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# HOUSEHOLD'S INCOME SITUATION AND CONSUMPTION OF ALCOHOLIC BEVERAGES

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## 1. Introduction

Living conditions of a household's members are highly influenced by the household's financial situation, especially after the available household income has dropped below a significant level.

In poverty research usually identifies a household's the significant income level at or below fifty percent of the mean equivalent net household income. One then assumes that the members of these households are deprived of the standard quality of life in society.

This indicator is easily computed, but there is no theoretical argument supporting the below-50-percent threshold as the significant income level. Net income is just a proxy for the material conditions of living. It would be quite informative, to explicate empirically the living conditions covarying with the income position (Weick 1999).

There are some studies presenting results for covariations of net household income with housing, health, employment and education (Townsend 1979, Ulrich/Binder 1992, Hauser/Hübinger 1993a, 1993b). But there is little information on income effects on the consumption of alcoholic beverages like liquors (Feichtinger 1996), which are a societally defined of the standard of living

Most research on the consumption of alcoholic beverages are focused on the societally and individually negative consequences of abuse of alcoholic beverages. Some few studies provide results on covariations of financial and/or socio-economic status and the demand for alcoholic beverages.

It seems to be, that there is more alcoholic beverages consumption in higher social status households than in lower status strata (Kirschner/Meinlschmidt 1994; Mielck/Helmert 1998, Thiel/Thai 1995, Kußmaul 1995).

But this covariation depends on the type of beverage and its socially defined image. So, less beer is consumed in higher social status groups (Mielck, Helmert 1998), it seems to be that this correlation is only true for men (Kusssmaul 1995).

Contradictory to these results the study of Härtel (1993) found that men of higher educational status overall consume less alcoholic beverages. Except for women with a better educational attainment who tend to consume more alcoholic drinks than those with a lower educational level (after having controlled for age).

In the study of Härtel (1993) consumption of alcoholic beverages was measured generally at the weekend and last working day before interview. Whereas in the study of Kusssmaul (1995) consumption of alcoholic beverages was measured by a seven day nutrition diary.

Overall, these studies give little insight into the covariation of income level and consumption of alcoholic beverages. First, all reports are based on cross sectional correlations. So they cannot provide findings on how a change of household's income does change the demand for alcoholics. Second, highly different methods of data collection are used, three day nutrition diary (Thiel, Thai 1995), seven day nutrition diary Kusssmaul (1995), retrospective data collection of alcoholics consumption at last weekend and the last day before interview (Härtel 1993) and a one spot self report measurement (Hermann-Kunz 1995).

Beside the problem of retrospective measurement of quantitative behavior, the most crucial measurement problem is given by the restrained short referred time interval. As consumption of alcoholics usually depends on a seasonal and socially defined events like silvester or birthdays the data collections might be biased by selective measurement.

Third, only one study differentiated between beer, wine, champagne and liquor as consumed alcoholics. But as contradictory results on the socioeconomic variation of beer consumption shows, each type of alcoholic beverage seems to have different symbolic and social definition.

In sum, to provide results on the effect of household's income position on its consumption of alcoholics, one needs longitudinal time continuous data on the consumption of different categories of alcoholics. This kind of data is provided by the consumer panel data of GfK, including information on the stability or change of a household's income position. Additionally, there is also information available on the socio-demographic structure of the household, which can be used for deeper exploration of the presumable income effect.

In this paper the covariation of level and change of the net household income position with the consumption of liquors, alcoholic beverages with more than 20 % is examined.

First some social psychological aspects of liquor consumption are given then the operationalization of income level and income change is described. The influence of household income position is estimated via linear regression analysis and its moderation by household demographics. After summing up further research options are discussed.

## **2. Social psychological aspects of liquor consumption**

Drinking alcoholic beverages is a normal part of life in western societies. Alcoholics are stimulants whose consumption is tied to social events like birthday parties, graduation parties etc. which organize the meeting of groups of people.

Especially in gatherings which offer opportunities for status demonstration like dinners with friends and relatives liquors are part of the event. By offering high quality and high priced liquors the host uses the possibility of positive self representation as this is signaling a high level life style and taste of the household. Additionally this gesture tells to the guests a high esteem by the host.

Therefore liquors can be seen as a mean of social communication, transporting symbolic meaning (towards others and towards oneself) of participating in a high level quality of life. In a population survey 85 percent of the interviewed confirmed that it is good form to offer alcoholic beverages for guests. (Antons/Schulz, 1990, p. 142).

