

Socioeconomic and Health Determinants Determinants of Health Care Utilization Among Elderly Europeans Europeans

*A Semiparametric Assessment of Equity, Intensity and
and Responsiveness for Ten European Countries*

Jürgen Maurer (MEA, Mannheim)

Mannheim - October 27th, 2006

Motivation

- Strong socioeconomic gradients in morbidity and mortality mortality
- Health care is instrumental for good health and longevity longevity
- Institutional differences in the delivery of health services services across European countries
- Differences in socioeconomic equity, intensity and responsiveness?
- Do this differences depend on background health?

Previous Evidence (for Europe)

- Extensive research program (Economics: Wagstaff Wagstaff and van Doorslaer (2000))
- Routinely monitoring
- The poor seem to use the health care system more system more heavily (pro-poor inequity)
- Little evidence for any socioeconomic inequity after inequity after „health care need“ adjustment adjustment

Empirical Approach

„Rather than use the theory to summarize the data data through a set of structural parameters, it is it is sometimes more useful to present features of the features of the data, often through simple descriptive descriptive statistics, or through graphical presentations of densities or regression functions, and functions, and then to think about whether these these features tell us anything useful about the the process whereby they where generated.“

Angus Deaton (1997)

Some Measurement Issues

- Dichotomous concepts, yet multiple measures measures
- Particularly: multidimensional „need standardization“ standardization“ to control for “health”
- „SES“ – „health care need“ – interactions
- Parameters of interest/sufficient statistics

Statistical Model

$$Y_i^* = f_{C_i G_i}(S_i, H_i \beta_{G_i}) \quad (\textit{Latent Variable})$$

$$P_{C_i G_i}(c_j < Y_i^* \leq c_k \mid S_i, H_i \beta_{G_i}) \quad (\textit{Event})$$

- Ordered response (four categories), by gender
- Flexible country-specific functional form
- Flexible country-specific interactions between socioeconomic status and „health care need“
- Cross-country restrictions for basic comparability and efficiency in the estimation of the health index

Estimation Procedure

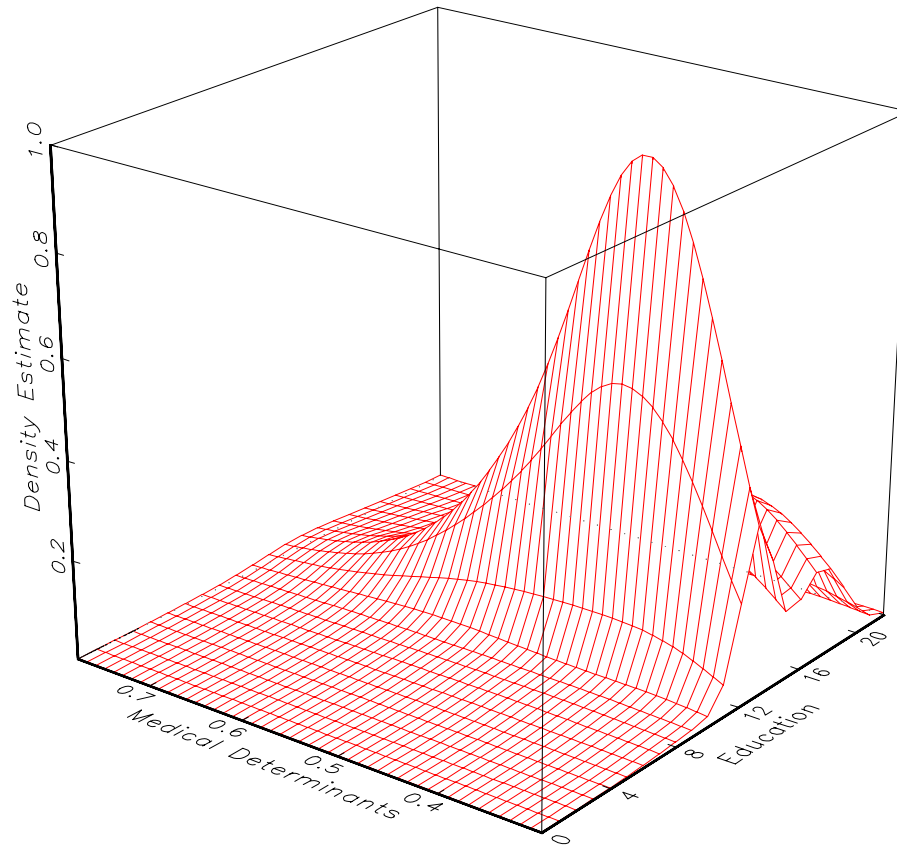
- Extension of a semiparametric maximum likelihood likelihood estimator a la Klein and Spady (1993) by (1993) by Klein and Vella (2005) to a “double-index “double-index model”
- Estimation for each gender separately
- Joint likelihood with cross-country restrictions restrictions
- Partial means as “aggregate summary statistics” statistics”

