

# Positioning of Norwegian Seafood

## Preliminary Results from International Survey

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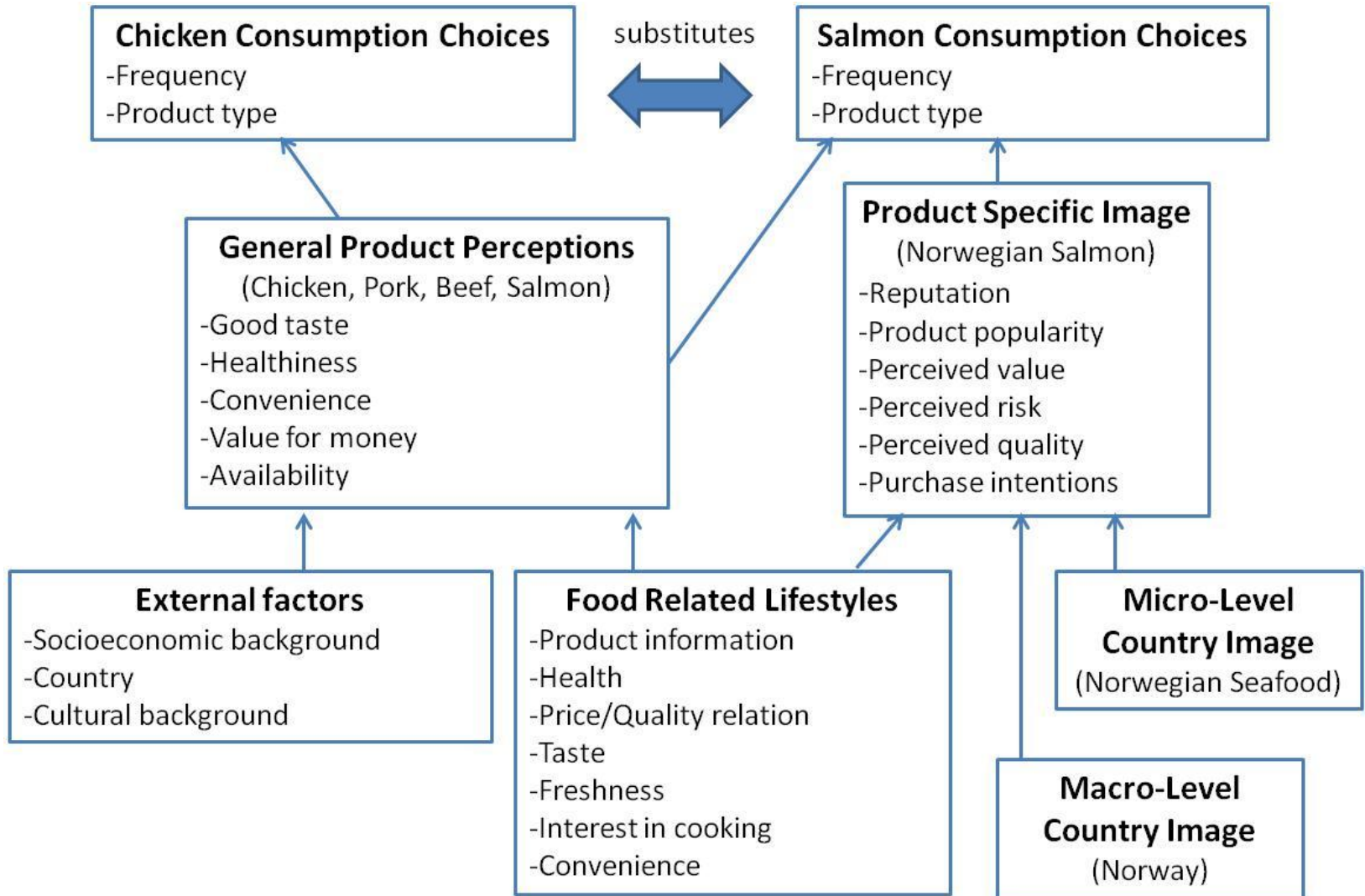
Prepared for the presentation at NSC, May 15 2012

# Overview of the project

- Analyze the “positioning” of Norwegian seafood
- Obtain insights into consumers’ seafood consumption behavior and choices
- Target species
  - Salmon
  - Cod
  - Herring
- Consumer survey in multiple countries
  - Salmon (UK, Russia, Germany, France, Sweden)
  - Cod (UK, France, Germany, Sweden)
  - Herring (Russia, Germany, Poland, Sweden)
  - Target the general population in each country
  - Sample size is approximately 500 per country per species



# Conceptual Diagram (Salmon)



## Current status

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- Salmon survey
  - Completed in all five countries
  - November 2011 to February 2012
- Cod survey
  - UK is completed
  - Currently being translated into respective languages
- Herring survey
  - Currently being translated into respective languages

## Today's presentation

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- Results from salmon survey
  - Comparisons of UK, Russian, France, Germany, Sweden
- Food related lifestyle
- General produce perceptions of various meat
  - Taste, Healthiness, Value for money, Convenience, and Availability
  - Chicken, pork, beef, and salmon
- Eating frequencies of chicken and salmon
- Relationship between eating frequencies and FRL and product perceptions
- Country of origin and country image

# Food Related Lifestyles (FRL)

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- Instrument developed by Brunsø, Grunert, and Scholderer and other researchers
- Theoretically motivated
- “Lifestyle” function as an intervening factor between abstract cognitive categories (e.g., personal values) and situation specific product perceptions
- Validated over different countries
- Widely used in European and non-European countries over years
- In this survey, we employed 7 dimensions out of 21 (Importance of product information, Health, Price/Quality relation, Taste, Freshness, Interest in cooking, and Convenience)
- Each dimension is measured by three questions