Beside the social meaning of alcoholic beverages one should not ignore the psychological stimulating aspects. Moderate consumption of alcoholic drinks reduces anxiety, lowers arousal and dissolves inhibitions.

In the context of the psycho-social meanings of alcoholic beverages households with lower income position could experience multiple disadvantages. Because of their financial restrictions they might be not able to afford liquor as a sort of luxury good. Lower income position might be correlated by stressful status decreasing events like unemployment and separation and divorce, thereby favoring the consumption of alcoholics as a kind coping behavior, accompanied with the risk of harmful side-effects.

But one should also have in mind that because of the social meaning of alcoholics an increase of its consumption might be also based in financial improvements of the household. Consuming, purchasing and offering of alcoholic beverages might then help to re-signal participation in an upper standard of living.

### 3. Data and method

The analysis is based on purchase history data as well as on socio-demographic and data of the household, which are provided by the GfK consumer panel waves 1994 and 1995. Alcoholics are beverages like appetizers, schnaps (fruit or grain), brandy, cognac, vodka, gin, rum, liquors, and other spirits. In the present study all purchases of these liquors in the first three months of 1995 are analyzed.

The income position of a household is measured by relating its net household income to the overall mean income. On this basis there are four household types defined those in lowest income position, in lower income position, middle income position, upper income position (see table 1).

*Table 1: Types of household by their income position.*

income position	net household income
lowest income position	up to 1499 DM
lower income position	between 1500 and 2999 DM
middle income position	between 3000 bis 4999 DM
upper income position	5000 DM and more

By comparing a household's income position between 1995 and 1994 one gets additional information on the stability of the income level. Logically there are six improvement transitions, six transitions to lower income positions and four no-change combinations of 1994 and 1995 income positions.

The examination of the amount of liquors purchased in the first three months of 1995 for every type of income position transition leads to following results (see table 2).

It seems that the amount of purchased liquors reflects a joint effect of income position and income position change. The higher the income position the more liquors were bought in the period of observation. But the increase of the purchased amount of liquors can be mainly observed as difference between the households with lowest income position compared to all the other households. One can observe this covariation in 1994 as well as in 1995.

Table 2: Amount of liquor (ml) purchased in the first three months of 1995 by household's income position in 1994 and 1995

Household's income position 1995	household's income position 1994				
	lowest income position	lower income position	middle income position	upper income position	overall
lowest income position	722	779	1320	No values	749
lower income position	1063	1410	1834	1830	1376
middle income position	1623	1801	1454	1333	1486
upper income position	2710	1907	1660	1492	1525
overall	855	1454	1541	1485	1384

Additionally there seems to be a positive effect of income position improvement on the amount of purchased liquor beverages, especially when there was a change from lowest to lower income position. But the increase of liquor consumption obviously is also concomitant to a downward change of the household's income position.

To examine these face valid results income position as well as the changes of income position were integrated as dichotomous variables (collapsing those income position groups with similar purchase behavior) into a linear regression model of the amount of purchased liquors.

Additionally the household size was put into the regression model as a factor of its own, to get close to a meaning of income position as an indicator of consumption possibilities. Number of adults and number of children were incorporated as two separate predictors.

Finally the regression model consisted of these variables.

Table 3: Definition of predictors

income position improvement	Household being 1994 in lowest or lower income position and in 1995 in middle or upper income position = 1, all other changes of income position = 0.
income position deterioration	Household being 1994 in middle or upper income position and in 1995 in lowest or lower income position = 1, all other changes of income position = 0
lowest income position	Lowest income position=1, other income position = 0
number of adults	number of persons aged 18 years or more
number of children	number of children under 18

## 4. Results

### 4.1 Effects of income position and its change on the amount of purchased liquors

Table 5 gives the results of the estimated regression of the amount of liquors purchased in the first three months of 1995 on income position and change.

One can find, that a household's income position in the beginning of 1995 covaries with the consumption of liquors in the three-month interval thereafter: lowest income position households significantly buy less liquor beverages. This reflects some degree of income elasticity of liquor consumption.

Looking at the effects of changed income position one gets additional insight: improvement as well as deterioration of income position are related to more consumption of alcoholic beverages.

This simple regression model further shows that the quantity of consumed liquors depends on the number of adults in the household, the more adults the more liquors are consumed. But in households with larger families (more than one child) less liquor is consumed than in small families.

