



Bertebos Conference 2016

Hypes, fears, facts and hopes: possible futures of food

Prof. Dr. Joachim Scholderer

Outline

- Meta-topics and hype cycles
 - Quality
 - Safety
 - Health
 - Sustainability
- What next?



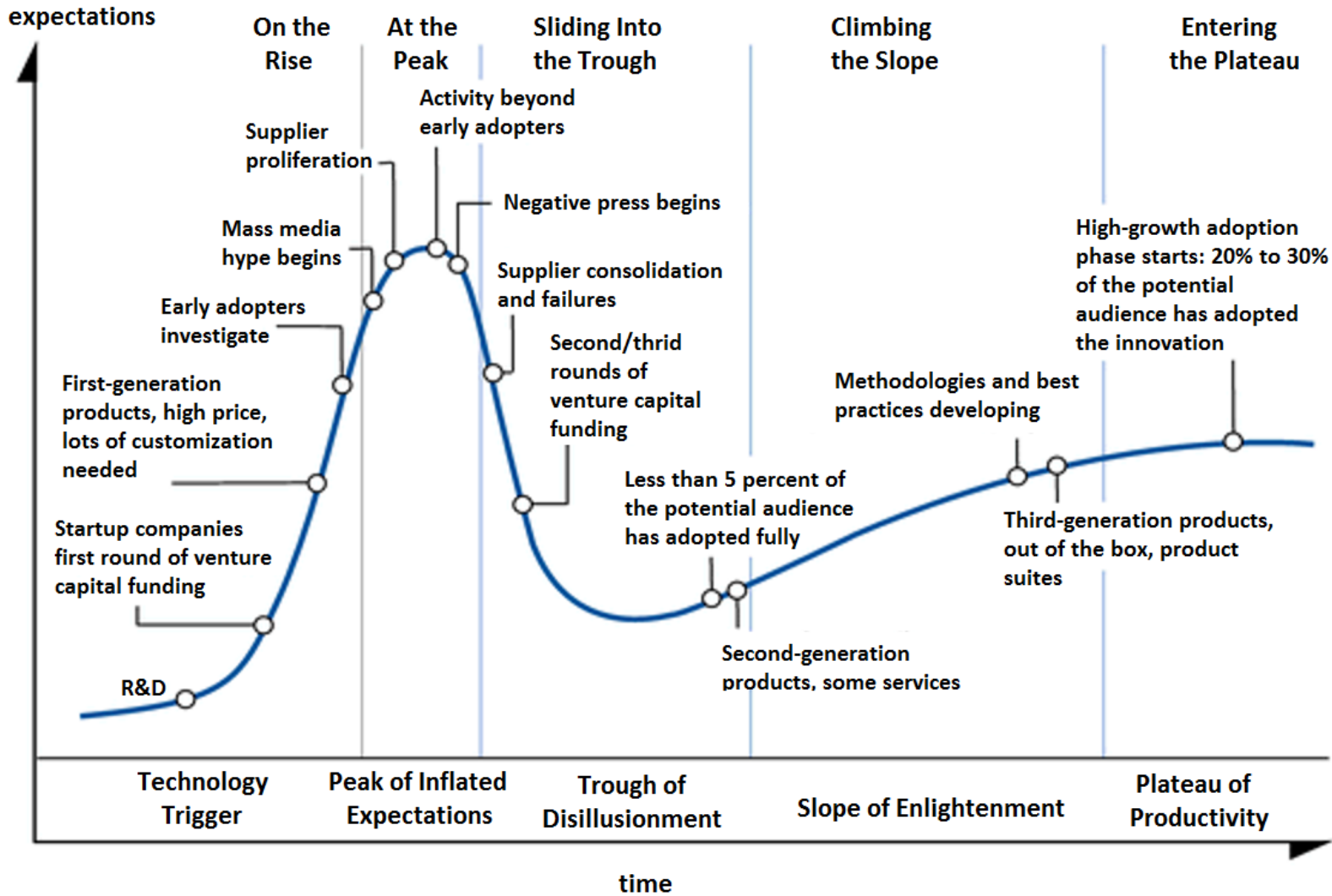


University of
Zurich ^{UZH}



AARHUS
UNIVERSITY

Meta-topics and hype cycles





**University of
Zurich** ^{UZH}

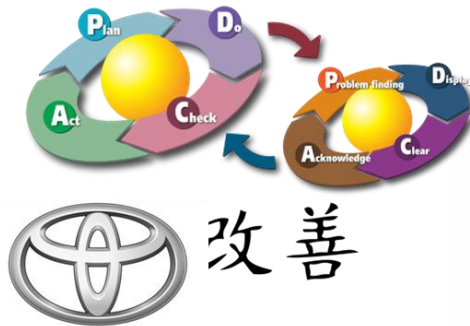


AARHUS
UNIVERSITY

1980s: The decade of quality

The rise of TQM

1980: Toyota's productivity increases to more than four times the productivity of GM