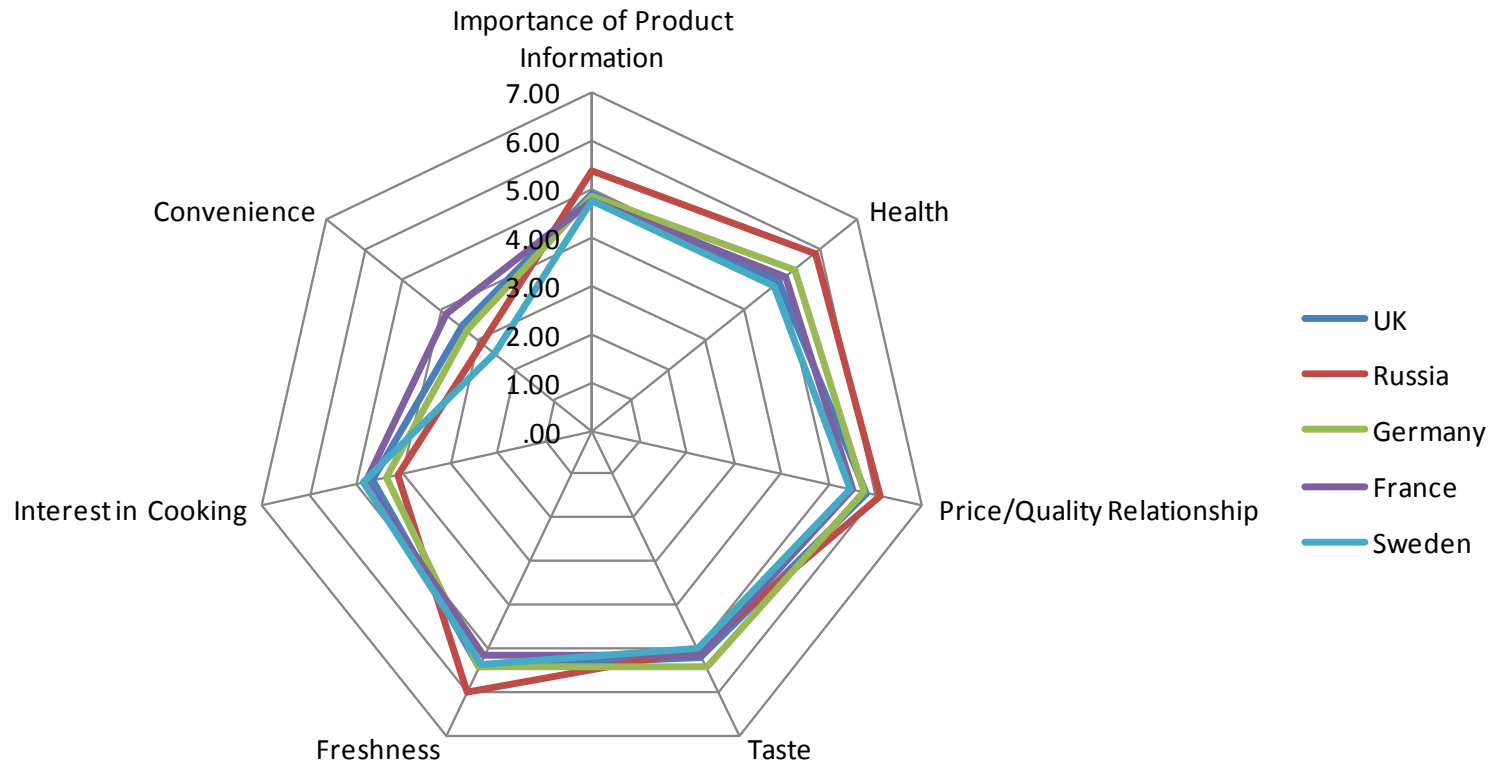
# FRL--Correlation

**Correlations**

		Importance of Product Information	Health	Price/Quality Relationship	Taste	Freshness	Interest in Cooking	Convenience
Importance of Product Information	Pearson Correlation	1	.640**	.554**	.038	.479**	.076**	.090**
	Sig. (2-tailed)		.000	.000	.055	.000	.000	.000
	N	2640	2572	2576	2593	2589	2552	2588
Health	Pearson Correlation	.640**	1	.562**	.092**	.674**	.110**	-.060**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.003
	N	2572	2608	2568	2572	2572	2549	2571
Price/Quality Relationship	Pearson Correlation	.554**	.562**	1	.340**	.518**	.069**	.020
	Sig. (2-tailed)	.000	.000		.000	.000	.001	.306
	N	2576	2568	2614	2576	2560	2538	2575
Taste	Pearson Correlation	.038	.092**	.340**	1	.199**	.098**	-.018
	Sig. (2-tailed)	.055	.000	.000		.000	.000	.349
	N	2593	2572	2576	2616	2578	2552	2589
Freshness	Pearson Correlation	.479**	.674**	.518**	.199**	1	.236**	-.209**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000
	N	2589	2572	2560	2578	2613	2555	2572
Interest in Cooking	Pearson Correlation	.076**	.110**	.069**	.098**	.236**	1	-.340**
	Sig. (2-tailed)	.000	.000	.001	.000	.000		.000
	N	2552	2549	2538	2552	2555	2576	2549
Convenience	Pearson Correlation	.090**	-.060**	.020	-.018	-.209**	-.340**	1
	Sig. (2-tailed)	.000	.003	.306	.349	.000	.000	
	N	2588	2571	2575	2589	2572	2549	2613

\*\* . Correlation is significant at the 0.01 level (2-tailed).

