

# About the seasonal effects on the potential liquid consumption

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# Consumption raw data

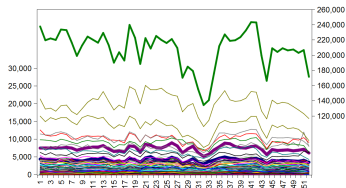


Figure : Evolution during one year of different family turnover

# Consumption raw data

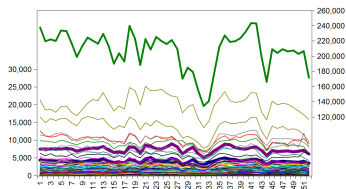


Figure : Evolution during one year of different family turnover

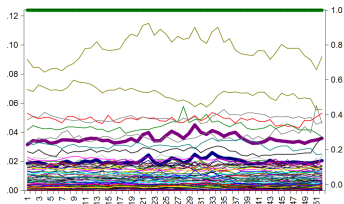


Figure : Evolution of the ratio of the turnover of each family of products against the global turnover

# Consumption raw data

- ice creams
- alcoholic beverages
- non alcoholic beverage

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- ice creams
- alcoholic beverages
- non alcoholic beverage

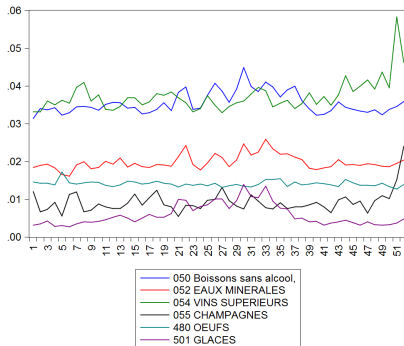


Figure : Evolution of different families during one year

# Temperature raw data

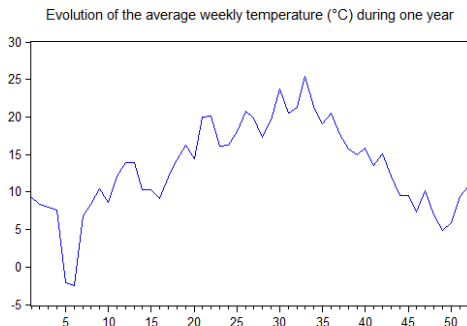


Figure : Evolution of average weekly temperature during one year

# Evolution of no alcoholic beverages per week during one year

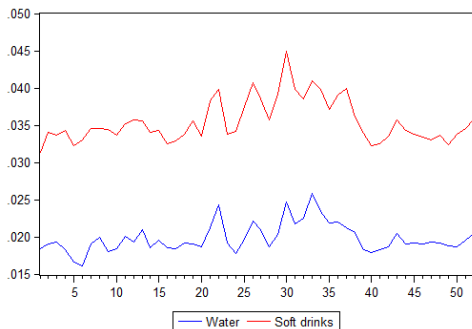


Figure : Evolution of no alcoholic beverages per week during one year

# No alcool beverage sells fonction of temperature

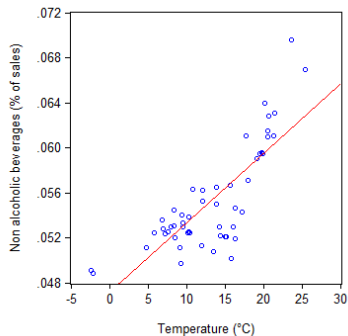


Figure : No alcohol beverage sells fonction of temperature



# No alcool beverage sells fonction of temperature

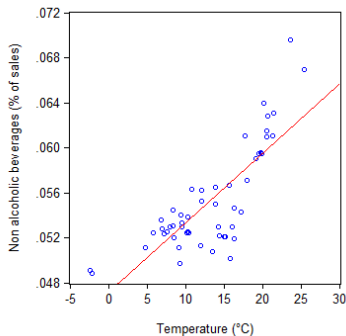


Figure : No alcohol beverage sells fonction of temperature

Dependent Variable: DATA\_NOALCOHOL  
Method: Least Squares  
Date: 01/08/13 Time: 19:42  
Sample: 1 52  
Included observations: 52

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.047095	0.000955	49.30880	0.0000
DATA_T	0.000617	6.57E-05	9.394714	0.0000
R-squared	0.638364	Mean dependent var		0.055281
Adjusted R-squared	0.631131	S.D. dependent var		0.004645
S.E. of regression	0.002821	Akaike info criterion		-8.865671
Sum squared resid	0.000398	Schwarz criterion		-8.790623
Log likelihood	232.5074	Hannan-Quinn criter.		-8.836899
F-statistic	88.26065	Durbin-Watson stat		1.090146
Prob(F-statistic)	0.000000			

Table : No alcohol beverage sells fonction of temperature

# No alcool beverage sells fonction of temperature

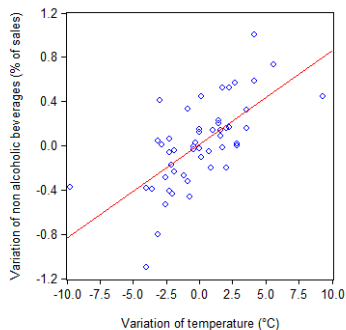
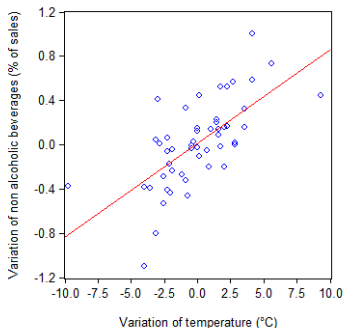


Figure : Variation of the no alcohol beverage sells fonction of variation of temperature