Maybe this reflects the context of liquor consumption as in households with children there are less gatherings of adults which are tied to alcoholic beverage consumption.

Table 5: *Effects of income position and its change on the amount of purchased liquors (b-coefficient) in 1<sup>st</sup> quarter of 1995*

predictors	amount of purchased liquor in 1 <sup>st</sup> quarter 1995
net mean	811
improvement of income position	381
deterioration of income position	403
lowest income position	-455
number of adults in household	331
number of children	-120

\*note: all effects are significant at  $p \leq 0.05$

In sum, the results support the following statements:

- The consumption of luxury products like liquors is reduced in households with low income.
- Improvements of household income level are connected with increased purchases of liquors. This makes sense in the context of the symbolic status meaning of liquor products.
- Deterioration of income level obviously is also followed by more liquor purchases. Maybe this reflects the relaxing function of alcohol and its use as a short-term, impulsive behavior in coping with stressful events.

For further exploration into these interpretations of liquor consumption the income and income change effects are examined for being moderated by the socio-demographic situation of the household (as indicated by the educational status of the household head, employment status of the person who is running the household, children being in the household or not).

## 4.2 Income effects on the quantity of liquor purchases moderated by socio-demographic household structure

### 4.2.3 Educational status of the household head

There are clear differences in the income position dependency of liquor consumption, if the household head has an occupational education compared to those without occupational education (see table 7).

Table 7: *Effects of income position and change on the purchased quantity (ml) of liquor in 1<sup>st</sup> quarter 1995, by educational status of household head (b-coefficient, OLS regression)*

Predictors	household head has no occupational education	household head has occupational education
net mean	738*	804*
Improvement of income position	873*	255
Deterioration of income position	135	506*
Lowest income position	-266	-461*
Number of adults	162*	391*
Number of children	-117	-182*

note: \* means significant with  $p < 0.05$

Income elasticity of consumed quantity of liquor is greater in households with household head having a better occupational education. This might reflect the working of middle class norms of gratification delay and economic-rational organizing of household economics.

The liquor consumption amplifying effect of income improvement is found only in households, whose household head has a lower educational status, not if the household head is better trained. It seems that the symbolic meaning of liquors is only relevant in lower class households. They might try to translate a financial improvement into a social status improvement by consuming more high-status image associated alcoholic beverages, which are assigned on higher image of higher status.

The positive effect of income deterioration on the consumed quantity of liquors can only be found in households where the household head has an occupational education/training.

It seems that only in higher social class households income position losses are seen as serious status declines. So they are in more stressful situation, which pushes more for immediate relaxation and coping.

#### **4.2.3 Employment status of the household running person moderating income effects**

In most two couple families the household is run by the wife (especially if there are children present). So looking at the net income position effects on the consumption of liquor separately for households where the household keeper is fulltime employed versus part-time or not employed, the importance of family as a context of social meaning of alcoholics is getting clearer.

One can assume that households with little occupational activities (employment) by the housekeeper can be understood as households with traditional family orientation. The employment of the housewife indicates a family and marriage system with occupational orientation.

As the results in table 8 show, the type of the family systems seems to be relevant for social and psychological functions of liquor consumption.

If we would assume that the increase of consumed liquor after income position improvement reflects the social status function of alcoholics, one can find in table 8, that only in household with strong family orientation and less job orientation of the housekeeper alcoholics's social function works. As the social status functioning of alcoholics needs social events, their time and energy consuming organization can best be done in households who have the time and self-identity of being "in charge" of this task.

The increase of liquor consumption after income position deterioration can be understood as a kind of "compensating function" of alcohol consumption. This covariation, the compensation by alcohol consumption is observable only in household with a mixed family and job orientation of the household runner. Maybe this is due to the fact that mainly in these households a downgrading of the income position is experienced as stressful because job orientation is an important characteristic of life.

There is also no significant elasticity response, which in this case means no difference between lowest and higher income position households. Wealthier households with family life do not increase their liquor consumption even if they could afford.

