Social Reference and Adaptation Effects on Happiness: A Dynamic Error Correction Approach

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A central finding in happiness research is that a person's life satisfaction depends on the level of her income relative to the average income in her social reference group rather than the absolute level of her income (Ferrer-i-Carbonell, 2005; Luttmer, 2005; Vendrik and Woltjer, 2007. In addition, life satisfaction has been found to depend negatively on one's own income in the past (hedonic adaptation; Di Tella et al., 2007; Weinzierl, 2006). These phenomena are important since they impose positional externalities and myopic habit formation effects on consumption and labour supply decisions. From a social-welfare point of view, these effects may lead to inefficiently high consumption levels and hence inefficiently high working hours to finance such consumption expenses (Layard, 2005a, 2005b). Both effects can be internalized by an appropriate level of income or consumption tax.

However, what is lacking in the literature is an estimation of social-reference and hedonic adaptation effects on life satisfaction with respect to working hours as well as income in a full-fledged dynamic model. Our paper aims to contribute to filling this gap. We employ the German Socio Economic Panel (SOEP) spanning the years 1984-2005 with a focus on Western Germany. We follow a dynamic error-correction approach which includes variables for average income and working hours in social reference groups and which allows us to estimate hedonic adaptation with respect to absolute income, relative income and working hours while controlling for the short and long-run dynamics of life satisfaction with respect to a large set of control variables The individual-specific reference groups are defined in a rather narrow way as peer groups of similar age, education, gender, and region.

Our results indicate significant and strong relative concerns with respect to income in the long-run, but no evidence of relative concerns with respect to working hours at all. We find hedonic adaptation with respect to absolute income, working hours, birth of children, household type and marital status. For other variables like relative income, unemployment, education and health satisfaction, the effect is the opposite of hedonic adaptation, viz. larger long-run than short-run effects. Together, the estimates with respect to the income variables imply that life satisfaction depends significantly on absolute income in the short run, but only on relative income in the long run. Surprisingly, we also find a strong intrinsic utility of working time (net of the utility of leisure) with rather high optimum points of 43 hours per week for men and 26 hours for women in the short run, but substantially lower optimal hours, 33 and 22, respectively, in the long run. Because of the insignificance of absolute income in the long run, the latter optimal hours constitute the average social optima in the long run. In the short run, the social optima almost coincide with the average private optima. Since almost-full adjustment to the long-run equilibrium takes place within two years, the theoretical implication of these results would be an efficient income tax of about 1.25 times the discount factor in myopic intertemporal labour supply decisions. For a discount factor of say, 0.80, this would imply an efficient tax rate of 100 percent! However, such an extremely high tax would probably encounter a lot of public resentment and resistance, and hence greatly diminish the intrinsic utility of working.

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