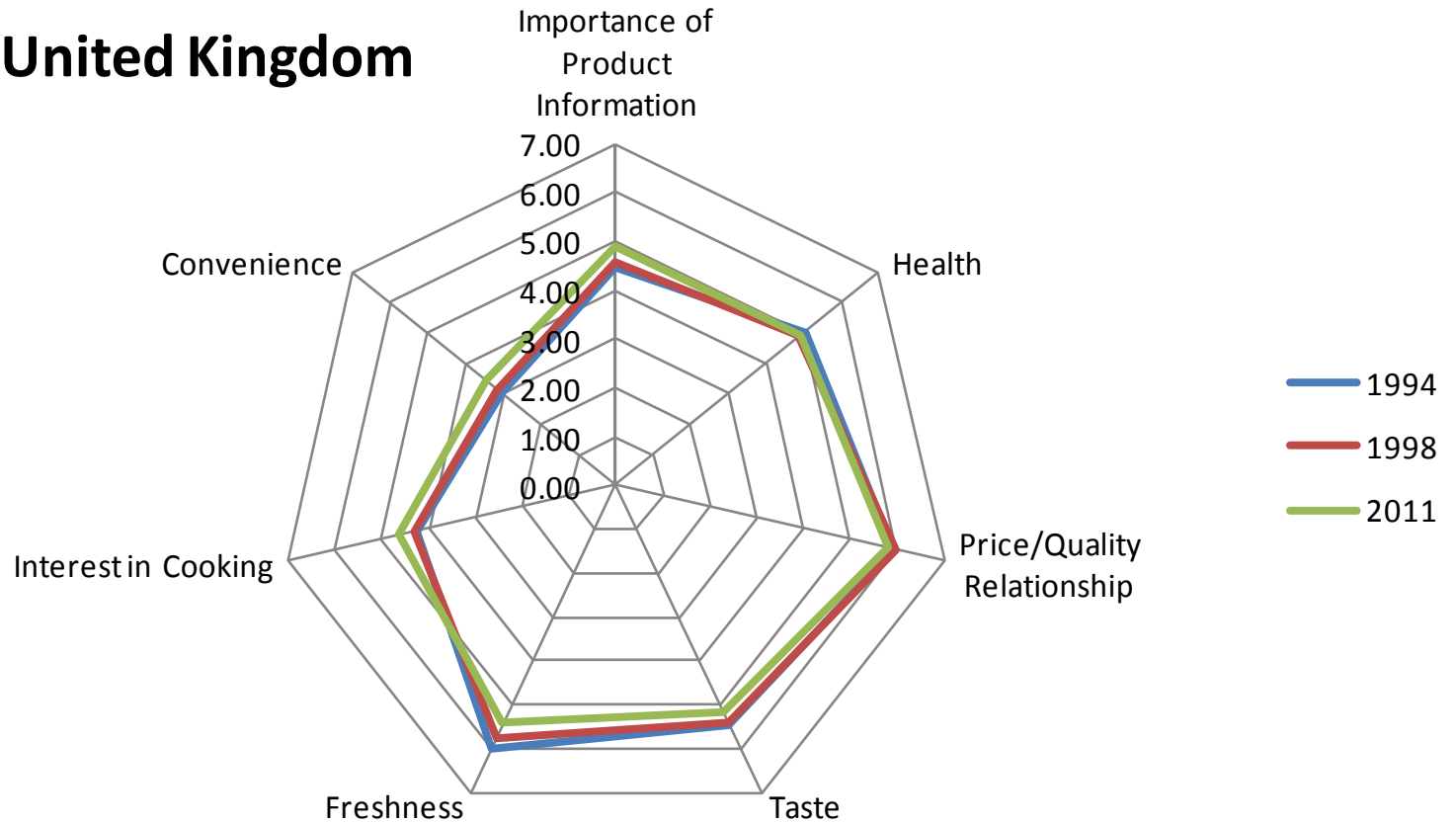
# FRL Country Comparisons





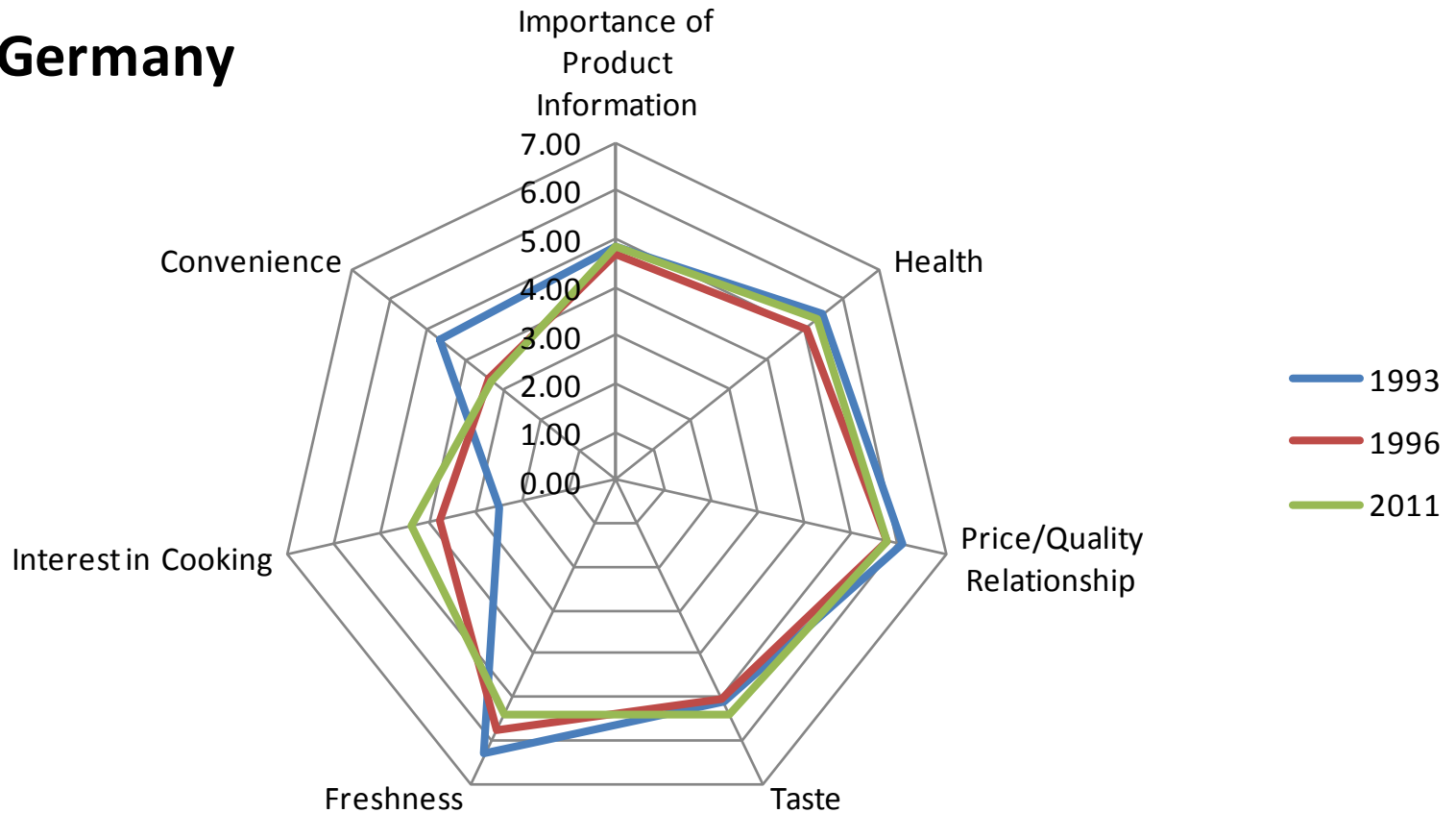
# Comparisons over time (UK)

## United Kingdom



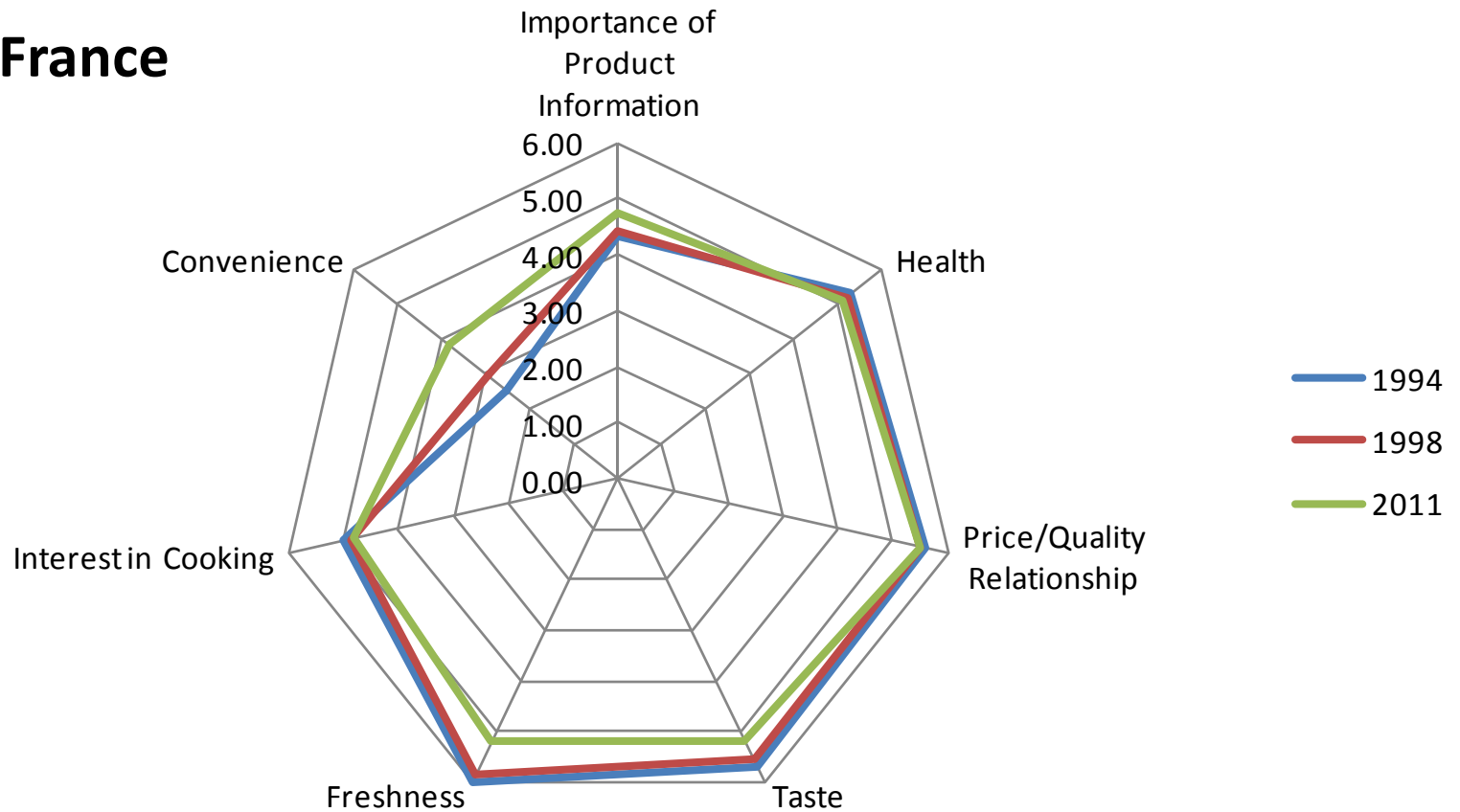
# Comparisons over time (Germany)