Table 8: *Effects of income position and change on purchased quantity of liquors in 1<sup>st</sup> quarter 1995 (in ml), by employment status of housekeeping person.*

model predictors	housekeeping person full-time employed	housekeeping person half-day employed	housekeeping person less than half-day employed	housekeeping person not employed
net mean	213*	423*	806*	1086*
improvement of income position	147	-603	2389*	423*
deterioration of income position	1008*	990*	-135	209
lowes income position	-265	-871	-123	-645*
number of adults	489*	357*	366*	267*
Number of children	310*	116*	-406*	-242*

note: \* means significant with  $p < 0.05$

#### **4.2.3 Having children in the household as moderator of income level and income position change effects on the quantity of liquor consumption**

Looking at the income effects on liquor consumption separately for households with versus without children under 18 years, one gets further support for the hypothesis on the crucial meaning of family orientation for the consumption of liquors (see table 9).

The results support the hypothesis, that households with children can be seen as households with family orientation and structure, which makes demand for liquor less strong. Overall these households show a reduced quantity of liquor purchases: further there is no change of liquor consumption after improvement nor after deterioration of the household's net income level.

The social status function as well as the compensation function of alcohol consumption seem to be not working in this family household context.

Table 9: *Effects of income position and change on purchased quantity (ml) of liquors in 1<sup>st</sup> quarter 1995, by household type (b coefficients, OLS regression)*

	household with children (aged less 18 years)	household without children (aged less 18 years)
net mean	627*	773*
improvement of income position	38	582*
deterioration of income position	-4	594*
lowes income position	-163	-470*
number of adults	251	360*
number of children	-68	-

note: \* means significant with  $p < 0.05$

## 6. Summary and conclusions

The main empirical results of this exploratory study are:

- a) households adapt their quantity of liquor consumption to their financial situation: high income restrictions lead to a restriction of liquor consumption;
- b) significant improvements in economic standing lead to short-term increases of alcohol consumption;
- c) significant deteriorations in income level lead also to short-term increases of alcoholic beverages demand.

There are several lines of argumentation supporting the assumption that consumption of alcoholic beverages is not only governed by economic/financial principles, but also by the social and psychological meaning of offering and consuming liquor products. The above results seem to support these hypotheses, they also showed that the sepearate estimation of social status meaning and compensatory meaning of alcoholic beverages is possible.

The exploratory hypothesis were then supported further by looking for moderating effects of the socio-demographic households structure.

The main moderating results are:

- a) if there are children present in the household, liquor consumption is reduced; also the effectiveness of alcoholic beverages consumption is weakened in meaning of social status and compensation .
- b) if the person running household is not or only marginally employed the compensation effect of liquor consumption is reduced, but the social status effect is more effective. The income level restriction is only effective in these households with one money earner.

These results are hints for thinking on the family context as an important context for alcohol consumption. It seems that family foundations of a household's everyday life reduces its consumption of alcohol. In households with more integration into to employment and less family activity spheres there is increased liquor consumption because of less financial constraints and more compensatory needs. Whereas financial restrictions and family integration reduces alcohol purchases, but on the other side pushes alcohol consumption because of its social integration function.

- c) If the household head has a higher educational status (having some formal training) then the income elasticity as well the compensation effect are working. The social status effect of income improvement only works in households with lower educational status.

This result seem to point to social class context of liquor purchases, where not only financial opportunities are the differentiating criteria of class differences but also attitudes and cognitive evaluative regulations of behavior. Middle class culture, possibly indicated by the educational level of the household head, seems to be the context the working of economic rationality. But on the otherside middle class status is more dependent on status consistency therefore reacting more sensible (by short-term increases of alcohol consumption) towards status losses.

The theoretical lines of thinking acknowledge several social, economic and psychological determinants of normal, everyday life consumption of liquors. To analyse, not to say to test the hypotheses, of the theoretical concepts, one needs data representing the ongoing consumption process as well as the process of household stability and change. Especially the measurement of the consumption process of liquors is complex and difficult to operationalize. The best way would be to take the data produced by consumption or purchase process itself. Process produced data are the most adequate data for measuring the process. The present analysis was based on that kind of data, and therefore was successful in precise analysis of different alcohol consumption functions. The results were that clear,

that they are more less straightforwardly interpretable in terms of social, economic and psychic functions. Of course these concepts, basically relied on subjective attitudes and perceptions, were not operationalized in the consumer panel study. This must be done for an adequate hypothesis testing, as well as there is more precise information needed on the social and demographic changes of the household structure over time. Having given the highly costly and effortful process produced data measurement of a household's consumption process as the core of the data collection programm, there would be a big progress in researching the everyday life contexts of alcohol consumption and thereby the societal defined everyday life contexts of possible pathological alcohol consumption.

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