Data

- Survey of Health, Ageing and Retirement in Europe Europe (SHARE) collected in 2004 (Wave 1)
- Comparable data from 10 countries
- (Generated) years of education as measure for socioeconomic status
- Extensive demographic and health information to information to control for „health care need“
- Overall number of doctor visits as measure of health of health care utilization

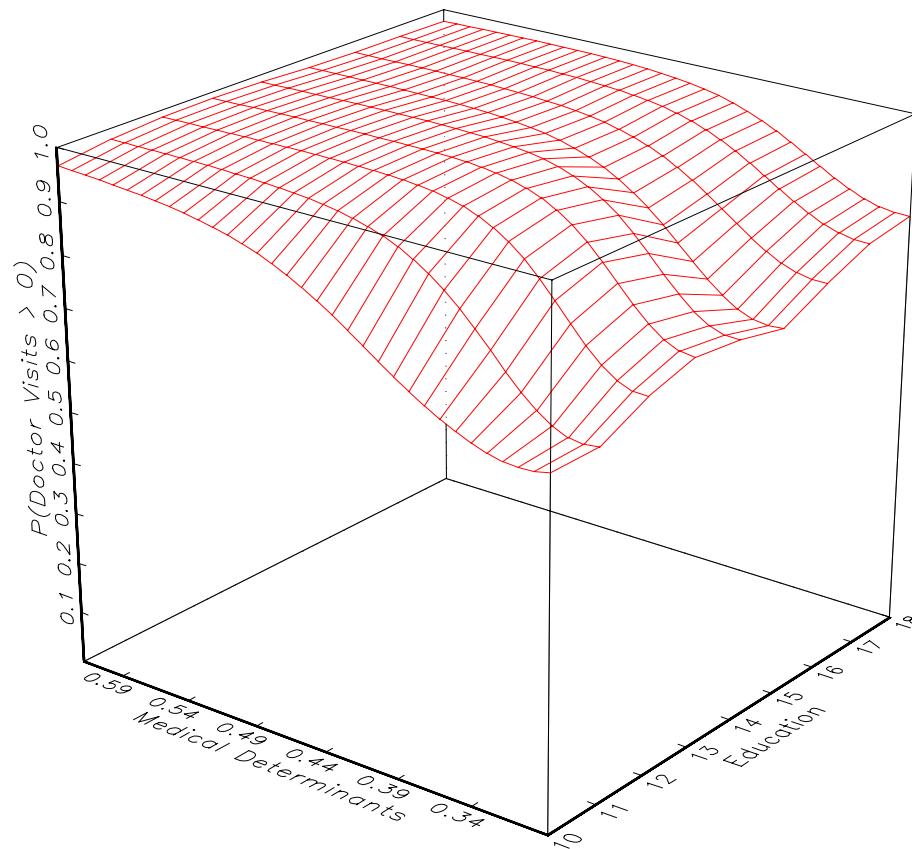
Bivariate Density Estimate

Bivariate Density Estimate for the Controls



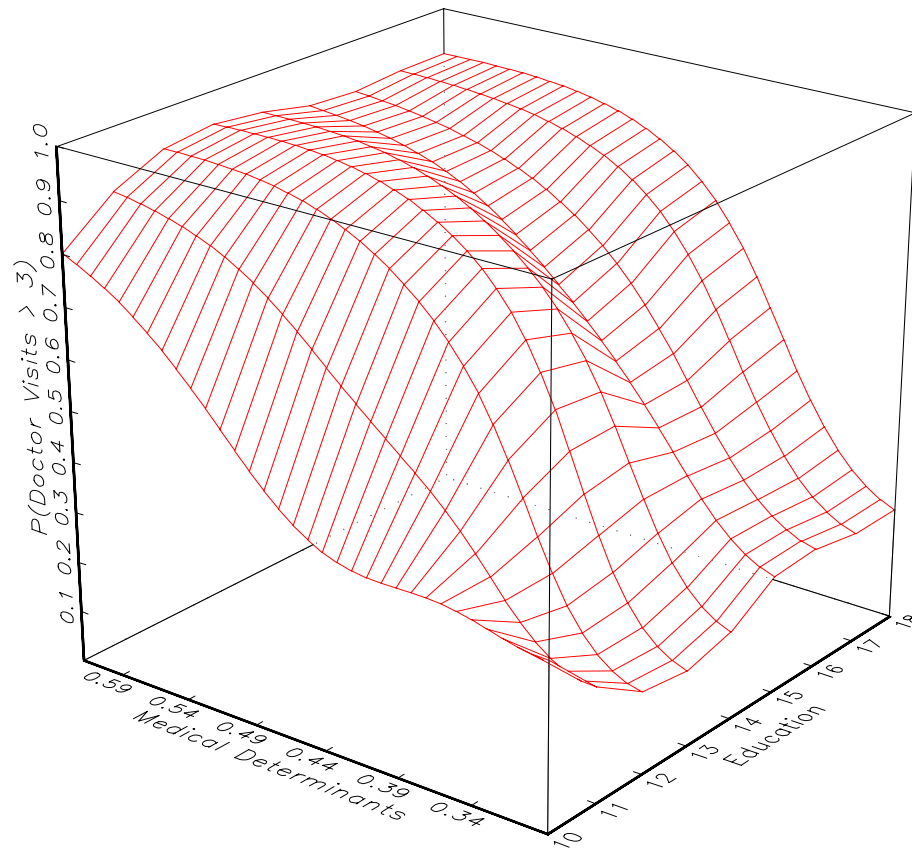
Some Health Care Utilization

Some Health Care Utilization



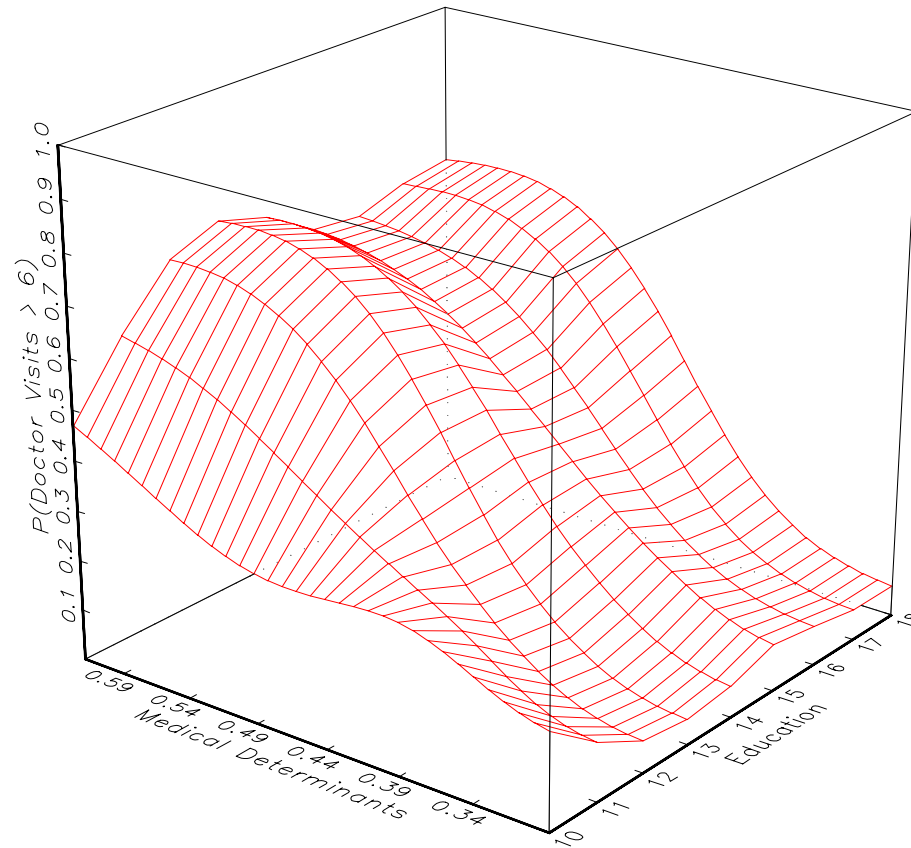