## Germany



# Comparisons over time (France)

## France



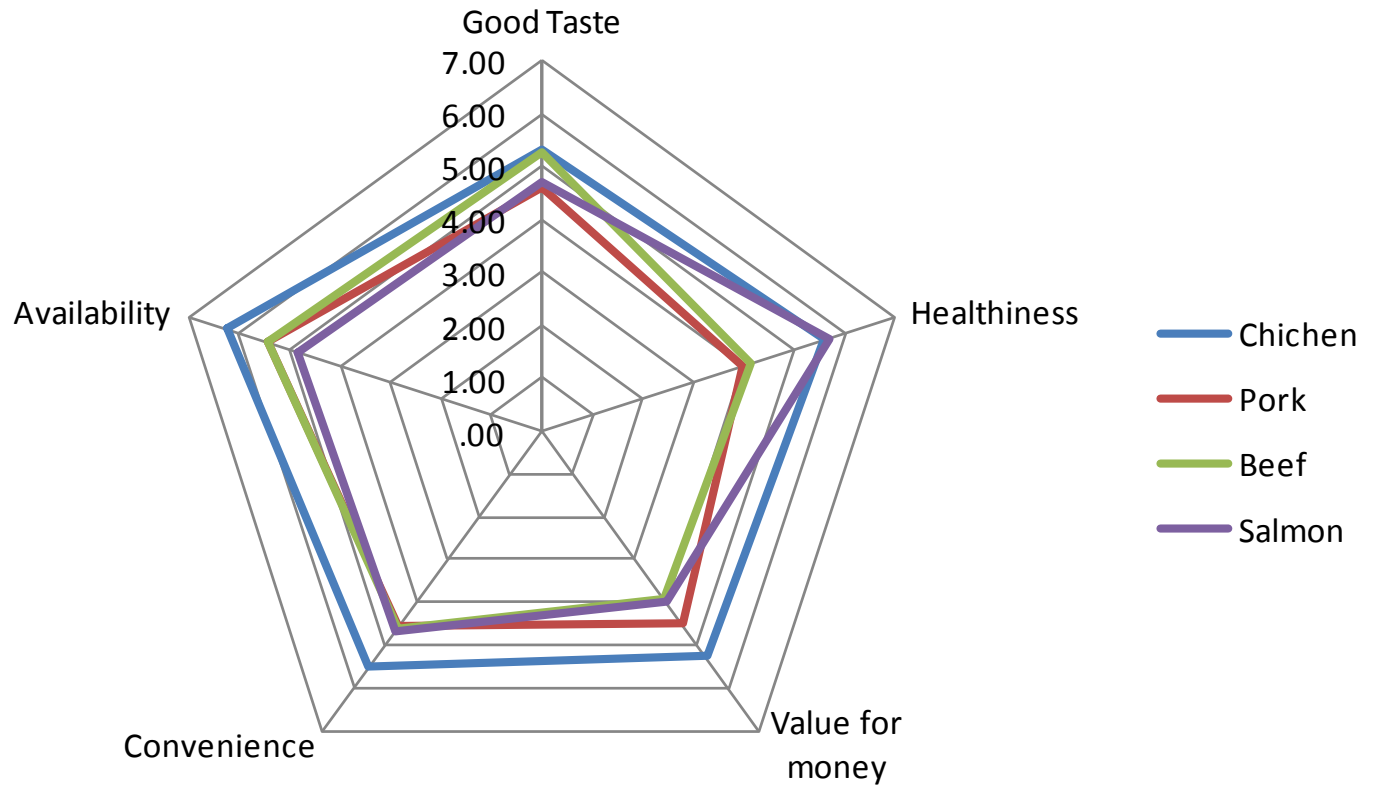
# General product perceptions

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- How would you rate each of the following meat categories in terms of good taste, healthiness, value for money, convenience, and availability? (scale from 1=extremely poor to 7=superior)
- Asked about Chicken, pork, beef, and salmon  
→ How is salmon positioned compared to other meat?

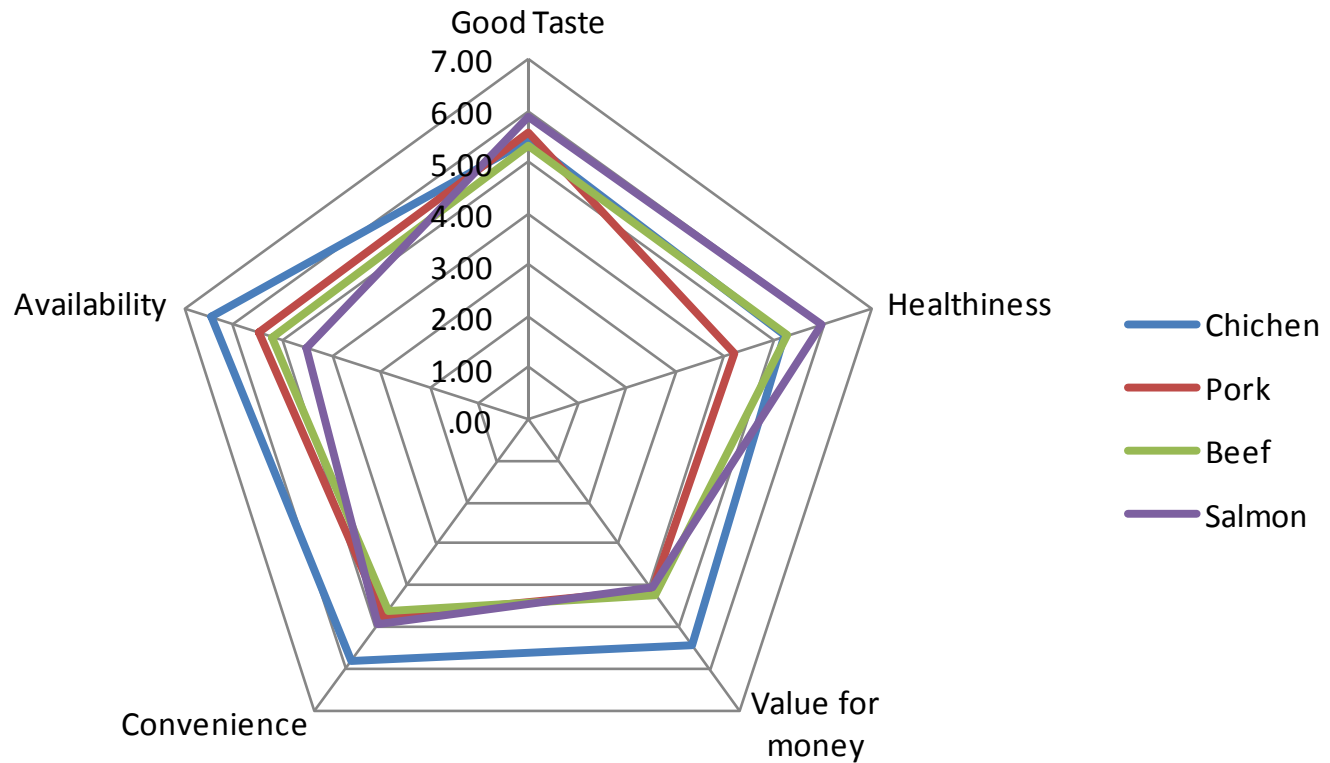
# General product perceptions (UK)

**UK**



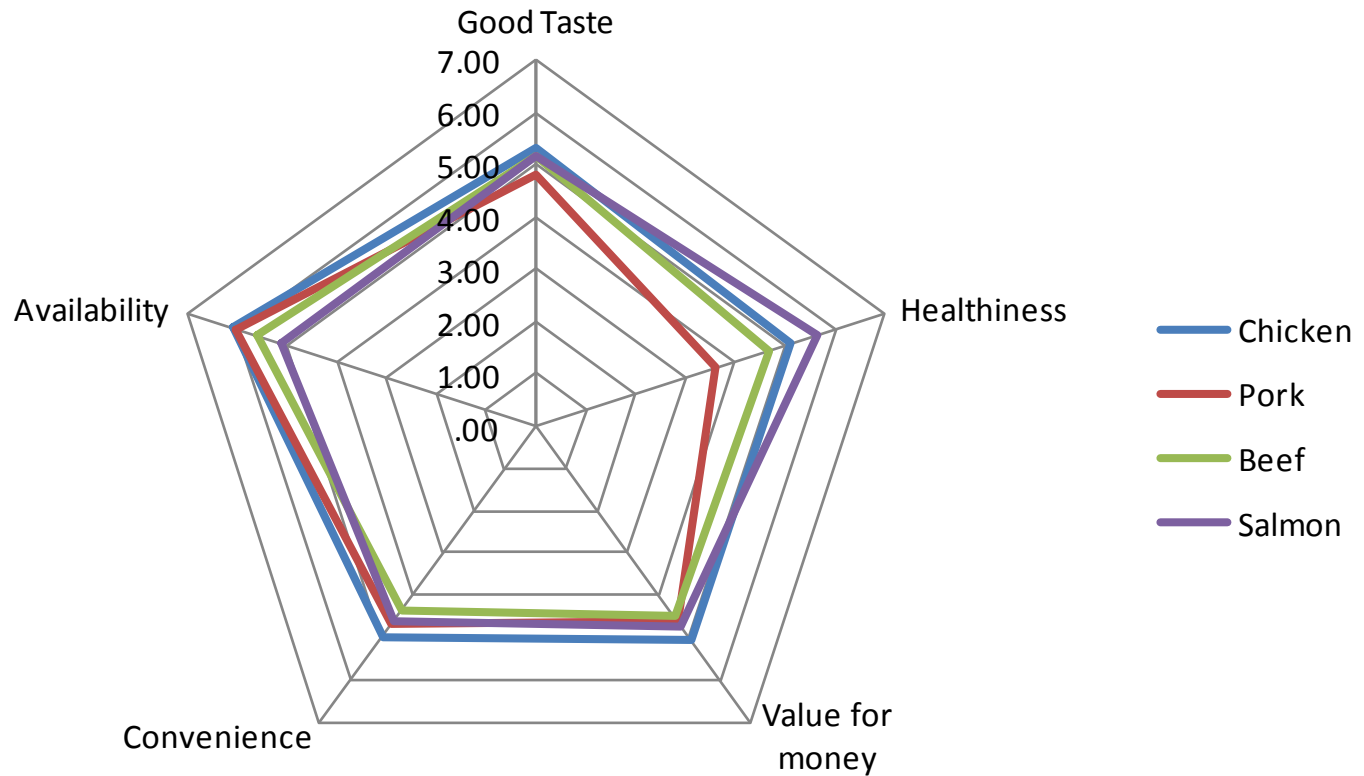
# General product perceptions (Russia)

