

An exploratory comparison of decision-based utility and subjective well-being: preferences for job attributes

Olivier Bargain

Aix-Marseille School of Economics,
IZA and CEPS/INSTEAD

Holguer Xavier Jara Tamayo

CES, KU Leuven

Introduction

Job satisfaction regressions have been used to calculate the compensation for extra hours (Clark, 1996). Recent studies on happiness also show that work is not always a source of disutility, as postulated in the labor supply literature, and maybe have a positive effect at low levels (Pouwels et al., 2010, Knabe and Radzel, 2009, Farzin, 2009). There is however hardly any paper linking decision-based welfare measures from labor supply models (“decision utility”) to subjective well-being measures (“experienced utility”), as stated by Blanchflower and Oswald (2011). This paper attempts to do so by comparing the relative effect of different job attributes, namely income C, work hours H and risk at work R, in these two approaches.

Structural labor supply model

Using data from the 2001 German SOEP for 1261 single females, we estimate a discrete-choice structural labor supply model (LS) with disposable income (after tax and benefits), 4 discrete hours alternatives (inactivity, part-time, full-time and overtime) and 3 work risk levels (none, partial, high). Utility is specified as a quadratic function of these 3 determinants and estimated by ML, i.e. under the assumption of optimizing agents but without constraints on preferences. Observed heterogeneity is introduced in the deterministic utility $U=U(C,H,R)$ in order to calculate MRS for different groups (demographic, education, etc.)

Subjective well-being

Using the same sample, we estimate SWB on the same determinants and with a similar specification $SWB=U(C,H,R)+Z$, where $U(.)$ is the identical quadratic form and Z controls for additional variables typically used in SWB regressions (ex: health). The model is estimated using ordered probit and we experiment different l.h.s. variables:

- job satisfaction W1,
- income satisfaction W2,
- leisure satisfaction W3
- or a mix W4, which is the predicted part of a regression $SWB = W4(W1,W2,W3)+e$ with SWB being life satisfaction; this way we capture the part of well-being derived from the 3 relevant dimensions.

