

Results

Figure 1 gives an overview of the data structure, and Table 1 details descriptive statistics and correlations by observation stage: From the end of the year 1983 until its end at the beginning of 2003, per capita consumption of cigarettes generally tended to decline. In stages B₂ and B₃, consumption maintained a relatively stable level, until it the decreasing trend steepened in stage B₄.

The price of increased heavily from the beginning to the end of the analyzed period. The first noteworthy increase can be observed at the transition to stage B₁, when the start of the communication campaign coincided with a tax raise. However, along stage B₂, prices lowered slightly and were then more or less stable until the end of stage B₃. The sharpest increase (due to Proposition 10 and the MSA) occurred shortly after entering stage B₃, the smoking ban in bars, taverns, and nightclubs.

There is a strong negative correlation between the price of cigarettes and their consumption (based on all observations of the series, it is $r = -.87$, $p < .01$), which is present in all stages but stage B₃, underlining the need for including price into the regression model.

After various iterations, the ARIMA model which best fitted the data was an ARIMA (2, 1, 0) with annual periodicity. This model eliminated all of the autocorrelation of the time series (Box-Ljung test, all $p > .05$).

Table 2 presents descriptives and correlations of the variables derived from the ARIMA model. Averages and standard deviations of the adjusted consumption data are very similar to the original time series, and the negative consumption between consumption and price is also maintained. As expected, the residuals of the model (which theoretically should consist in white noise) do not correlate with consumption.