Stomach cancer incidence, males

World standardised rates/100'000 per year (Globocan 2002)
Swiss cancer registries cover 56% of the country
Incidence of stomach cancer in Switzerland 1997-2001
(both sex, European standardised rates/100'000 per year)

Reference: www.asrt.ch
Standardised risk ratio = 1.4 (p<0.05)
Risk ratio Graubunden/St Gallen = 1.3
Standardised (E) incidence rate = 9.3 [IC 95% 8.9-9.8]

Standardised (E) incidence rate = 14.3 [IC 95% 13.1-15.6]
Bread

Cumulated 0-79 (M+F) incidence rate

$R^2 = 0.48$

VD, BA, GE, ZH, NE, TI, VS
Cumulated 0-79 (M+F) incidence rate

Sodas

Sugar free mineral water

$R^2 = 0.54$

$R^2 = 0.23$
Fresh vegetables

Cumulated 0-79 (M+F) incidence rate

R² = 0.60

Vegetables, others

Cumulated 0-79 (M+F) incidence rate

R² = 0.35
Cumulated 0-79 (M+F) incidence rate

**Fresh fruit**

- VD
- GE
- ZH
- BA
- NE
- VS

$R^2 = 0.44$

**Fruit, other**

- VD
- BA
- NE
- ZH
- VS
- GE
- TI

$R^2 = 0.22$
Biscuits

Cereals

Pastry

Cumulated 0-79 (M+F) incidence rate

\[ R^2 = 0.08 \]

\[ R^2 = 0.11 \]

\[ R^2 = 0.72 \]
Cheese and dairy products

Milk only

Cumulated 0-79 (M+F) incidence rate

$R^2=0.52$

$R^2=0.28$
Meat

Poultry

Fish

Cumulated 0-79 (M+F) incidence rate

$R^2=0.05$

$R^2=0.43$

$R^2=0.35$
Cumulated 0-79 (M+F) incidence rate

Pasta

Potatoes

R² = 0.08

R² = 0.42
Assorted cooked meats

Cumulated 0-79 (M+F) incidence rate

Chocolate

Cumulated 0-79 (M+F) incidence rate

$R^2 = 0.21$

$R^2 = 0.04$
### Correlations

<table>
<thead>
<tr>
<th>Product</th>
<th>Pearson</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bread</td>
<td>-0.69</td>
<td>0.06</td>
</tr>
<tr>
<td>Pastry</td>
<td>-0.85</td>
<td>0.02</td>
</tr>
<tr>
<td>Sodas</td>
<td>-0.73</td>
<td>0.06</td>
</tr>
<tr>
<td>Sweet juices</td>
<td>-0.73</td>
<td>0.06</td>
</tr>
<tr>
<td>Fresh vegetables</td>
<td>-0.75</td>
<td>0.04</td>
</tr>
<tr>
<td>Fresh fruit</td>
<td>-0.67</td>
<td>0.09</td>
</tr>
<tr>
<td>Cheese and dairy products</td>
<td>0.72</td>
<td>0.07</td>
</tr>
</tbody>
</table>
Limitations, questions & conclusions

Possible information and food-consumption biases
Classical ecological fallacies

Role and impact of cofactors (e.g. salt intake)
Ignorance of Helicobacter pylori prevalence

Agreement with current consensus on fruits and vegetables
Apparent "protection" effect of sugar and bread

Further analysis? Public health prevention?
Thanks to
Pierre Pury, Julian Gree

Migros company, represented by J. Brun

and the whole staff of Swiss cancer registries represented by: Chr. Bouchardy (Genève), A. Bordoni (Locarno), D. De Weck (Sion), S. Ess (St Gallen), H. Frick (Chur), G. Jundt (Basel), F. Levi (Lausanne) and N. Probst (Zurich).