More Health Care Utilization

More Health Care Utilization



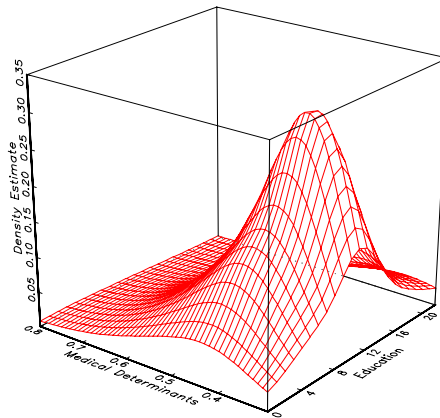
Heavy Use of Health Care

Heavy Use of Health Care

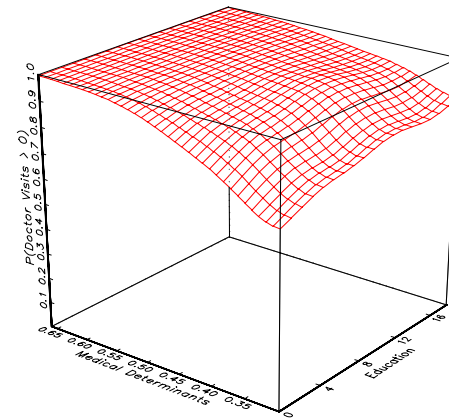


France - Men

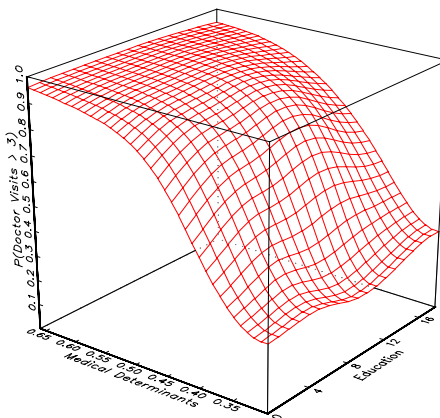
Bivariate Density Estimate for the Controls