## Russia



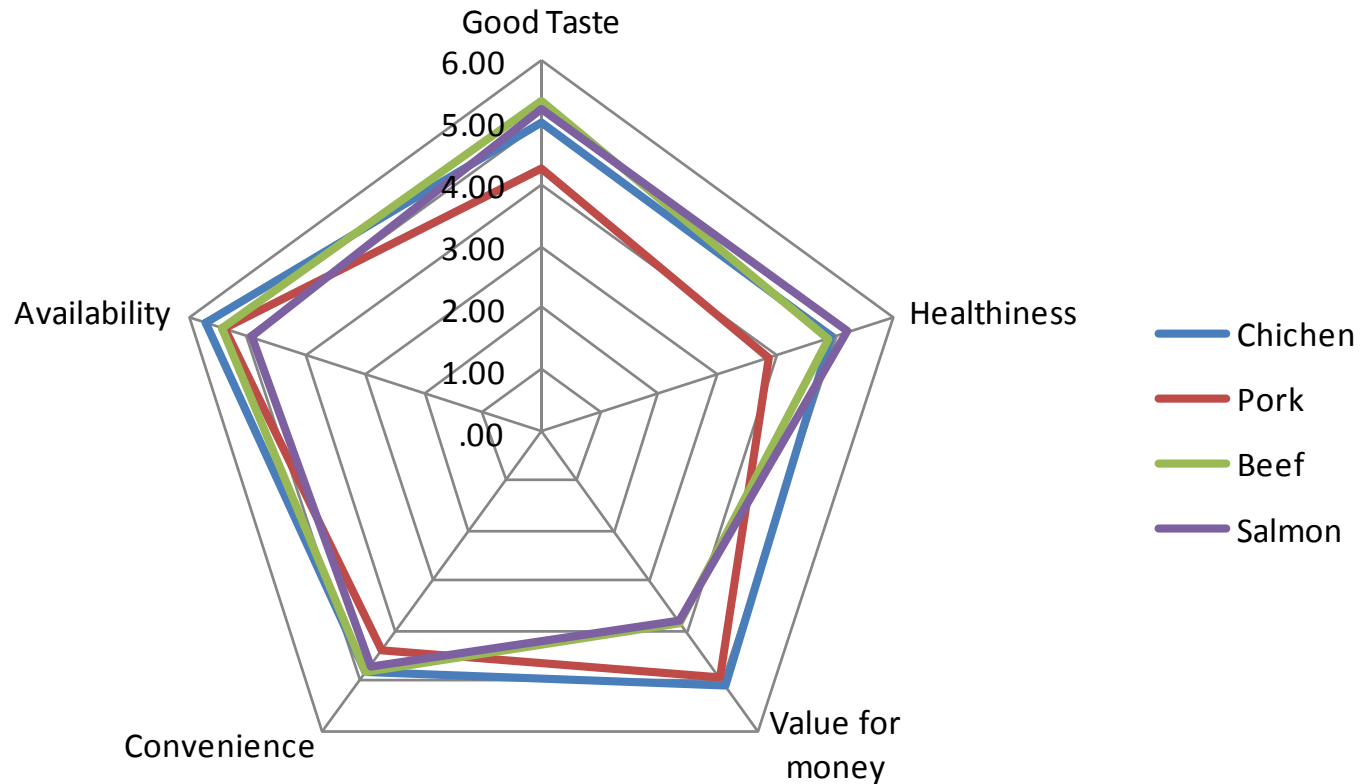
# General product perceptions (Germany)

