Facts vs. Fake:

A Comparison of Meat Product’s Nutritional Values and Nutritional Claims

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Facts vs. Fake: A Comparison of Meat Product’s Nutritional Values and Nutritional Claims

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**Background**

- Red meat (RM) production has a negative effect on the environment
- Meat (over-)consumption is associated with adverse health, especially due to the high contents of saturated fat and salt
- Besides nutritional values, food additives play a crucial role for the perceived risk of consumption and naturalness of (meat) products
- Producers reacted with reformulations of traditional meat products and the development of meat substitutes (MS)
- Excessive use of Front of package (FOP) claims that refer to product’s healthiness & naturalness which has been shown to influence consumers’ decisions
- Little is known i) about actual differences in nutritional values and usage of food additives between MS and RM, and ii) whether both are related to FOP (health) claims

**Research Objectives**

Investigate at the example of Germany whether:
- the nutritional quality and the use of additives differ between RM, Poultry Meat (PM) and MS innovations
- FOP information is a reliable external cue for predicting a satisfactory nutrient profile and the naturalness of the meat products
- Our results indicate that FOP claims/labels are in many cases not a reliable cue for communicating the nutritional quality and the naturalness of the product.

**Variables and Method**

- **Dependent variables (DV):** Ofcom’s A-score: aggregated score for product’s nutritional quality including energy, salt, saturated fat and sugar content. Range from 0 (best) to 40 (worst)
- **Explanatory variables:**
  - Dummies for RM and PM innovations
  - Dummies for FOP claims/labels: minus, plus or natural
  - Control variables: Price and time trend (0 to 8)

**Descriptive statistics**

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>Mean</th>
<th>Mean RM</th>
<th>Mean PM</th>
<th>Mean MS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-Score</td>
<td>14.457</td>
<td>16.53</td>
<td>10.95</td>
<td>9.786</td>
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<tr>
<td>#Additives</td>
<td>2.18</td>
<td>2.36</td>
<td>1.90</td>
<td>1.75</td>
</tr>
<tr>
<td>Natural</td>
<td>0.286</td>
<td>0.20</td>
<td>0.29</td>
<td>0.68</td>
</tr>
<tr>
<td>Plus</td>
<td>0.03</td>
<td>0.01</td>
<td>0.01</td>
<td>0.18</td>
</tr>
<tr>
<td>Minus</td>
<td>0.072</td>
<td>0.07</td>
<td>0.07</td>
<td>0.10</td>
</tr>
</tbody>
</table>

**Data**

- Data from Mintel’s Global New Product Database
- 5,482 product innovations in the German meat market from 2010 to 2018
- 65.7% RM innovations, 20.8% PM innovations and 13.5% MS innovation

**Regression Results**

| Red meat (All) | 6.713*** | -0.201 | -0.056 |
| Poultry meat (All) | 1.272*** | 1.021 |
| Minus | -0.223 | -0.053 |
| Plus | -0.298*** | -0.085 |
| Natural | 0.164 | 0.182 |
| Time | -0.177 | -0.128 |
| Price (€/100g) | 0.673*** | 1.582*** |
| Constant | 10.951*** | 11.553*** |

**Discussion**

- While previous literature presents ambiguous findings on differences in nutritional quality, our results indicate that, based on the A-score, RM and PM contain higher amounts of unfavorable nutrients than MS
- Also regarding additives, MS are better than their reputation. In fact, MS contain less additives than RM. No significant difference exists compared to PM
- Across product categories, minus claims are related to lower A-scores but associated with more food additives
- While consumers would presume natural labelled products as healthier, looking at the Ofcom A-score this only holds in the case of PM and MS, but not for RM. Natural claims/labels are, however, a consistent indicator for fewer additives

**Conclusion**

- Our results indicate that FOP claims/labels are in many cases not a reliable cue for communicating the nutritional quality and the naturalness of the product.
- However, the kind of meat is: MS seem the better choice from the perspective of the nutritional quality and the naturalness. RM in contrast are most critical from both perspectives while PM take a middle ground.

**References:**

4: Thies Petersen, Monika Hartmann.