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A Note on Income Aspirations, Television and Happiness

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In their innovative and frequently cited study on the impact watching television (TV) has on income aspirations and happiness, Luigino Bruni and Luca Stanca (2006, henceforth B&S) offer an alternative explanation of Easterlin's income-happiness paradox: "television viewing in contemporary society, by raising material aspirations, contributes to offset the effect of higher income on individual happiness" (B&S, p. 225). More generally, the paper contributes to the literature of economic psychology, addressing the determinants and formation of preferences. While the theoretical analysis of B&S and the hypothesis on the effect of TV on material aspirations are well-grounded, the empirical evidence they present to corroborate the TV hypothesis is rather weak. After correcting a technical inaccuracy of B&S' empirical analysis one obtains results which no longer confirm a significant, positive and robust impact of TV consumption on material aspirations. As discussed in the third section, the revised empirical result does not disprove B&S' main hypothesis on the role of TV in shaping individual preferences. However, it suggests applying a more direct approach of measuring the effect of TV on aspiration than that performed in B&S's empirical analysis.

I. THE MODEL

In their paper, B&S develop a model of life satisfaction *LS* allowing them to test the impact of frequent TV viewing *TV* on income aspirations *Y** by regressing life satisfaction on TV and actual income without observing income aspirations directly. The starting point is B&S' equation (1) presuming life satisfaction of individual *i* to be dependent not on income itself but on the gap between income and income aspirations, a pure TV effect, and some other covariates *X*.[1]

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1. In their paper, B&S do neither mention the pure TV effect on life satisfaction in (1) as well as the pure TV effect on income aspirations in (2) nor report the TV dummy in the results tables. On request, B&S made clear that these pure effects are accounted for in their model but are supposed to be uninformative with respect to the key hypothesis of the paper.

$$LS_i = \beta_0 + \beta_1(Y_i - Y_i^*) + \beta_2 TV_i + \beta_3 X_i + \varepsilon_i \quad (1)$$

In line with the literature on happiness, B&S presume β_1 to be positive, i.e. raising one's income aspirations without adjusting actual income will reduce one's life satisfaction. The primary interesting effect of watching TV comes into play in B&S' equation (5) determining income aspirations.

$$Y_i^* = \lambda_0 + \lambda_1 Y_i + \lambda_2 TV_i \cdot Y_i + \lambda_3 TV_i \quad (2)$$

B&S substitute Y^* in (1) with the right-hand side of equation (2) and regress life satisfaction LS on actual income Y, the frequency of watching TV, the interaction term $TV{\cdot}Y$, and controls X.

$$\begin{aligned} &LS_i = \gamma_0 + \gamma_1 Y_i + \gamma_2 (TV_i \cdot Y_i) + \gamma_3 TV_i + \beta_3 X_i + \varepsilon_i \\ &\text{with } \gamma_1 = \beta_1(1 - \lambda_1);\ \gamma_2 = -\beta_1 \cdot \lambda_2;\ \gamma_3 = \beta_2 - \beta_1 \cdot \lambda_3 \end{aligned} \quad (3)$$

Since B&S focus on the question whether TV consumption works differently for individuals with high income in comparison to low income earners they only interpret the interaction effect $TV{\cdot}Y$ manifested in γ_2. Given β_1, one is able to disentangle television's aspirational effect λ_2 from γ_2. Since B&S can only presume the sign of β_1 (positive), the regression merely reveals the direction but not the size of the TV effect.

II. THE ESTIMATION

B&S estimate model (3) using the third and fourth wave of the World Values Survey (WVS). The data include self-assessments on life satisfaction, relative income, daily TV consumption, and a considerable set of individual controls of more than 90,000 individuals from 55 countries. The crucial variables are operationalized as follows: life satisfaction LS is measured on a scale between 1 and 10; income Y is related to the self-assessed income position of the household ranging from 1 to 10. Finally, TV is a dummy equalling 1 if the individual watches at least two to three hours of TV on an average weekday. Moreover, many observed individual characteristics (age, sex, marital status, education, employment, trust, health, and personal values) are taken into account. To control for unobserved heterogeneity, B&S's main specification also includes area dummies grouping countries into larger units (Latin America, Asia, Africa, continental Europe, Scandinavia, the former Soviet Union, Eastern Europe, and a base group consisting of Australia and the US).[2] In this empirical specification,

2. With this many observations at hand it is somewhat surprising that B&S do not use the 55 country dummies throughout their entire analysis; particularly since the African group comprises countries as

λ_2 is significantly below zero (–0.70, see table 1, column (1)). B&S deduce that watching TV has a positive effect on income aspirations.

However, a replication on the basis of original data used by B&S revealed a technical inconsistency. The authors did not assign Georgia and Armenia to the former Soviet Union but to the base group consisting of Australia and the US; Moldova was assigned to Eastern Europe and not to the former Soviet Union; and some Spanish regions were assigned to the base group and not to continental Europe. With the correct assignment, results are weakened. The TV effect B&S focus on increases from –0.70 in their estimation to –0.21; the t-value worsens form –9.23 to –2.83 (see column (2) in table 1). However, even this weaker result is driven by two minor countries: Armenia and Georgia. If the model is estimated without these countries the estimate of the γ_2 parameter becomes completely insignificant (t-value –0.49; see column (3) in table 1) even though these countries only amount to five per cent of the sample.[3]

For adequately addressing the problem of unobserved individual heterogeneity on the country level the inclusion of country dummies is required. B&S refine their basic specification and implement these dummies. Again, the replication of their analysis with the original data reveals an inaccuracy, this time with respect to the definition of the base group. The base group does not consist of a single country but of the Basque region, Georgia, and Armenia. After correcting the coding error the coefficient of interest increases from –0.45 (t-value –6.00) to 0.08 (t-value 1.11) (see column (5) in table 1). Again, the significant effect of the $TV{\cdot}Y$ interaction term disappears; the coefficient even reverses its sign.

