren und Karten zur Raum- und Stadtentwicklung) regional indicators on several variables including healthcare provision.
- ▶ Healthcare provision displays regional heterogeneity that might play a role in health outcomes.
- ▶ Note: INKAR Data note yet merged with SOEP data

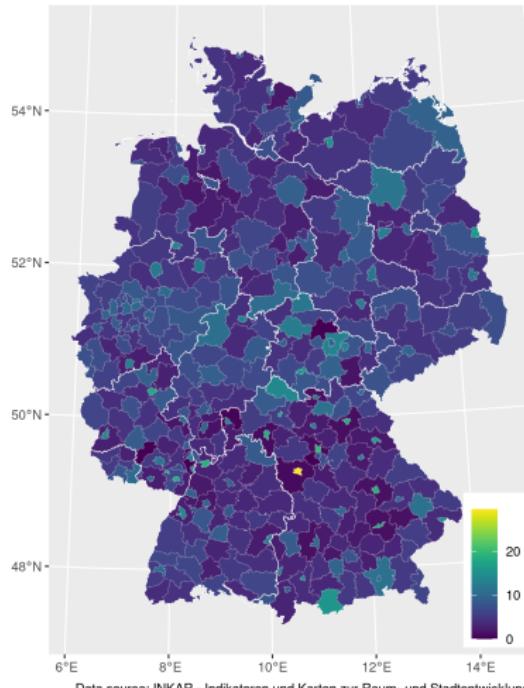
INKAR Indicators II

Health care provision in Germany
Medical doctors per 100.000 inhabitants



Data source: INKAR - Indikatoren und Karten zur Raum- und Stadtentwicklung

Health care provision in Germany
Hospital beds per 100.000 inhabitants



Data source: INKAR - Indikatoren und Karten zur Raum- und Stadtentwicklung

Outlook

Objectives

- ▶ Generate via Principal Components a physical, a mental and (possibly) a *social health* variables to consolidate available health information in fewer dimensions
- ▶ Investigate which variables more strongly predict health outcomes in these dimensions
- ▶ investigate how predictive are the physical and mental health variables on income and wealth outcomes.

Challenges

- ▶ Find a methodology that properly deal with endogeneity, confounder and collider biases (even if not aiming to infer causality)
- ▶ Still need to consolidate and focus on a overall research question.

References

- Deaton, Angus. 2003. "Health, Inequality, and Economic Development ." Journal of Economic Literature, 41 (1): 113-158.
- Göbler, K. (2019). A Novel Imputation Algorithm with Bayesian Networks". In: Mimeo.