## Germany



# General product perceptions (France)

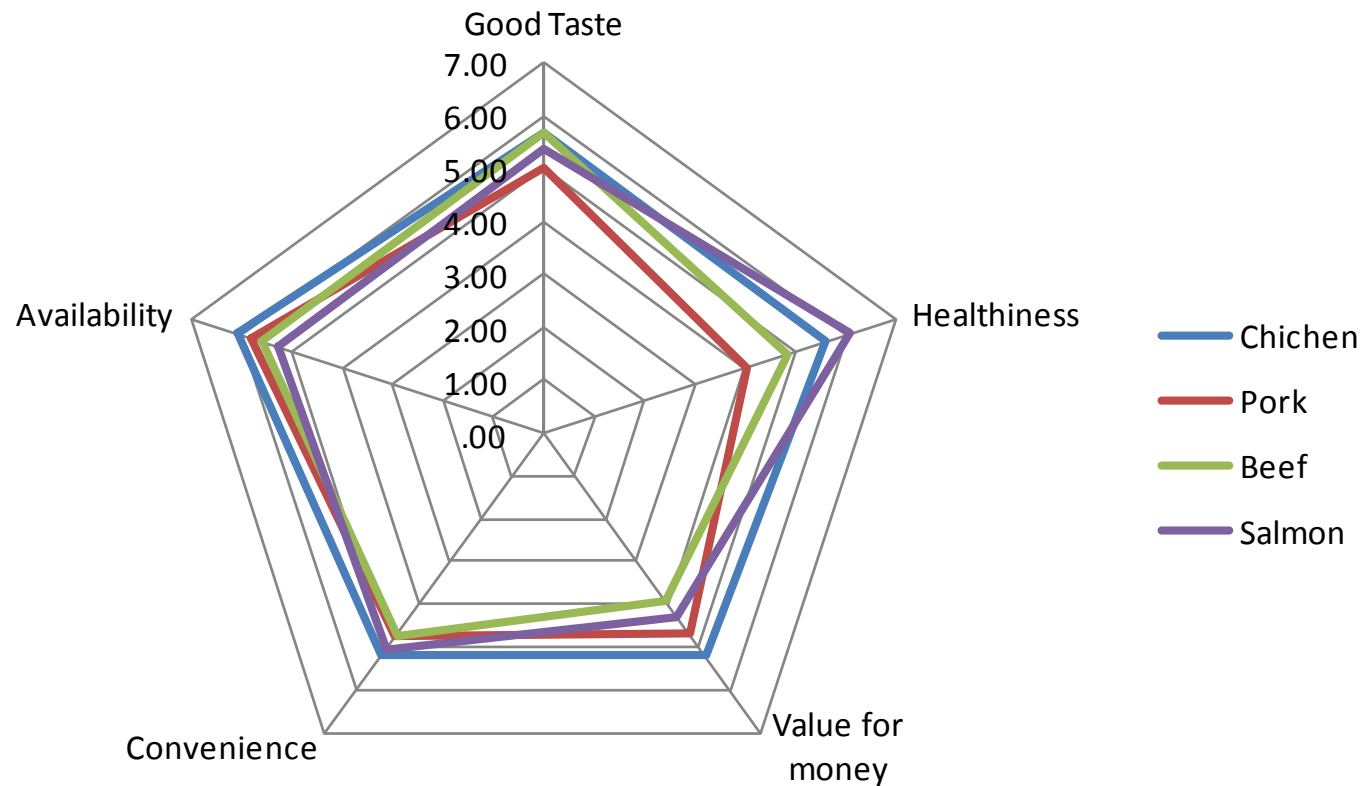
## France





# General product perceptions (Sweden)

## Sweden

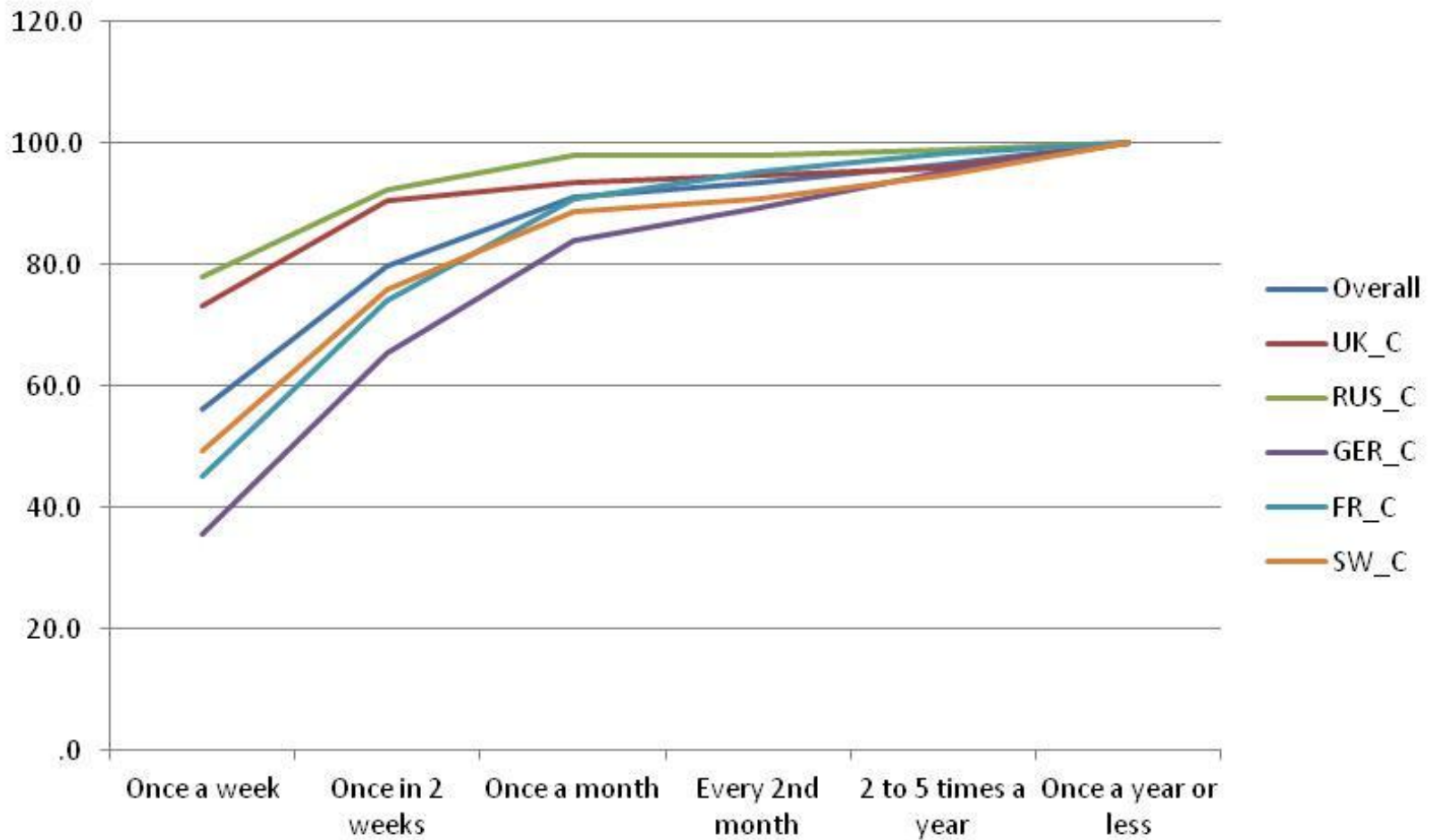


# General product perceptions of salmon

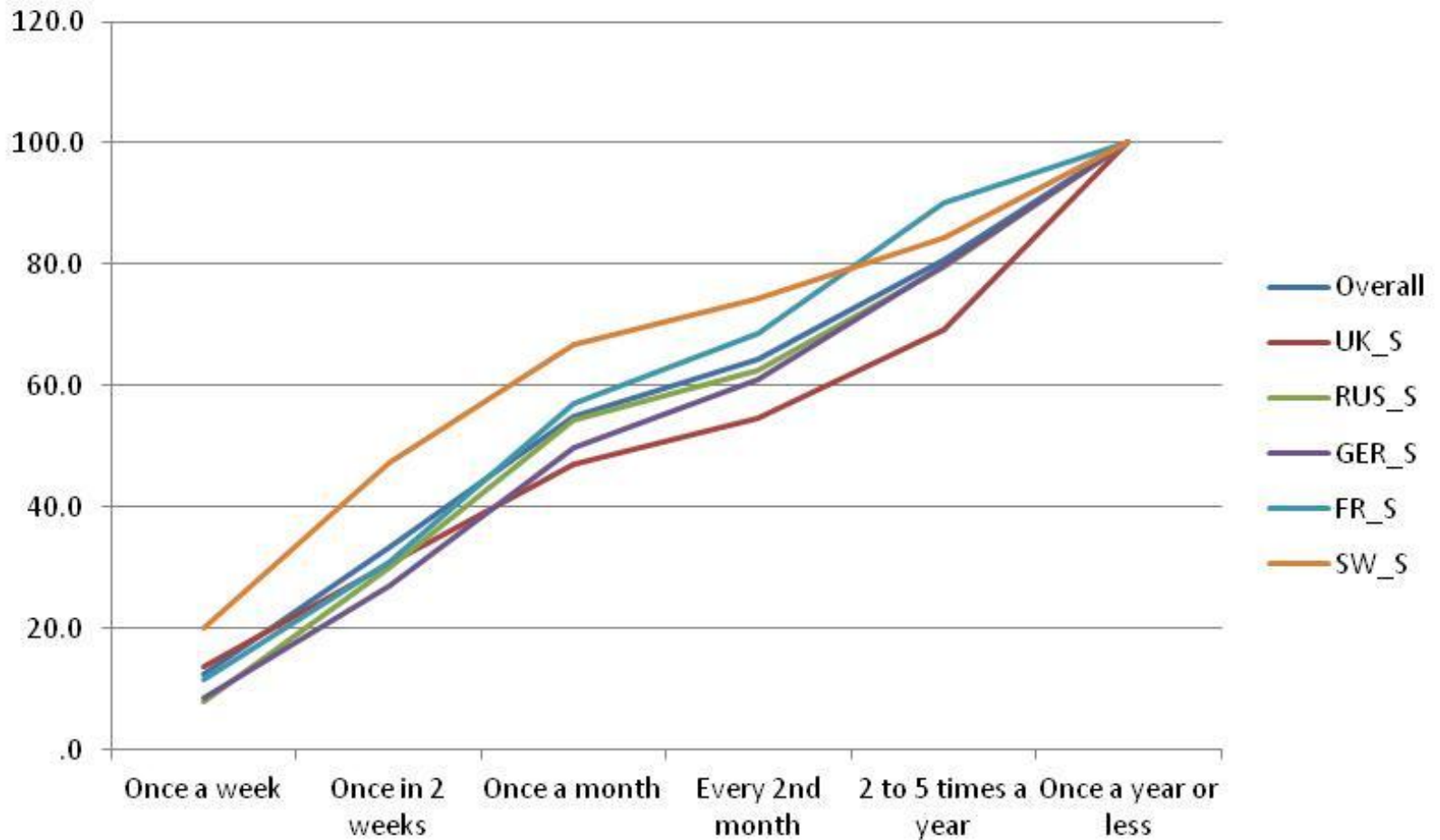
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- Salmon is considered superior in “healthiness” dimension compared to other meat products in all countries
- “Taste” is rated high in all countries except for UK
- Low rating regarding “availability,” “value for money” and “convenience”