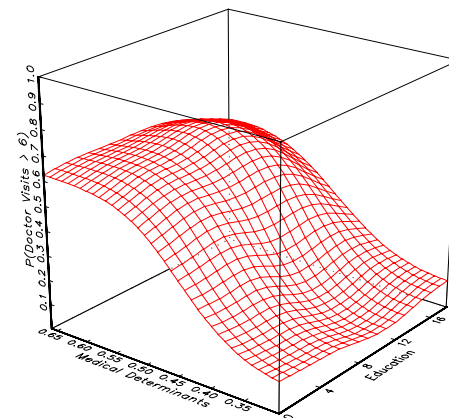
Some Health Care Utilization



More Health Care Utilization

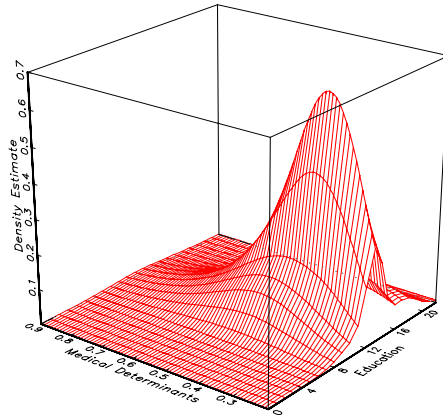


Heavy Use of Health Care

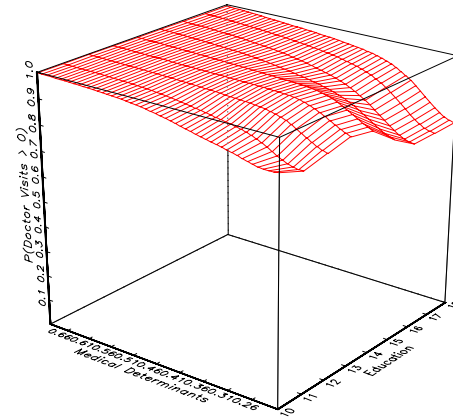


Germany - Women

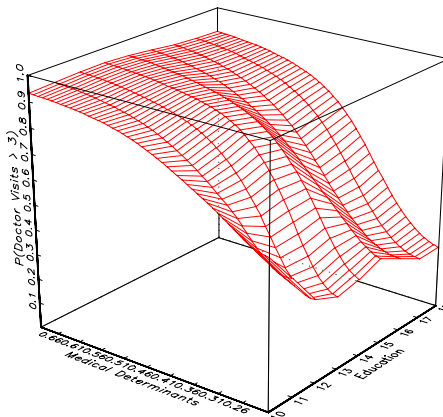
Bivariate Density Estimate for the Controls



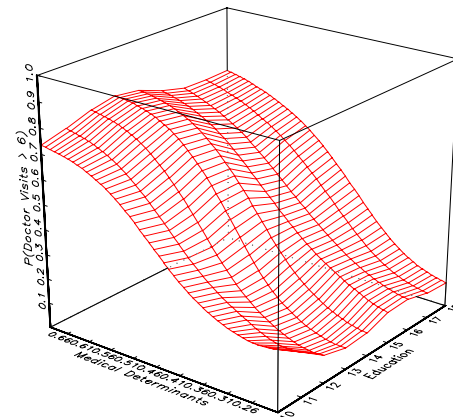
Some Health Care Utilization



More Health Care Utilization

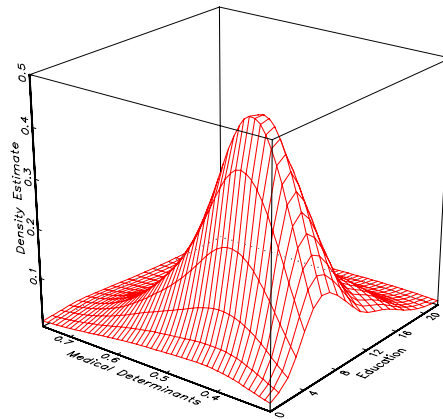


Heavy Use of Health Care

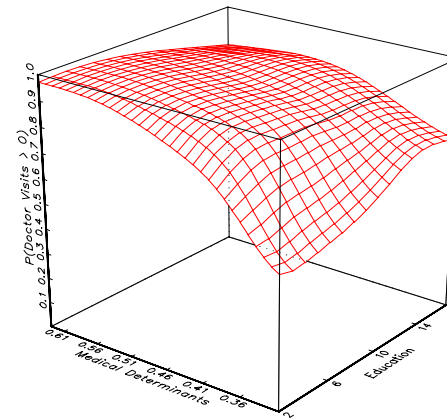


Italy - Men

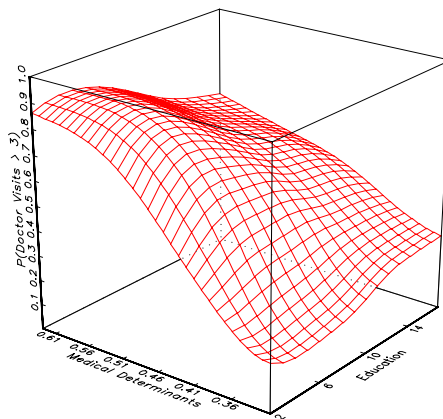
Bivariate Density Estimate for the Controls