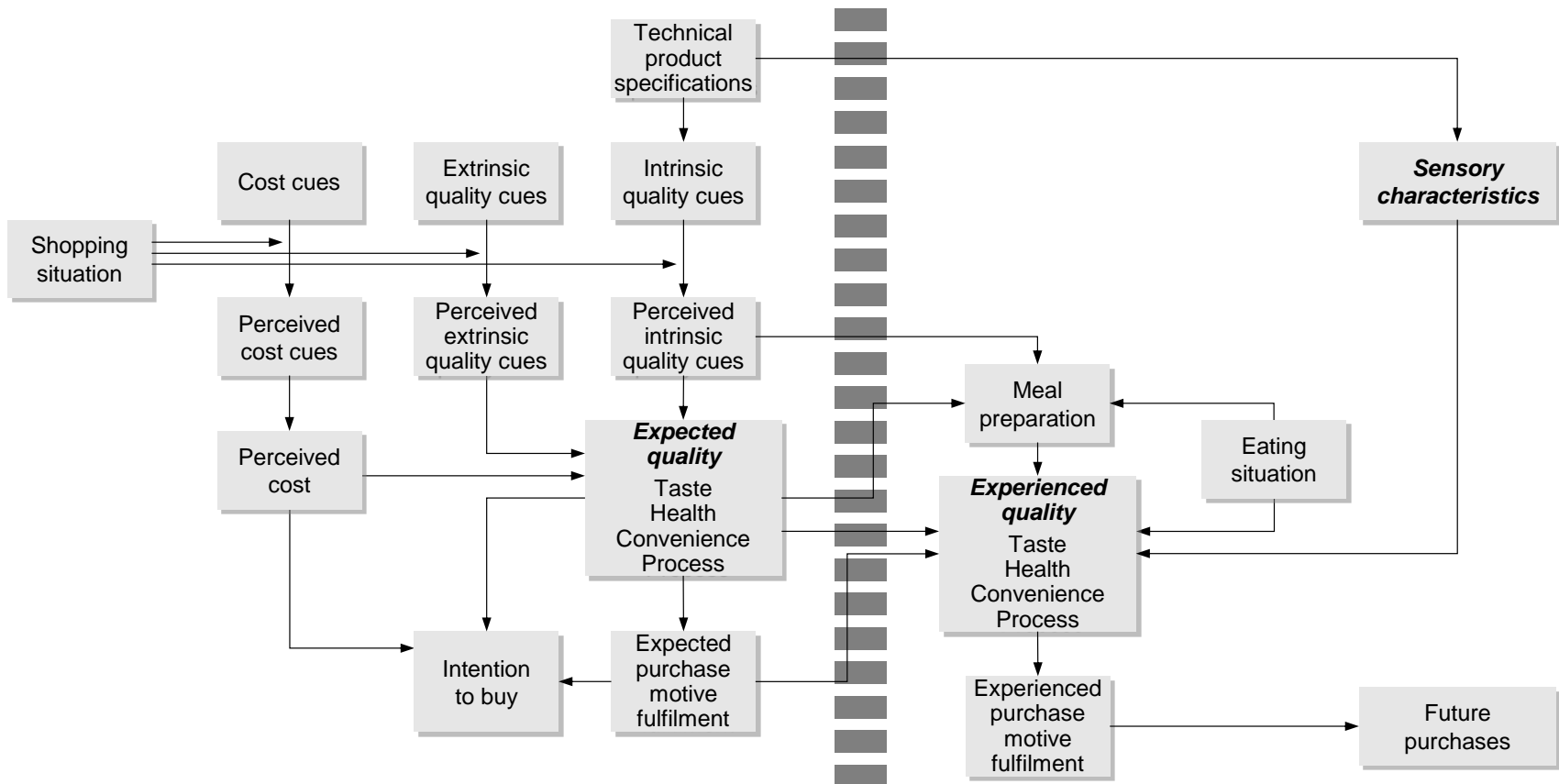
1988: QFD reaches HBR

	Length	Thickness	Smoothness	Yellow	Orange	Quantity of flavours	Potato flavour	Flavours	Softness	Hotness	Sweetness	Crispness	Hardness	Cohesiveness
Appearance	3	3	1	9										
Aroma						9	9							
Taste						9	9	9	1	9				
Texture												1	9	
Importance	0	0.29	0.3	0.03	Max	0.17	0.41	0.17	0.6	Max	0.68	0.46	0.3	0.2
Target	0	0.29	0.3	0.03	Max	0.17	0.41	0.17	0.6	Max	0.68	0.46	0.3	0.2
Contribution	0	0	0	0	0	0	7.65	7.65	6.32	6.68	4.12	0	0.19	1.71
Direction of goodness							Optimum	Optimum	Optimum	High	Low	Low	Low	Low
Appearance														
Puffed snacks 1	-0.3	-0.8	-0.7	0.21	0.89	0.77	-0.2	0.39	0.01	0.64	-0.6	-0	-0.7	-0.7
Puffed snacks 2	0.56	0.35	-0.1	0.27	0.52	0.16	-0.3	0.39	0.24	0.37	0.28	-0	0.36	0.63
Puffed snacks 3	0.89	0.49	0.78	-0.5	-1.1	-0.9	0.59	-0.8	-0.3	-1.1	0.34	0.07	0.29	0.6



1988: first FQP issue published

Total food quality model





The sensory revolution

- The professionalisation of sensory science made the consumer experience measurable
- Systematic assessment of preferences and translation into product design parameters
- Aim: production of high and stable qualities with narrow tolerances
- Sensory has become a central part of NPD in all large food companies
- However, there are still blind spots:
 - SMEs
 - Home kitchen
 - Food service sector
 - Not predictive of market success