Empirical Results

Figure 1: MRS income and hours per age group

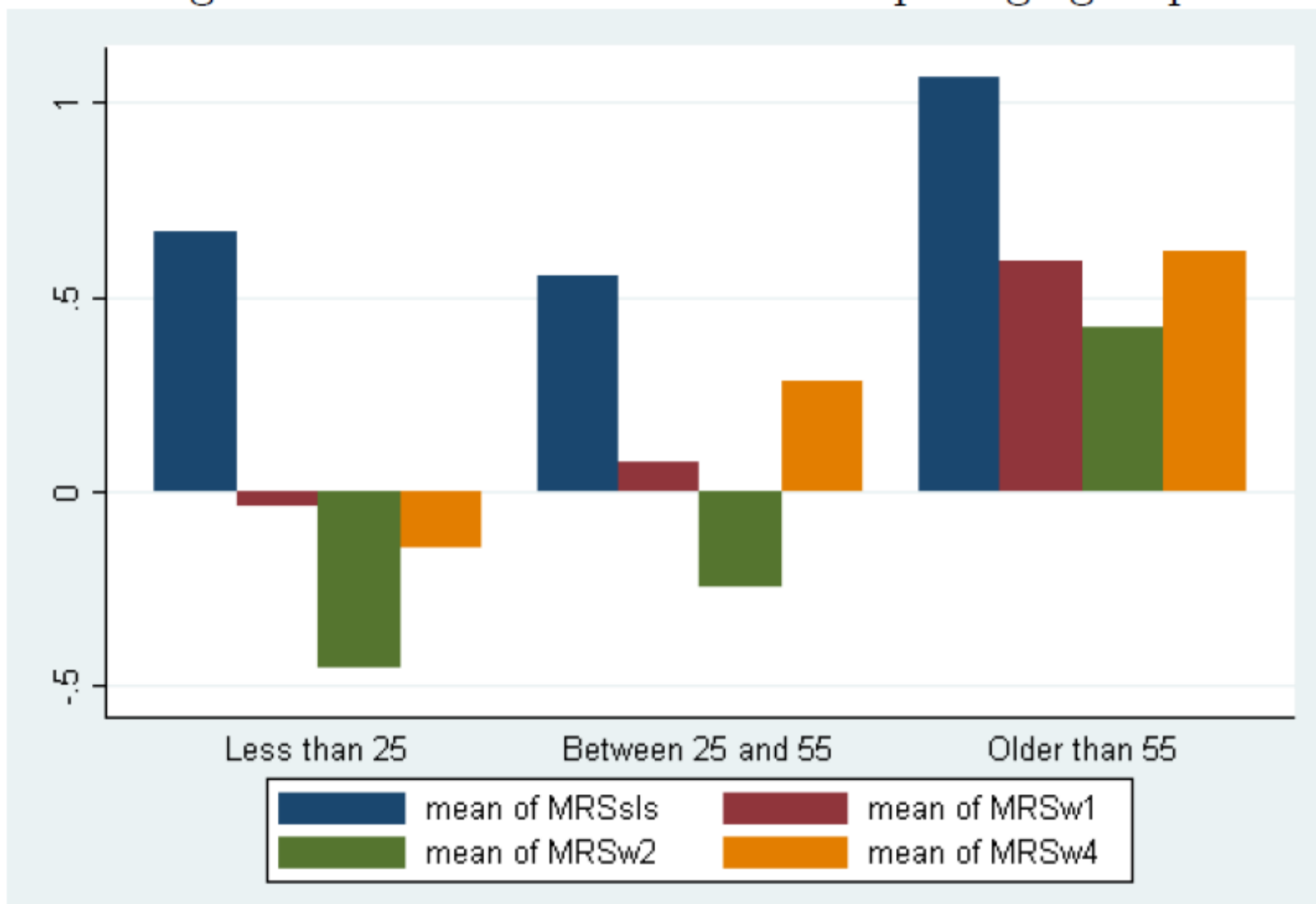


Figure 2: MRS income and hours per region

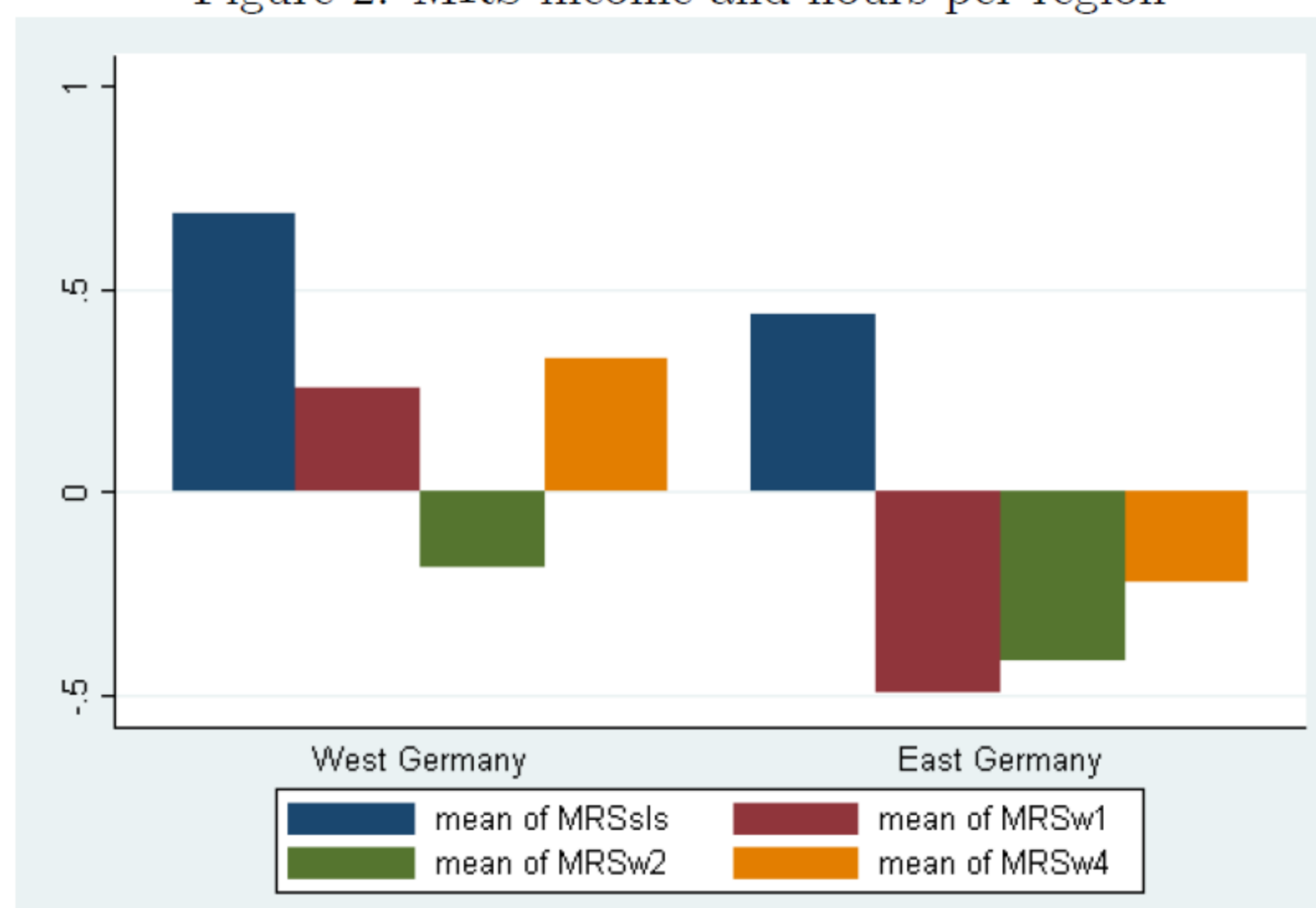


Figure 3: MRS income and hours per child age group

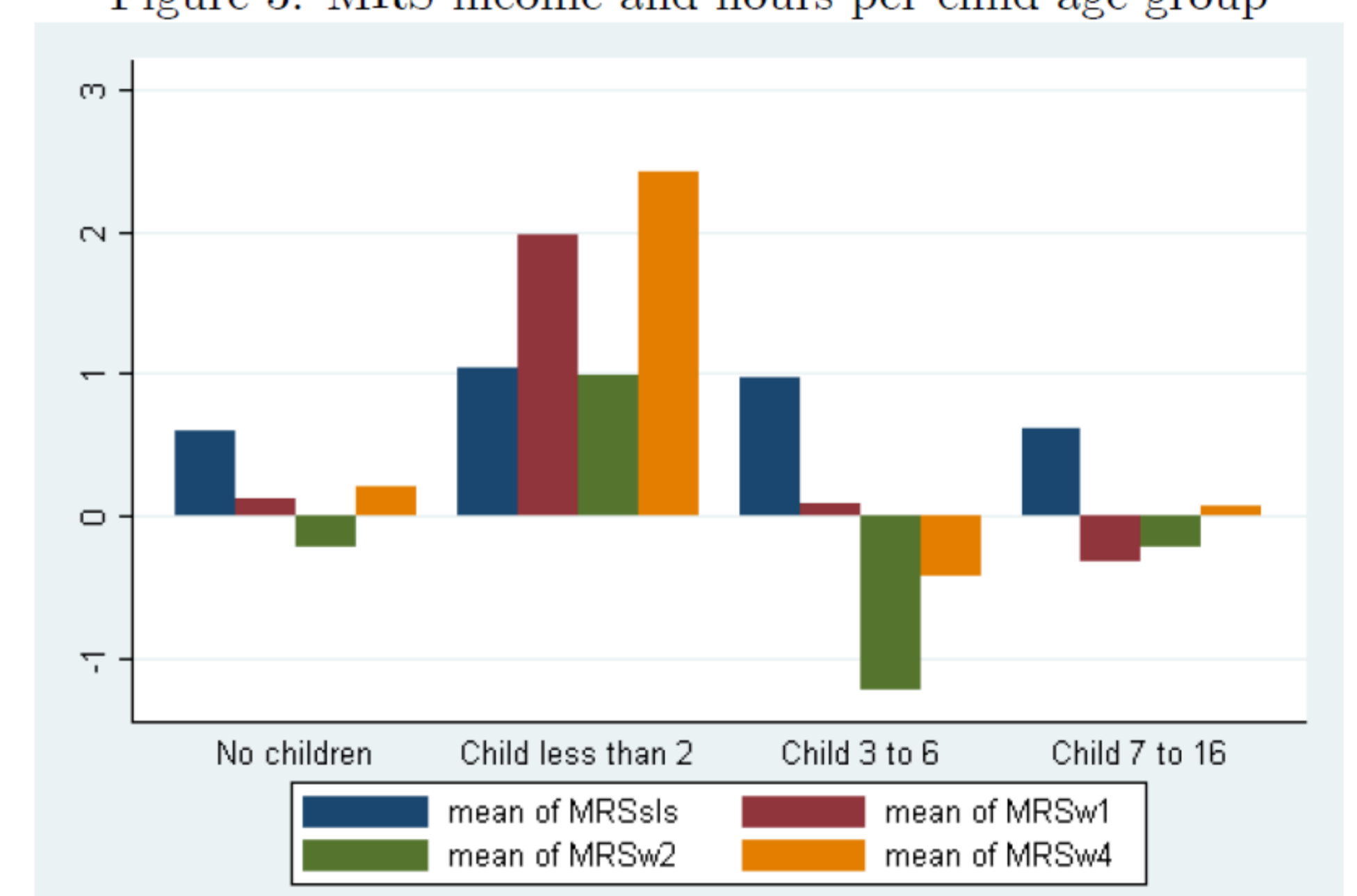


Figure 4: MRS income and hours per education group

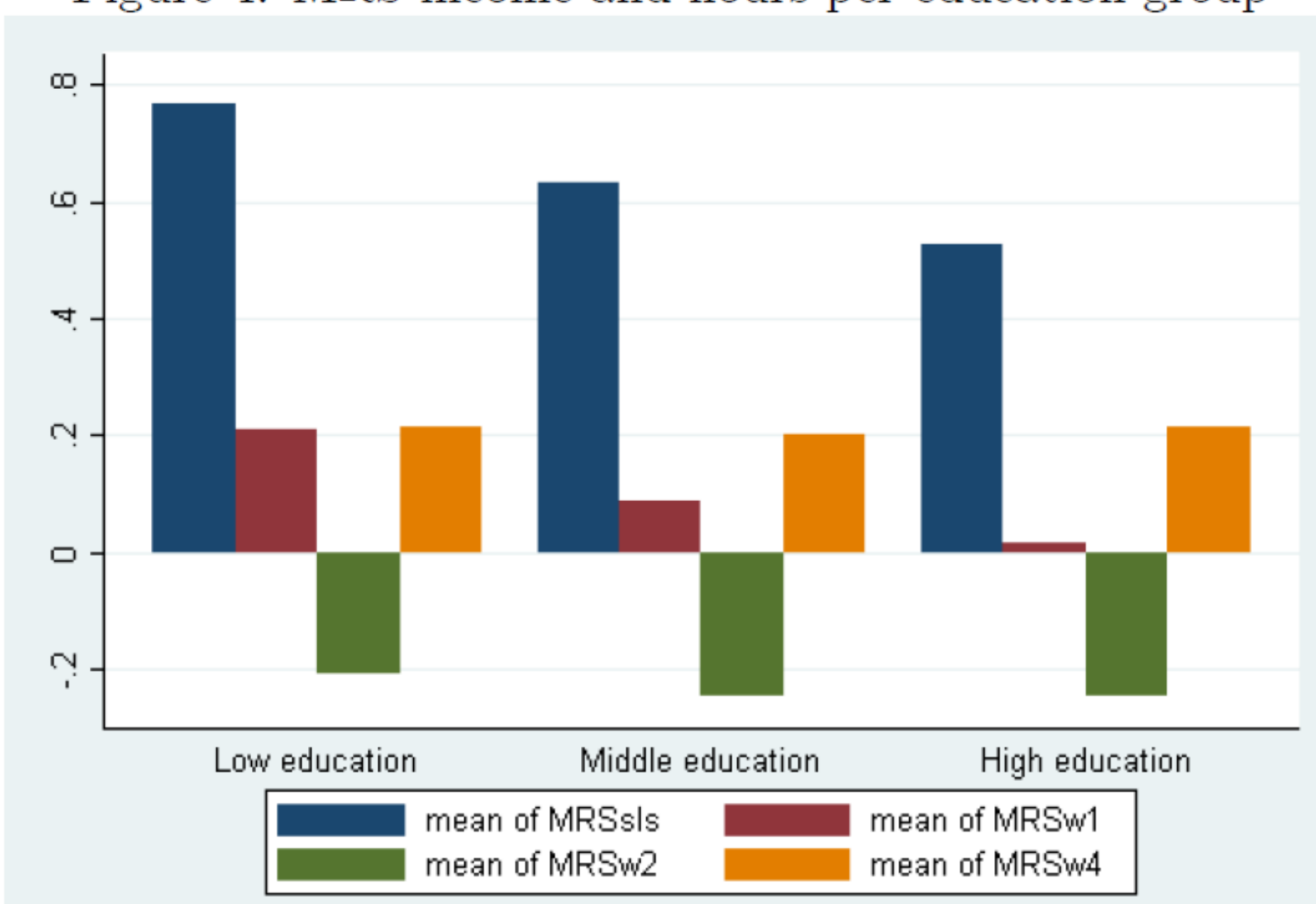