III. DISCUSSION

The hypothesis that heavy TV consumption drives material aspirations and ceteris paribus causes lower life satisfaction is well exposed during the course of B&S' paper and much anecdotal evidence seems to be in favour of this proposition. Yet, empirical evidence presented by the authors in support of the link between TV and aspirations is rather weak. In actual fact, no robust and signifi-

diverse as South Africa, Algeria, Zimbabwe and Tanzania; Asia includes Bangladesh, Jordan, China, and Taiwan. The reasonable conjecture of significant differences with respect to life satisfaction, self-assessed income and TV consumption within the area groups strongly recommends the use of country dummies.

3. The parameter γ_2 becomes insignificant even if only Armenia is dropped. It might be surprising that such minor changes cause these major effects. The explanation is straightforward. Compared to other respondents, the heavy TV users in Georgia and Armenia report an extremely low life satisfaction but a very high income position. This low life satisfaction is almost certainly not caused by watching TV (people with low TV consumption also report dramatically low satisfaction) but rather by the difficult political situation in the Caucasian region after the collapse of the Soviet Union. The country dummies included to absorb such effects do not work since the Basque region – which is erroneously assigned to Georgia and Armenia – has a life satisfaction almost twice as high as in these countries.

Table 1

Replication and Re-estimation of B&S' results

	(1)	(2)	(3)	(4)	(5)
Dependent Variable: Life satisfaction	B&S, p. 217 table 1, column 1	Correct area dummies	Correct area dummies (without Armenia & Georgia)	B&S, p. 218 table 2, column 1	Correct country dummies
Income (γ_1)	1.43***	1.16***	1.12***	1.27***	1.13***
	(26.19)	(21.72)	(20.30)	(22.63)	(20.18)
Income × TV dummy (γ_2)	**–0.70*** **	**–0.21*** **	**–0.04**	**–0.45*** **	**0.08**
	(–9.23)	**(–2.83)**	**(–0.49)**	**(–6.00)**	**(1.11)**
TV dummy (γ_3)	3.72***	1.34***	0.58	2.21***	–0.17
(not reported in B&S)	(8.82)	(3.24)	(1.36)	(5.27)	(–0.42)
Specification	Area dummies included	Area dummies included	Area dummies included	Country dummies included	Country dummies included
Adjusted R^2	0.29	0.31	0.30	0.31	0.34
Observations	56,258	56,258	52,824	56,258	56,258

Notes: t-values in parentheses. *** 1%, ** 5%, * 10% significance level. Control variables, area and/or country dummies are not reported. Full results are available from the author upon request.

cant relationship between TV consumption and income aspirations can be found using the data and methodology applied in their study. Should we, therefore, suppose that TV does not play a notable role in determining ones' material aspirations? In line with B&S' theoretical analysis, one should not draw such a sharp conclusion.

First of all and most obvious, an insignificant parameter does not allow any meaningful interpretation. Secondly and more important, there might be channels how TV fosters aspirations which B&S cannot identify. More specifically, one might speculate on the pure effect of TV on aspirations represented by the parameter λ_3 in equation (2). B&S' regression of life satisfaction on TV only reveals the overall TV effect γ_3, that is, a combination of the effect of TV on life satisfaction β_2 and the effect of TV working through income aspirations λ_3 ($\gamma_3 = \beta_2 - \beta_1 \cdot \lambda_3$). Only by determining the β_2 parameter – in addition to the parameter β_1 – one is able to disentangle the λ_3 effect of interest from the estimated parameter γ_3. Since B&S truthfully do not contend to have such *a priori* knowledge on β_2 they do not report and discuss the pure TV effect γ_3 and exclusively focus on the interaction effect γ_2. However, suppose for the moment a substantial positive effect of watching TV on life satisfaction ($\beta_2 > 0$) – at least partly confirmed by Kataria and Regner (2011) – then, the (revised) result of B&S's empirical analysis implies an aspiration fostering effect of TV (γ_3) regardless of the insignificant interaction effect γ_2.[4]

Without directly observing material aspirations this line of reasoning remains speculative. However, a promising approach recently performed by Hyll and Schneider (2013) offers a more appropriate empirical test of B&S' TV hypothesis. Firstly, the authors apply a direct measure of material aspirations based on survey questions regarding the self-assessed importance of income. Secondly, they exploit a long lasting, large scale natural TV experiment within the separated Germany. Hyll and Schneider are able to identify a direct impact of TV on material aspirations and they credibly argue that the estimates can be interpreted as a causal effect. According to this study, watching television – at least watching Western types of TV programmes – significantly increases material aspirations.

REFERENCES

Bruni, Luigino and Luca Stanca (2006). Income Aspirations, Television and Happiness: Evidence from the World Values Survey. *Kyklos*. 59(2): 209–225.

Hyll, Walter and Lutz Schneider (2013): The Causal Effect of Watching TV on Material Aspirations: Evidence from the 'Valley of the Innocent'. *Journal of Economic Behavior and Organization*. 86(Feb): 37–51.

Kataria, Mitesh and Tobias Regner (2011): A Note on the Relationship between Television Viewing and Individual Happiness. *Journal of Socio-Economics*. 40(1): 53–58.

4. According to the most reliable regression presented in column (5) of table 1 the overall TV effect γ_3 is almost zero. Since $\gamma_3 = \beta_2 - \beta_1 \cdot \lambda_3$ and β_1 reasonably is supposed to be positive a positive β_2 implies a positive λ_3.