**University of
Zurich** ^{UZH}

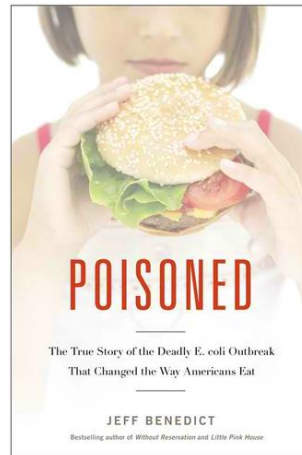


AARHUS
UNIVERSITY

1990s: The second age of food safety

A new quality of food scares

1993: *E. coli*
O157:H7
outbreak at
Jack in the
Box



1999: the GM foods
moratorium in Europe

1996: BSE
hits Britain





Addressing the "crisis of confidence"

- The EU responded with a complete overhaul of its food safety legislation and control systems
- Traceability and labelling, rapid alert systems like RASFF and RAPEX, the use of the precautionary principle and the creation of EFSA were the result
- And indeed it became quiet for ten years
- Risk assessment and management were raised to completely new levels
- However, risk communication is still where it was
- And there are blind spots here too:
 - Home kitchen
 - Sharing economy
 - Fresh local foods

2011: *E. coli* O104:H4 kills 53, food safety returns to the agenda



WARNING

Sprouts are a raw agricultural product and may contain harmful bacteria (not limited to *E. coli*, *Campylobacter*, *Listeria* and *Salmonella*) and have been linked to serious injury and death. Pregnant women, infants, children, the elderly, and persons with lowered resistance to disease (immune compromised) have the highest risk of harm, which includes bloody diarrhea, vomiting, fever, dehydration, Hemolytic Uremic Syndrome, Guillain-Barre Syndrome, Reactive Arthritis, Irritable Bowel Syndrome, miscarriage, or death.