Figure 5: MRS income and partial risk per age group

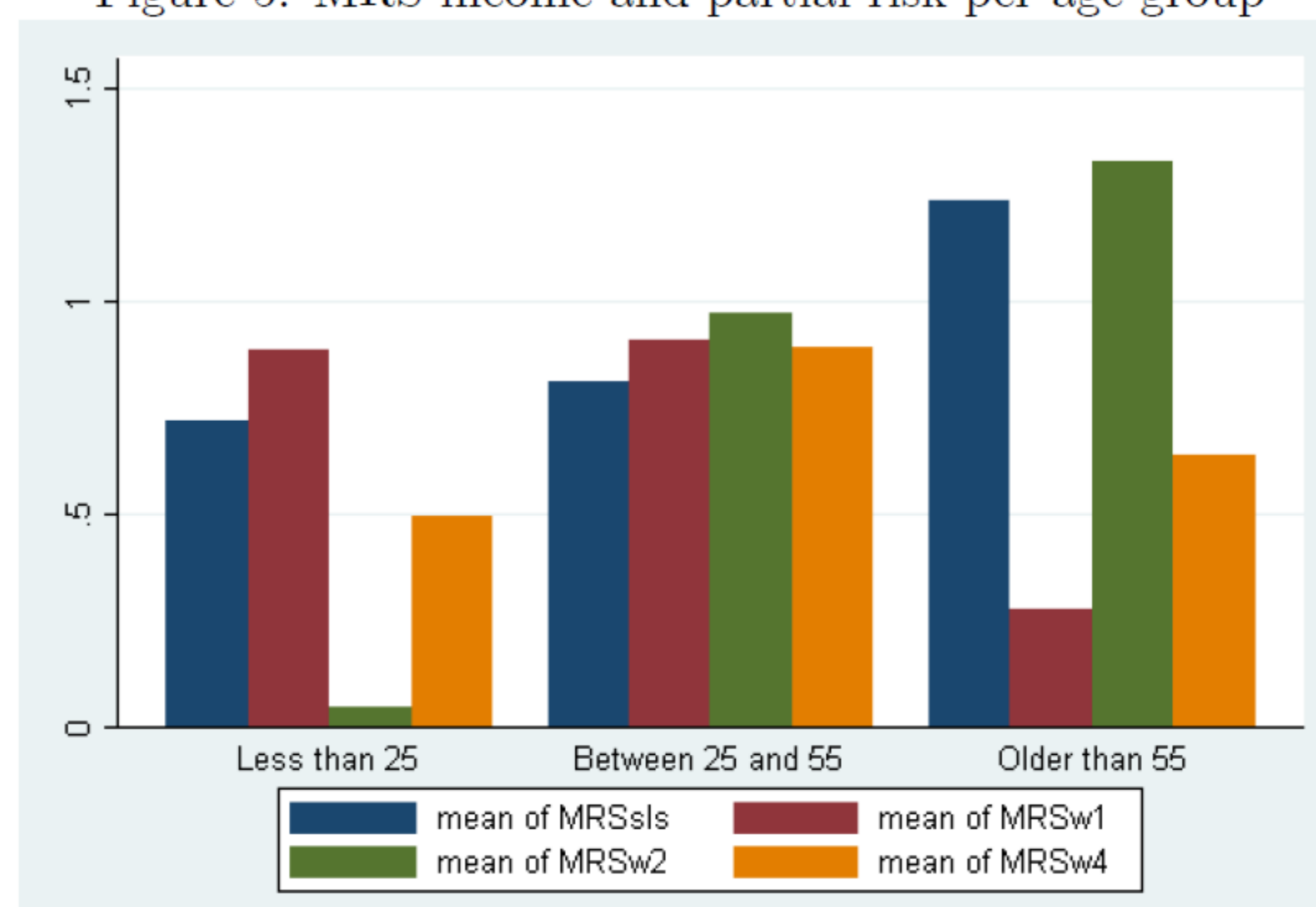
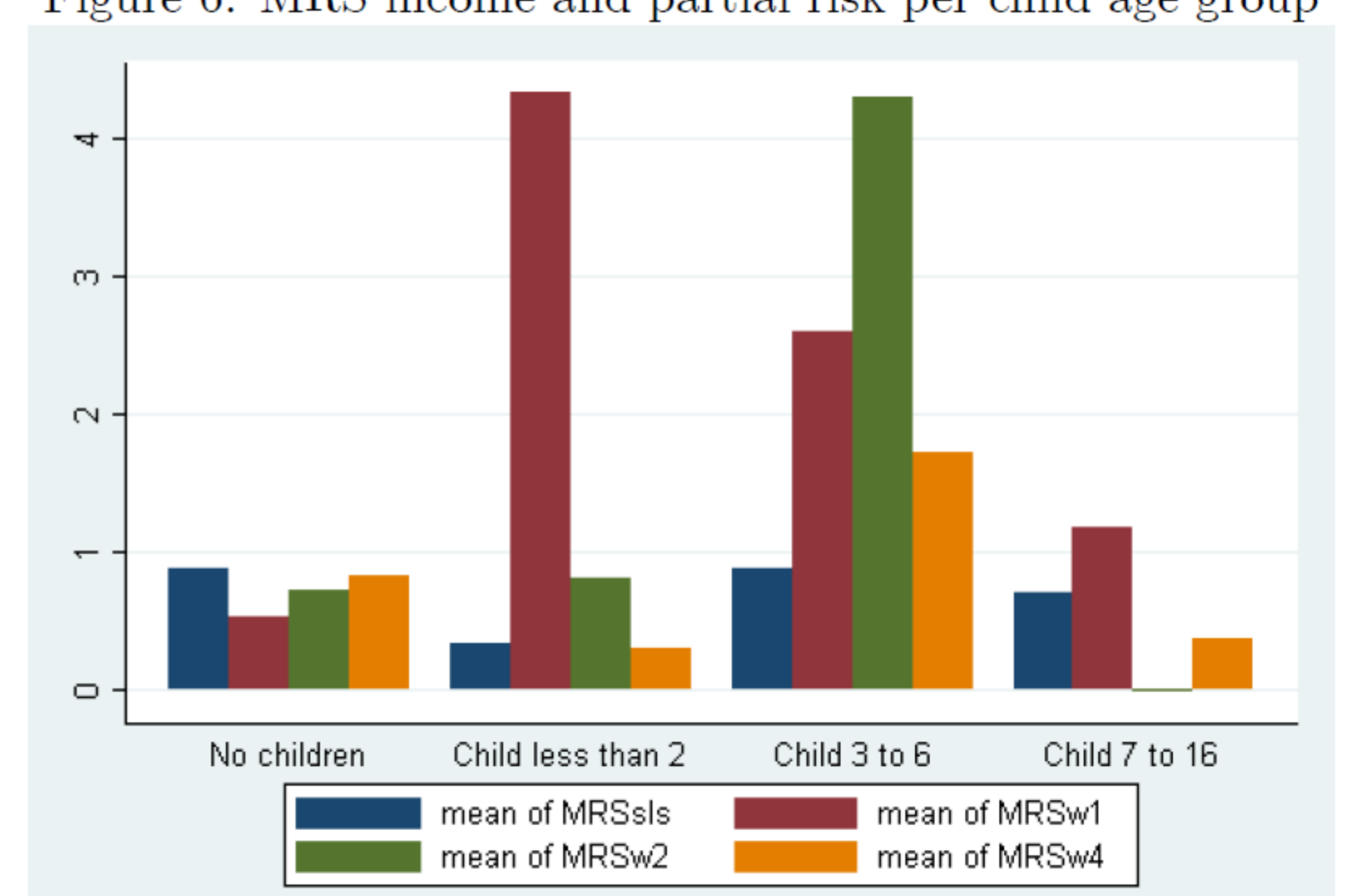


Figure 6: MRS income and partial risk per child age group



Preliminary conclusions

The comparison between choice-based utility (blue) and W4 (“mix” in yellow) shows that:

- On average (and at the median), work hours are a “bad” in the LS model, while it can be a “good” for some groups in SWB estimations.
- More generally, both model point to welfare as a concave function of work hours; the change of sign simply occurs at different level for LS and SWB.
- Risk at work is systematically a “bad” in both approaches.

Overall, levels of MRS are very different as expected, but not so different in many cases (some re-normalization could also help). Further comparison between approaches addresses differences in MRS (for income-work or income-risk) across types:

- Importantly, same qualitative trends for LS and W4 across groups (for example for income-hour tradeoff: older worker, West German workers and mother of young children need to be compensated more; for income-risk: older workers need to be compensated more)
- Decision utility and experienced utility thus reveal similar trends in tradeoff between job attributes

Remains to know what different SWB measures mean: job satisfaction provides a good proxy for the “mix” W4 measure for income-work trade-off. Moreover, it points toward more risk compensation for mother of young children, which is reasonable and in contrast to what is found using either LS or W4.