# Consumption frequencies (chicken at home)



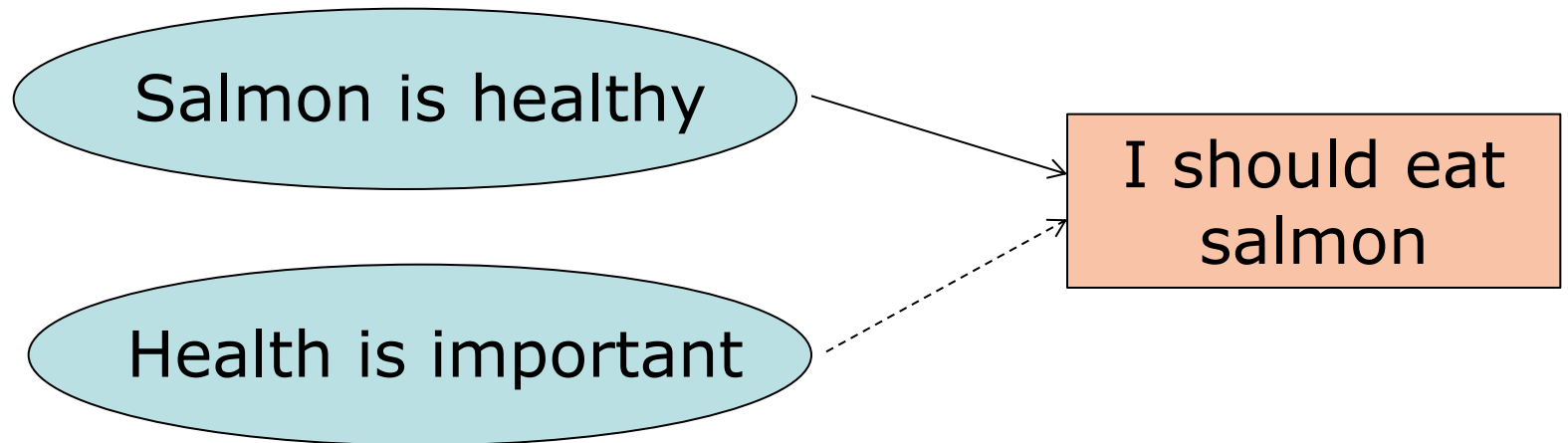
# Consumption frequencies (salmon at home)





# What explains consumption frequencies?

- Food Related Lifestyle?
- Product specific rating?
- Perhaps both (interaction of two)?



# Factors

- Both FRL and product specific ratings are highly correlated → Problematic to put into the same regression equation
- These are reduced in dimensions using factor analysis

	<b>FRL</b>	<b>Product Rating</b>
Quality	Product Info, Health, Price/Quality, taste, Freshness	Good taste, Healthiness, Value for money
Convenience	Interest in cooking, Convenience	Convenience, Availability
Taste		Taste

# Exploratory Regression analysis

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- Dependent variable: eating frequency of chicken and salmon (categorical)
- Independent variables
  - FRL
  - Product ratings for the respective product
  - Interaction of two
  - Some demographic variables
  - Cross-frequency
- Pooled and country specific regressions
  - Pooled model with country specific fixed effects



# Model Fit

## R<sup>2</sup> from the regression

		UK	Russia	Germany	France	Sweden	Overall
<b>Chicken</b>	FRL only	0.01	0.03	0.01	0.02	0.03	0.09
	Product rating only	0.24	0.12	0.16	0.09	0.26	0.23
	+Interaction and socio	0.30	0.16	0.25	0.12	0.30	0.26
	+Cross frequency	0.33	0.17	0.32	0.17	0.35	0.31
<b>Salmon</b>	FRL only	0.09	0.01	0.07	0.02	0.11	0.07
	Product rating only	0.30	0.12	0.18	0.10	0.32	0.22
	+Interaction and socio	0.39	0.19	0.27	0.14	0.40	0.28
	+Cross frequency	0.40	0.20	0.33	0.18	0.44	0.31

# Results

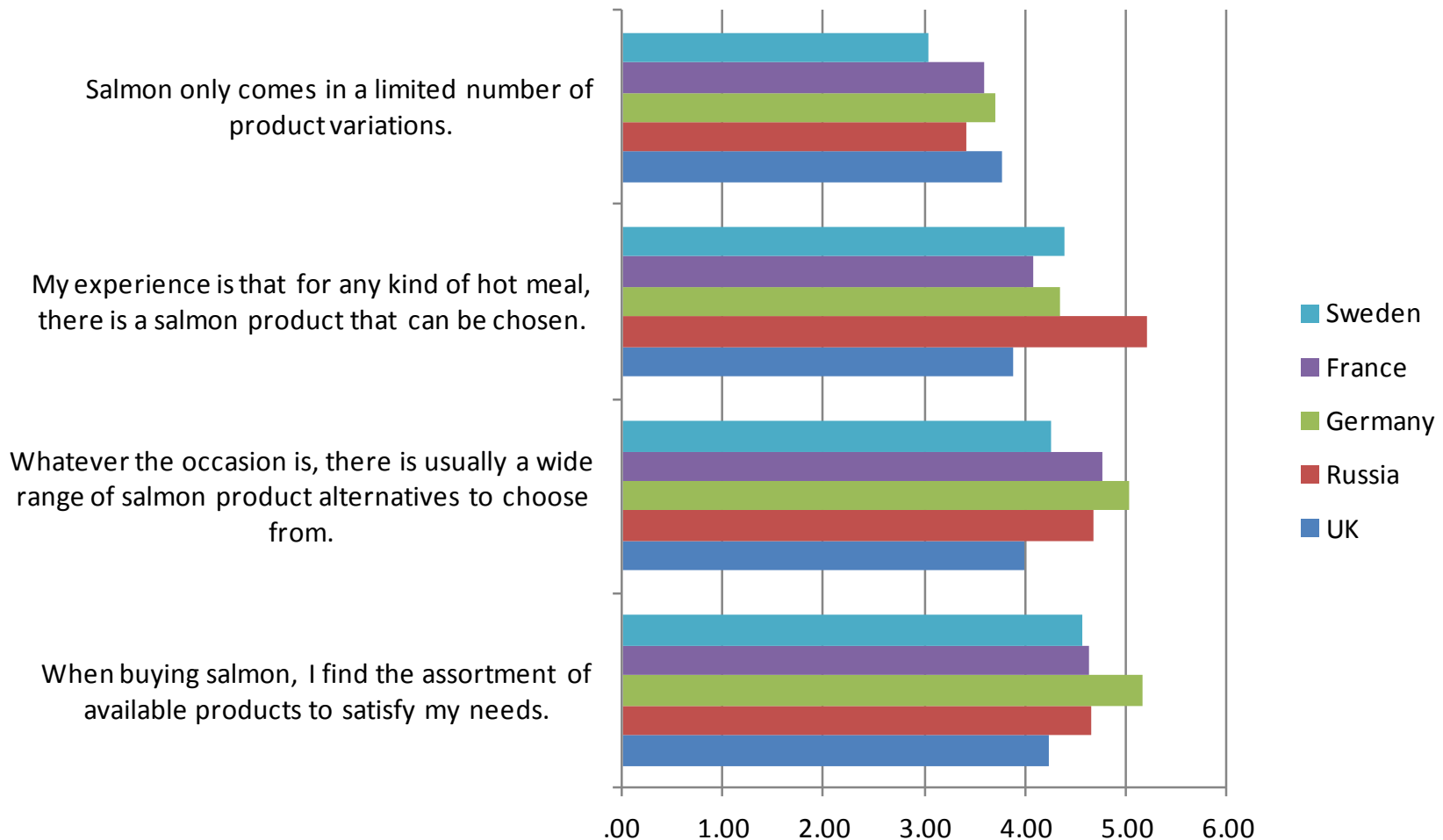
	Chicken						Salmon					
	UK	RU	GE	FR	SW	POOL	UK	RU	GE	FR	SW	POOL
Rating quality	+	+	+	+	+	+	+	+	+	+	+	+
Rating convenience	+	+	+	+	+	+	+	+	+	+	+	+
FRL quality	-						+				+	+
FRL convenience									+			(+)
Taste					(-)		-		-	-	-	-
Int quality			+									
Int convenience				(+)			+	+			+	+
Cross frequency	+	+	+	+	+	+	+	(+)	+	+	+	+
Age			-	-	-	-	-	+			+	+
Educ							+				+	+
Female		-						(-)	(-)		-	-
Married	+		(+)	(+)	(+)	+	+	+		+		+