**University of
Zurich** ^{UZH}

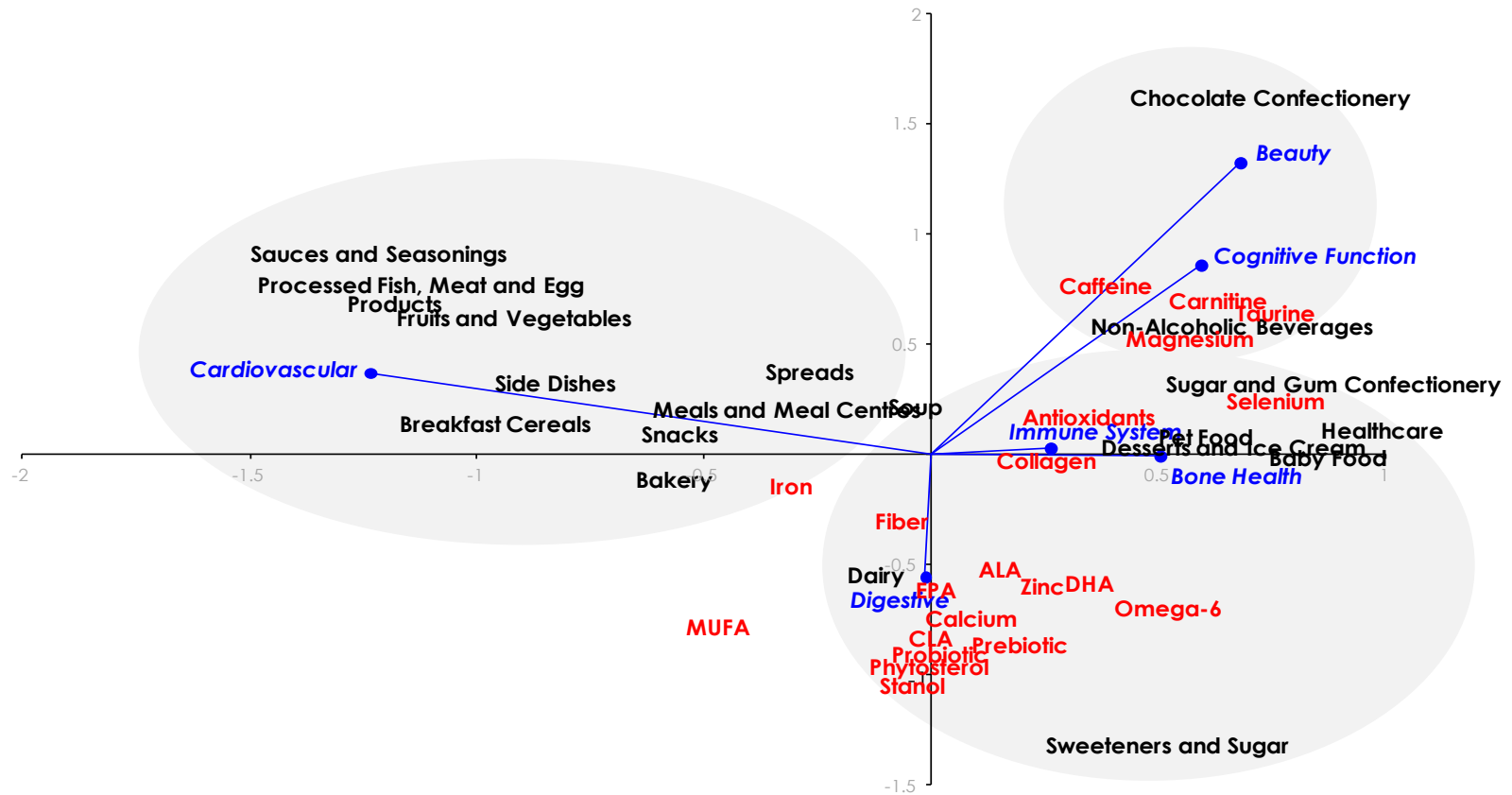


AARHUS
UNIVERSITY

2000s: The consumer health bubble



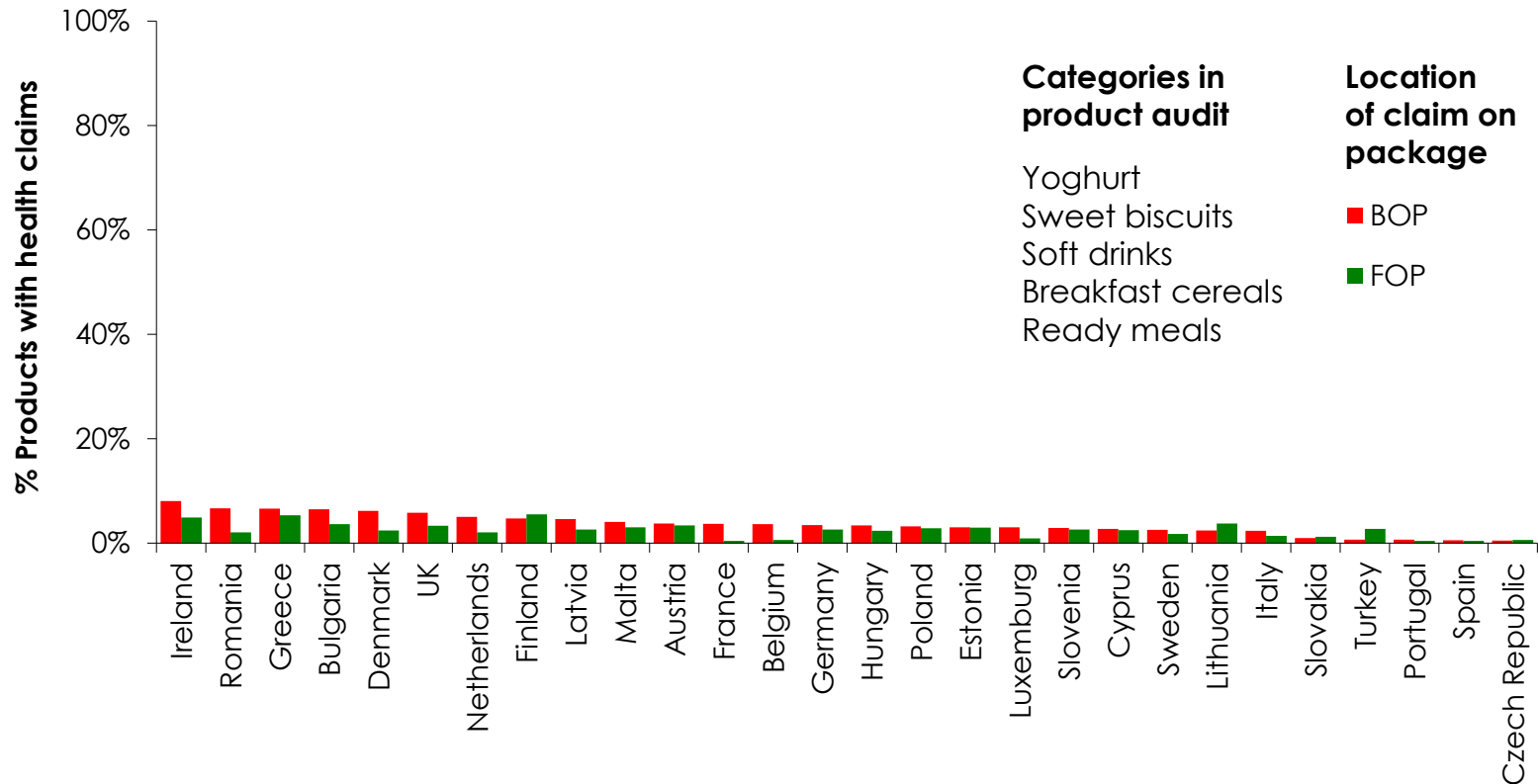
Before the storm: the global functional foods landscape in 2007



(Scholderer & De Barcellos, 2008)



Unregulated use of health claims in the EU



Tough times for claims

**REGULATION (EC) No 1924/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
of 20 December 2006
on nutrition and health claims made on foods**

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 95 thereof,

Having regard to the proposal from the Commission,

Having regard to the Opinion of the European Economic and Social Committee (¹),

Acting in accordance with the procedure laid down in Article 251 of the Treaty (²),

Whereas:

- (1) An increasing number of foods in the Community bear nutrition claims in order to ensure a high level of consumer protection and to facilitate their choice, products, including imported products, adequately labelled. A varied and suitable range of products is important for good health and single importance in the context of the
- (2) Differences between national provisions may impede the free movement of goods and create unequal conditions of competition. It is therefore necessary to adopt a direct impact on the functioning of the internal market. It is therefore necessary to adopt a uniform approach to the use of nutrition and health

properties to food. This Regulation should complement the general principles in Directive 2000/13/EC and lay down specific provisions concerning the use of nutrition and health claims concerning foods to be delivered to the consumer.