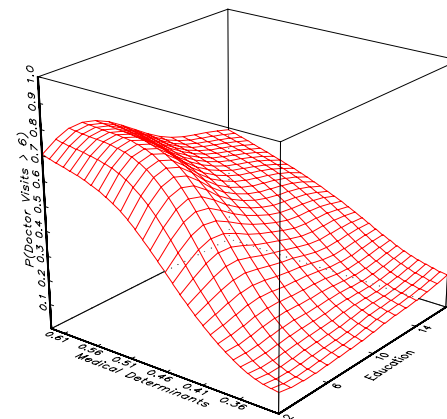
Some Health Care Utilization



More Health Care Utilization

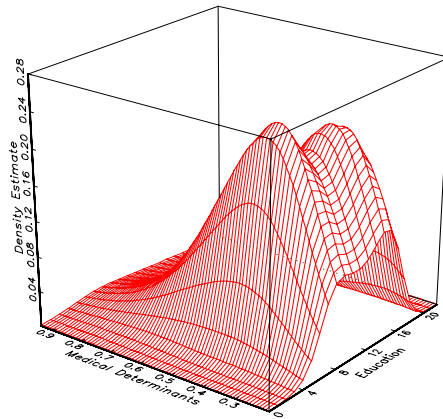


Heavy Use of Health Care

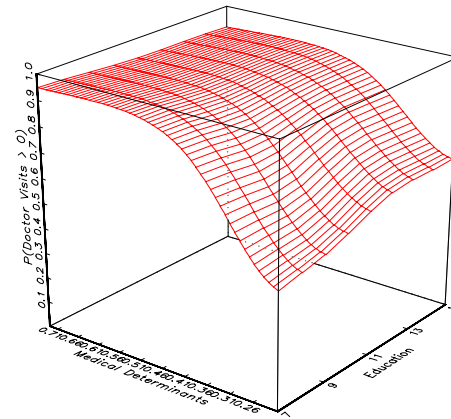


Sweden - Women

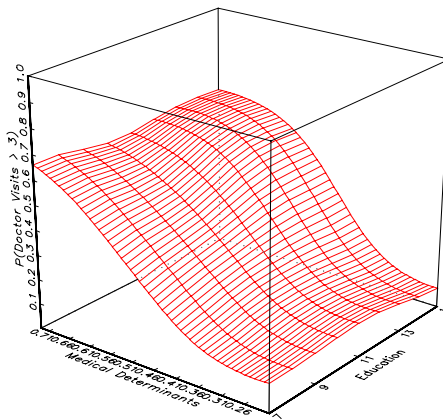
Bivariate Density Estimate for the Controls