# No alcool beverage sells fonction of temperature



**Figure :** Variation of the no alcohol beverage sells fonction of variation of temperature

Dependent Variable: VAR\_NOALCOHOL  
Method: Least Squares  
Date: 01/08/13 Time: 21:38  
Sample (adjusted): 2 52  
Included observations: 51 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.0102	0.040454	0.252137	0.802
VAR_T	0.084696	1.35E-02	6.291771	0
R-squared	0.446868	Mean dependent var		0.01281
Adjusted R-squared	0.435579	S.D. dependent var		0.384525
S.E. of regression	0.288886	Akaike info criterion		0.392856
Sum squared resid	4.089299	Schwarz criterion		0.468614
Log likelihood	-8.017837	Hannan-Quinn criter.		0.421806
F-statistic	39.58638	Durbin-Watson stat		2.151045
Prob(F-statistic)	0.000000			

**Table :** Variation of the no alcohol beverage sells fonction of variation of temperature

# No alcool beverage sells fonction of temperature

Dependent Variable: DATA\_NOALCOHOL  
Method: Least Squares  
Date: 01/08/13 Time: 19:42  
Sample: 1 52  
Included observations: 52

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.047095	0.000955	49.30880	0.0000
DATA_T	0.000617	6.57E-05	9.394714	0.0000
R-squared	0.638364	Mean dependent var	0.055281	
Adjusted R-squared	0.631131	S.D. dependent var	0.004645	
S.E. of regression	0.002821	Akaike info criterion	-8.865671	
Sum squared resid	0.000398	Schwarz criterion	-8.790623	
Log likelihood	232.5074	Hannan-Quinn criter.	-8.836899	
F-statistic	88.26065	Durbin-Watson stat	1.090146	
Prob(F-statistic)	0.000000			

**Table :** No alcohol beverage sells fonction of temperature

Dependent Variable: DATA\_NOALCOHOL  
Method: Least Squares  
Date: 01/08/13 Time: 19:35  
Sample (adjusted): 2 52  
Included observations: 51 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.047386	0.000993	47.71138	0
DATA_T	0.0006	6.84E-05	8.777427	0
VAR.T	8.60E-05	0.000136	0.631809	0.5305
R-squared	0.639927	Mean dependent var	0.05539	
Adjusted R-squared	0.624924	S.D. dependent var	0.004624	
S.E. of regression	0.002832	Akaike info criterion	-8.838629	
Sum squared resid	0.000385	Schwarz criterion	-8.724992	
Log likelihood	228.385	Hannan-Quinn criter.	-8.795205	
F-statistic	42.6532	Durbin-Watson stat	1.086044	
Prob(F-statistic)	0			

**Table :** No alcohol beverage sells fonction of temperature and its variations

# No alcool beverage sells fonction of temperature and other values

Dependent Variable: VAR\_NOALCOHOL  
Method: Least Squares  
Date: 01/08/13 Time: 21:38  
Sample: 1 52  
Included observations: 52

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.509459	0.54193	4.630595	0
TEMPK	-0.0178	0.003792	6.291771	0
TEMPK2	3.22E-05	6.63E-06	4.857307	0
R-squared	0.755899	Mean dependent var	0.055281	
Adjusted R-squared	0.745935	S.D. dependent var	0.004645	
S.E. of regression	0.002341	Akaike info criterion	-9.220263	
Sum squared resid	0.000269	Schwarz criterion	-9.107691	
Log likelihood	242.7268	Hannan-Quinn criter.	-9.177106	
F-statistic	75.86815	Durbin-Watson stat	1.259393	
Prob(F-statistic)	0.000000			

**Table :** Variation of the no alcohol beverage sells fonction of temperature and temperature squared

Dependent Variable: VAR\_NOALCOHOL  
Method: Least Squares  
Date: 01/08/13 Time: 21:45  
Sample: 1 52  
Included observations: 52

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.358599	0.579128	2.345938	0.0233
TEMPK	-0.04105	0.007679	-5.34554	0
TEMPK2	7.27E-05	1.33E-05	5.446323	0
DEWK	0.032066	0.008315	3.856405	0.0004
DEWK2	-5.73E-05	1.49E-05	-3.84535	0.0004
PRECIPITATIONS	-0.00426	0.001818	-2.34394	0.0235
R-squared	0.846181	Mean dependent var	0.055281	
Adjusted R-squared	0.829461	S.D. dependent var	0.004645	
S.E. of regression	0.001918	Akaike info criterion	-9.56668	
Sum squared resid	0.000169	Schwarz criterion	-9.34154	
Log likelihood	254.7338	Hannan-Quinn criter.	-9.48037	
F-statistic	50.61043	Durbin-Watson stat	1.585332	
Prob(F-statistic)	0			

**Table :** Variation of the no alcohol beverage sells fonction of other parameters

# Conclusion

$$\begin{aligned} y = & 1.36 - 4.11 \times 10^{-2} \times T_K + 7.27 \times 10^{-5} \times T_K^2 \\ & + 3.21 \times 10^{-2} \times D_K - 5.73 \times 10^{-5} \times D_K^2 \\ & - 4.26 \times 10^{-3} \times P_{cm} \end{aligned} \quad (1)$$

Limits:

- small sample
- small time period
- lack of relevant parameters

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$$\begin{aligned} y = & 1.36 - 4.11 \times 10^{-2} \times T_K + 7.27 \times 10^{-5} \times T_K^2 \\ & + 3.21 \times 10^{-2} \times D_K - 5.73 \times 10^{-5} \times D_K^2 \\ & - 4.26 \times 10^{-3} \times P_{cm} \end{aligned} \quad (1)$$

Limits:

- small sample
- small time period
- lack of relevant parameters