EFSA says yes to calcium, no to omega-3s and probiotics

By Shane Starling, 23-Oct-2008

Related topics: Health claims, Omega-3, Probiotics, Regulation, Dairy-based ingredients, Minerals, Nutritional lipids and oils, Probiotics and prebiotics, Proteins, peptides, amino acids, Vitamins & premixes, Bone & joint health, Cancer risk reduction, Cardiovascular health, Cognitive and mental function, Gut health, Immune system

Don't shoot the messenger, says EFSA

By Shane Starling, 06-Nov-2008

Related topics: Health claims, Industry

The European Food Safety Authority (EFSA) will not moderate its 'gold standard' approach to health claims and should not be criticised for doing so, according to the chair of its claims assessment panel.

With concern about the severity of EFSA's health claim rulings raging at Health Ingredients Europe (HIE) trade show in Paris this week, Professor Albert Flynn, chair of the Scientific Panel on Dietetic Products, Nutrition and Allergies (NDA), told NutraIngredients.com that EFSA had no intention of changing its assessment criteria and methodologies.

Indeed, Professor Flynn said there was no room to manoeuvre in its approach to the nearly 2000 dossiers it has to pass opinion on by January, 2010, as the assessment agency was simply following guidelines written into the nutrition and health claims regulation that passed into European Union law in 2006.

No room for change

He said those that criticised EFSA for what is widely perceived as an inappropriate drug-like analytic method, were channelling their efforts at the wrong body, because EFSA's course had been set by the regulation and could not be altered.



ions
claims

ere
roup,
th

red to
are

submitted
Products,
claims

the
lets will
idea of

ildren and
Française

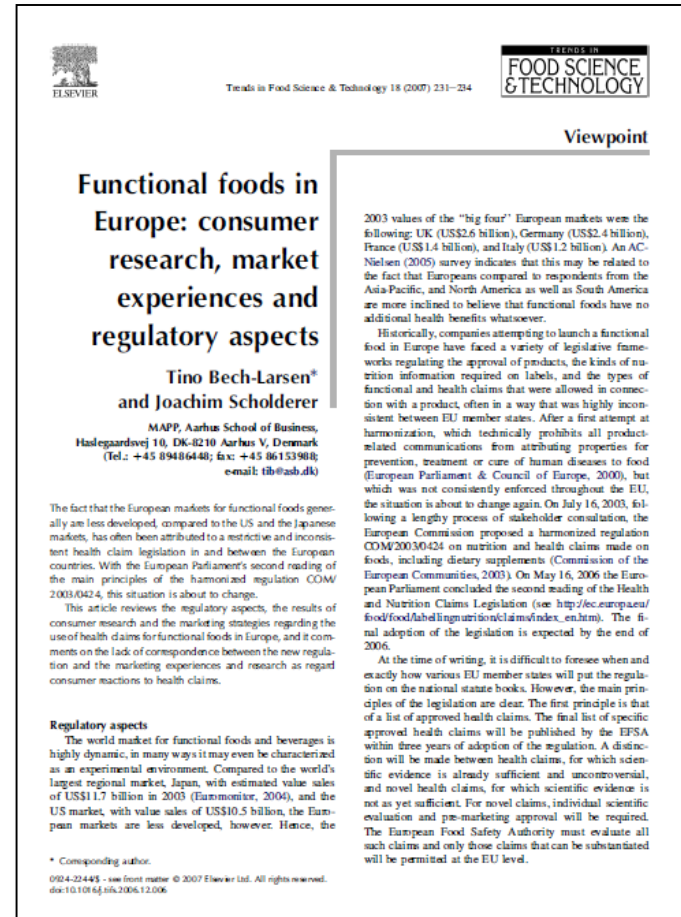
LATEST

- Beijing C
- Ocean S
- Overcon
- Energy c
- Conveni
- analyst



Cassandra cries

“The lack of correspondence between the new health claim legislation, consumers’ preferences and the actual marketing experiences forces us to express our scepticism towards the potential of the new legislation to enlarge the European market for functional foods...”