Some Health Care Utilization



More Health Care Utilization



Heavy Use of Health Care

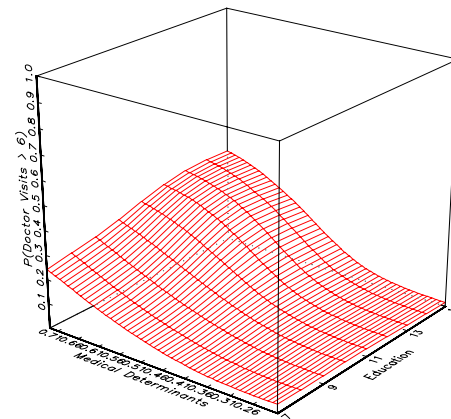


Figure 11: Partial Means for Selected Education Deciles

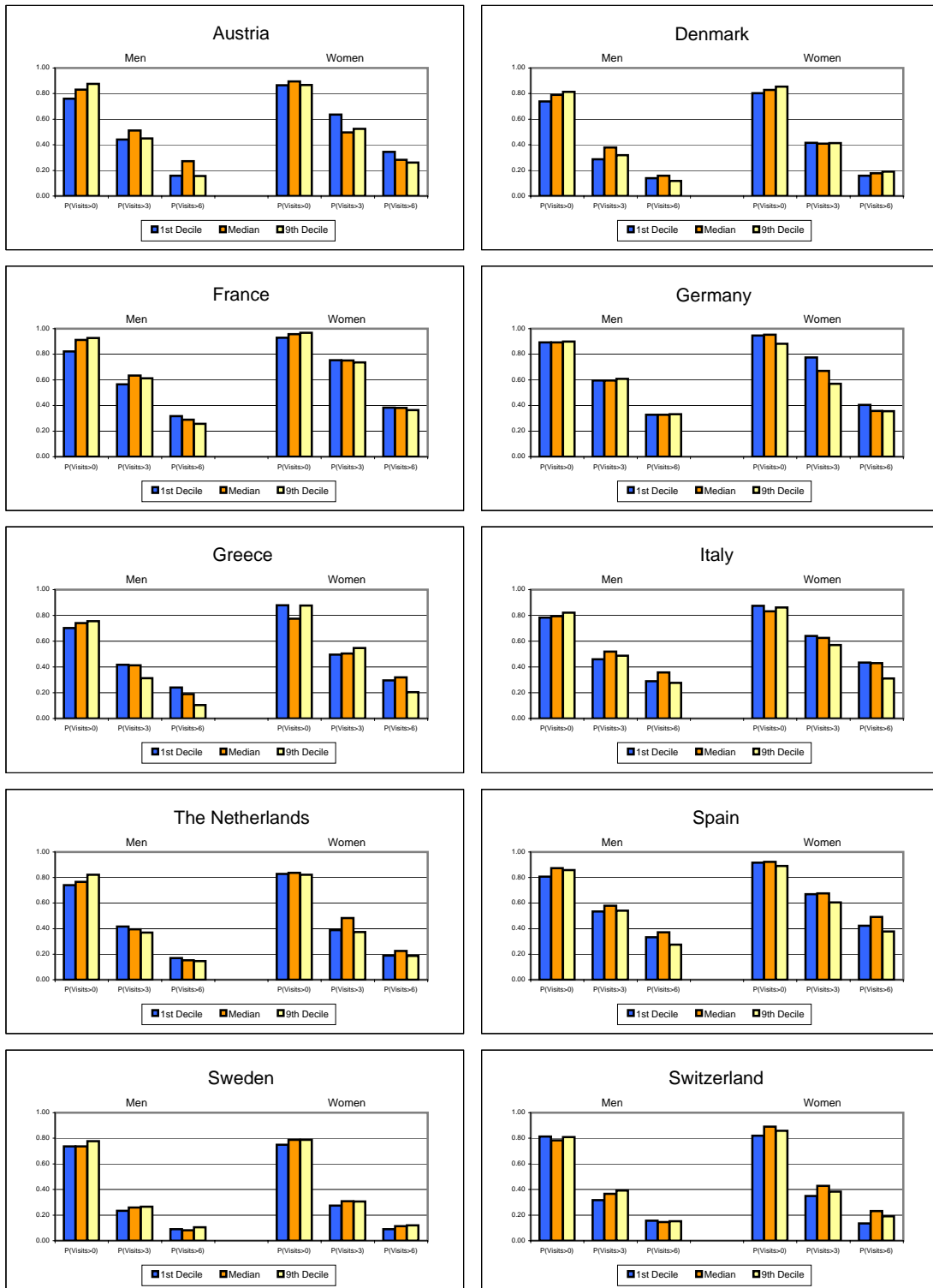
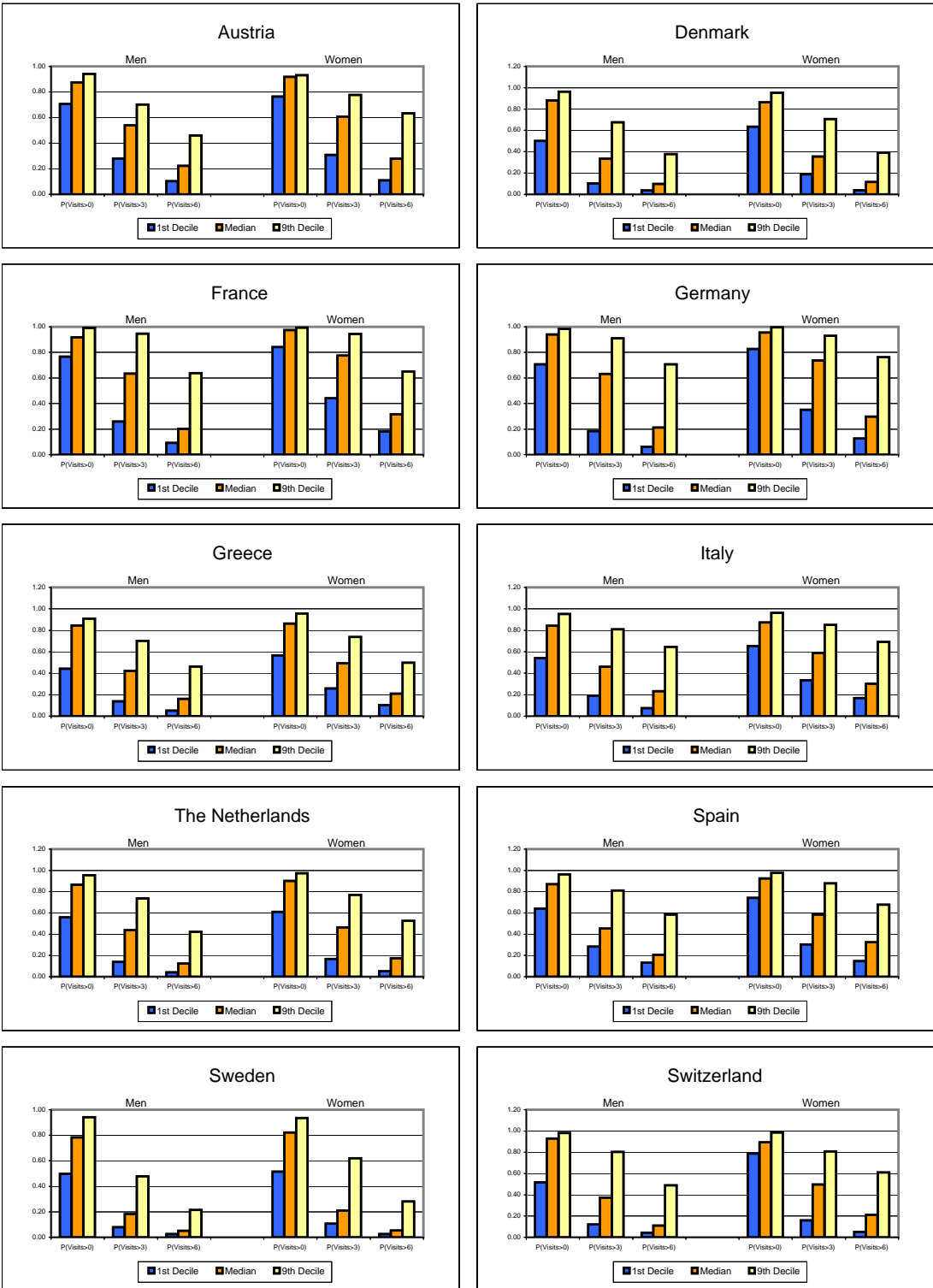


Figure 12: Partial Means for Selected Health Care Need Deciles



Conclusions

- By and large, European health care systems seem equitable and responsive
- Some evidence for a positive education gradient amongst the healthy
- Substantial (unexplained) cross-country country heterogeneity in treatment intensity