Fate of health claims submitted under Regulation 1924/2006

Claim Type	Authorised	Not authorised
General function claims <i>Art. 13(1)</i>	229	1875
New function claims <i>Art. 13(5)</i>	2	93
Reduction of disease risk claims <i>Art. 14(1)(a)</i>	14	21
Claims referring to children's development and health <i>Art. 14(1)(b)</i>	11	42

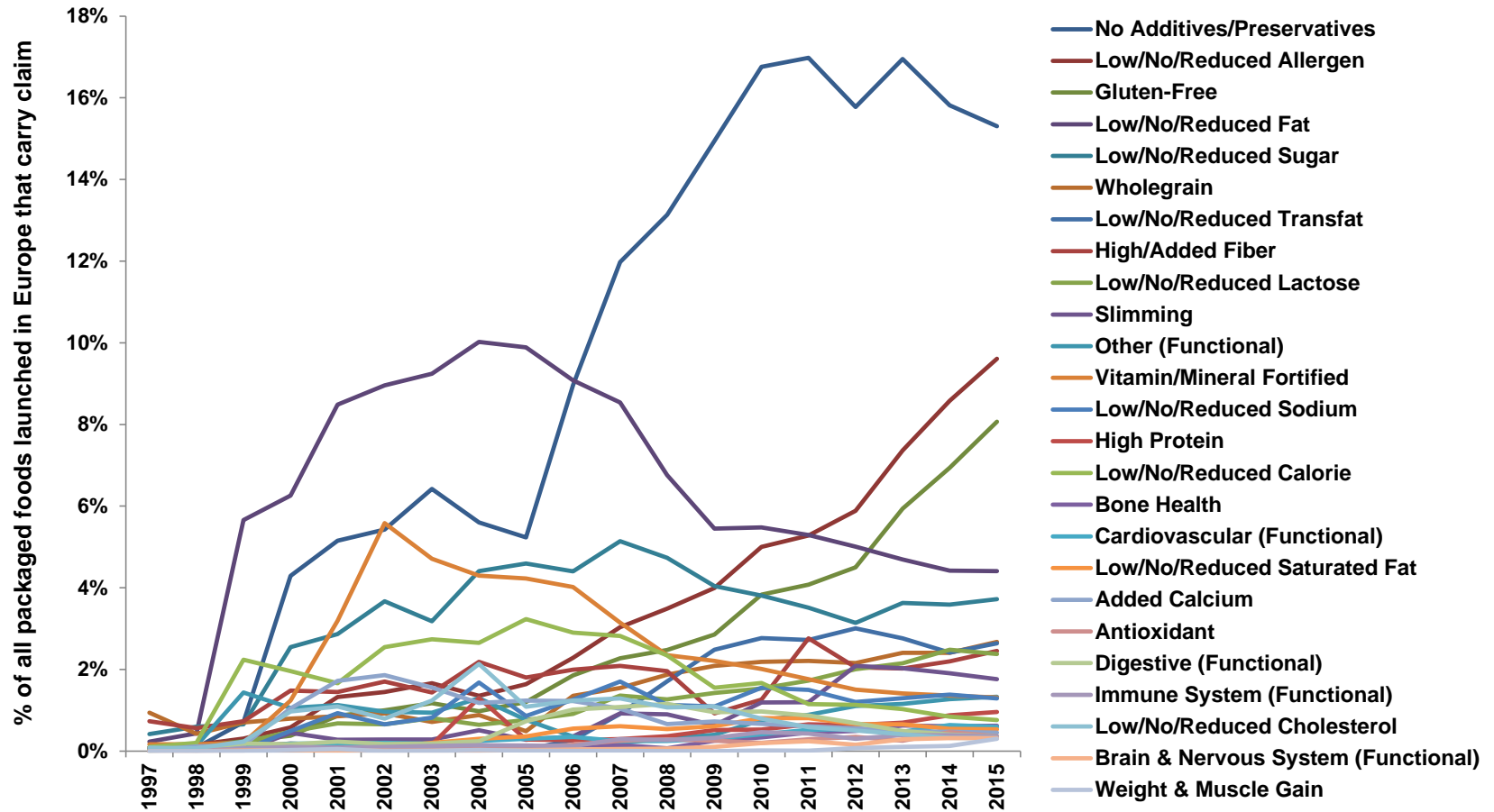


Fate of health claims submitted under Regulation 1924/2006

Reason for non-authorisation	%
Claimed effect for this food has not been substantiated	60.5%
Food for which the claim is made has not been sufficiently characterised	20.2%
Claimed effect for this food is not sufficiently defined to be able to be assessed	8.5%
Claimed effect for this food is not a beneficial physiological effect	4.9%
Evidence provided is insufficient to substantiate the effect for this food	2.1%
Claimed effect attributes to this food the property of preventing, treating or curing a human disease	0.9%
Claimed effect has not been linked to a function of the body	0.8%

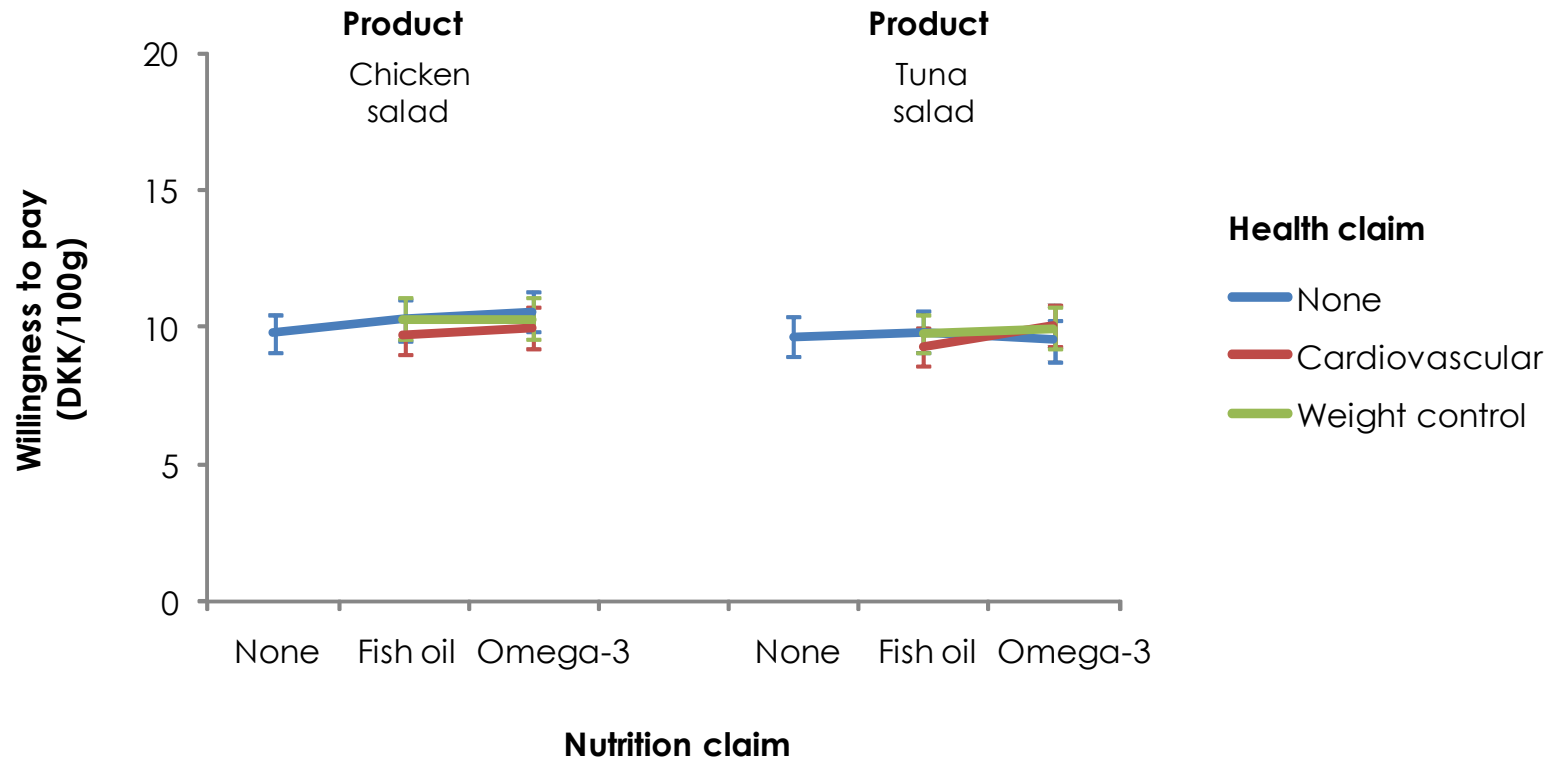


Now dominant: "clean label" positioning



(Data source: Mintel GNPD, 1997-2016)

The real tragedy: health claims never really worked much anyway





**University of
Zurich** UZH

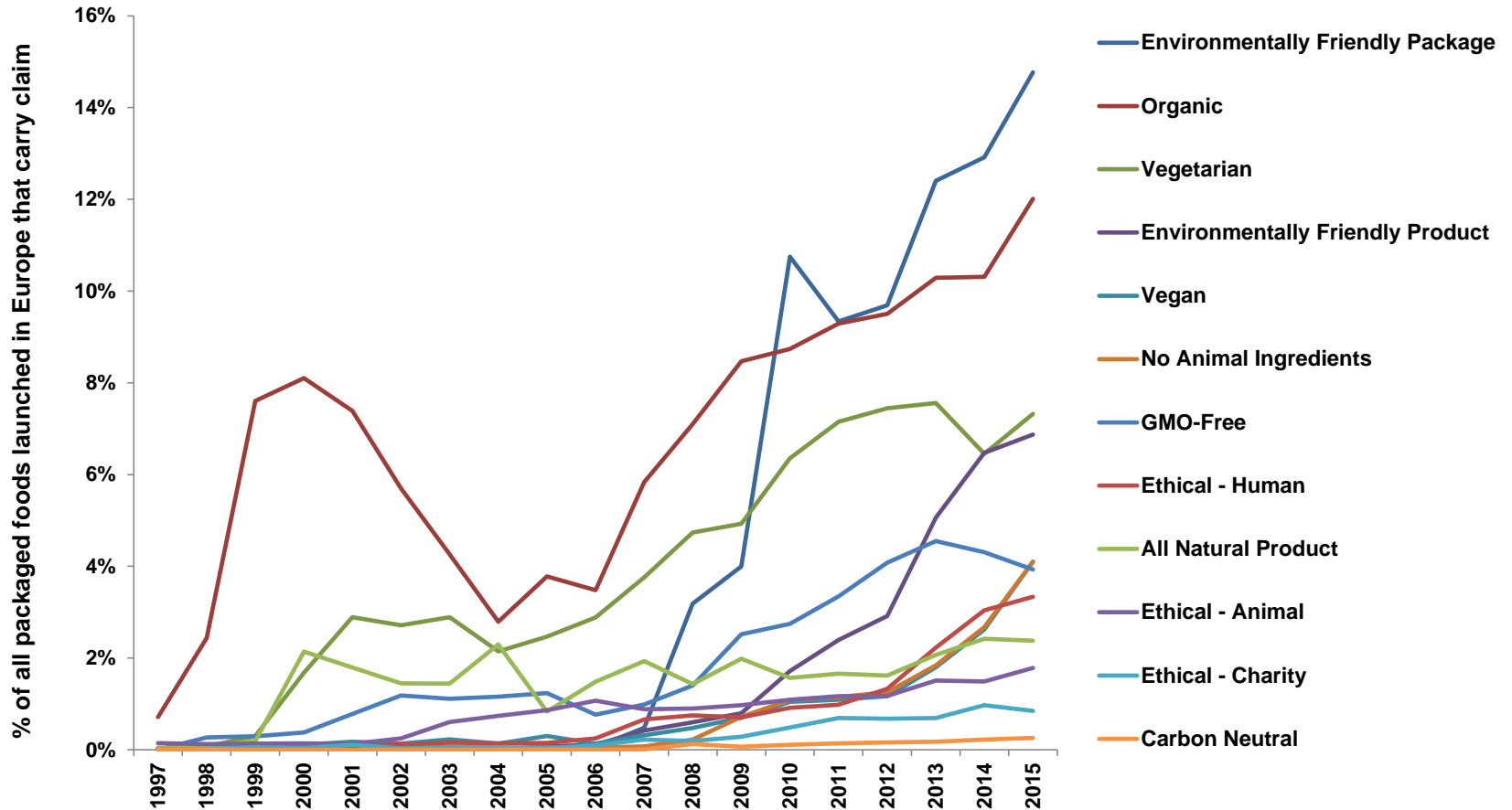


AARHUS
UNIVERSITY

**2010s:
Sustainability – or
something that looks like it**



Sustainability positioning is very flexible



(Data source: Mintel GNPD, 1997-2016)

Unlimited proliferation of certification schemes



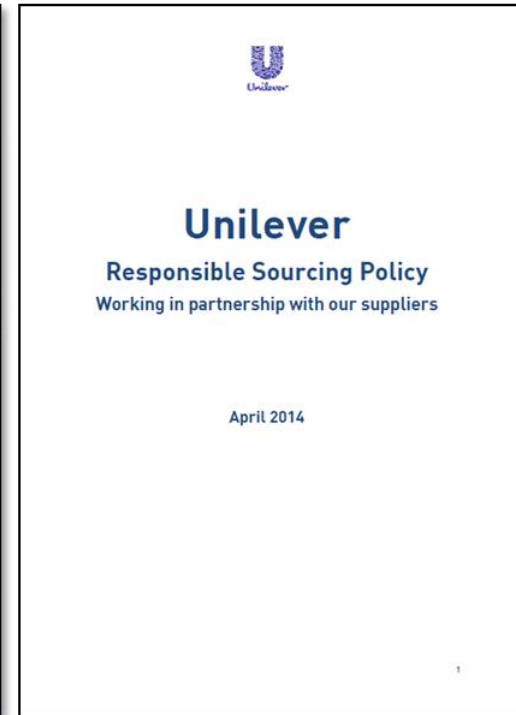
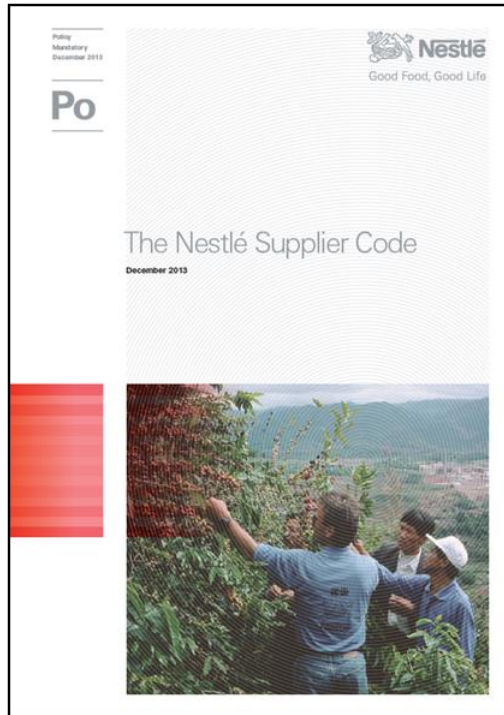


Unlimited diversification into new product categories





Driving force: the SCM strategies of the dominant market players





**University of
Zurich** ^{UZH}



AARHUS
UNIVERSITY

What next?



Saturation is reached

- Differentiation possibilities are coming to an end
- At present, no less than 50% of all food products in Europe try to position themselves on health or sustainability
- The "clean label" strategy functions as a catch-all: safe, healthy, ethical, environmentally friendly
- However, the actual reduction of health risk or environmental impact due to these products is negligible
- Credibility problems are beginning to manifest themselves
- Innovations are needed: not just in product development but also in marketing

The next big thing

- Digitalisation?
- Trade liberalisation?
- Adaptation to climate change?
- Meat replacement products?
- Non-traditional protein sources?





University of
Zurich^{UZH}



AARHUS
UNIVERSITY

Thank you for your attention!

Contact:

joachim.scholderer@uzh.ch

js@econ.au.dk