- Signs inside the brackets indicates significance only at 10% level.
- Pooled model also included cultural background. Eastern Europe (chicken, +), Africa and Asia (salmon, +)

# Perception about salmon product assortment



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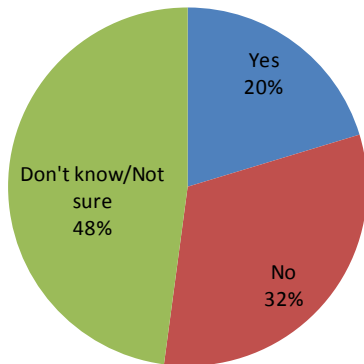
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# COUNTRY OF ORIGIN

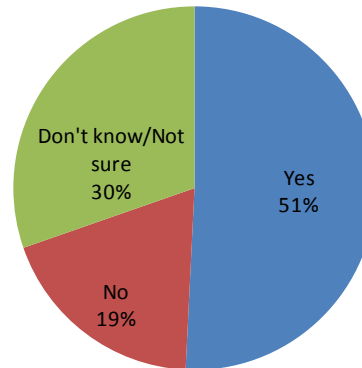
# Seafood Country of origin knowledge

Q: Have you bought seafood products from Norway before?

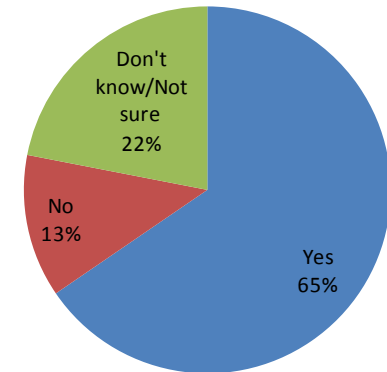
**UK**



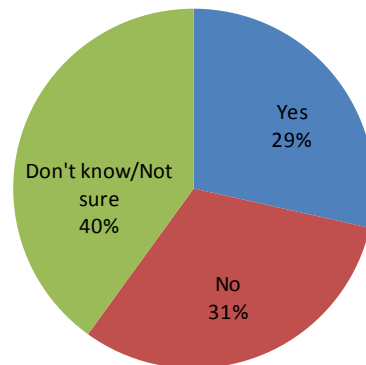
**Russia**



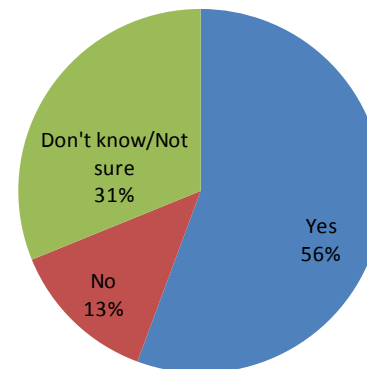
**France**



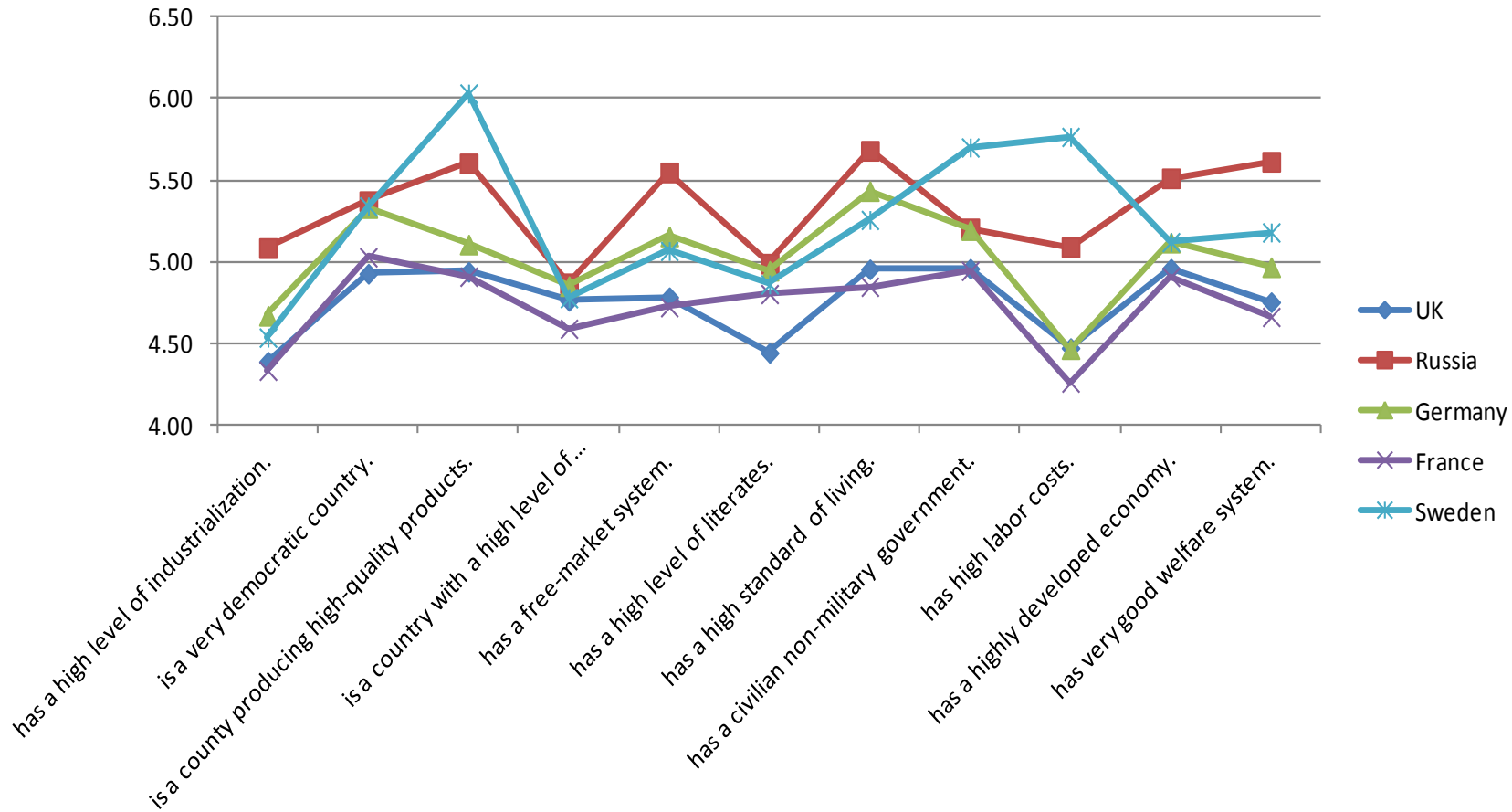
**Germany**



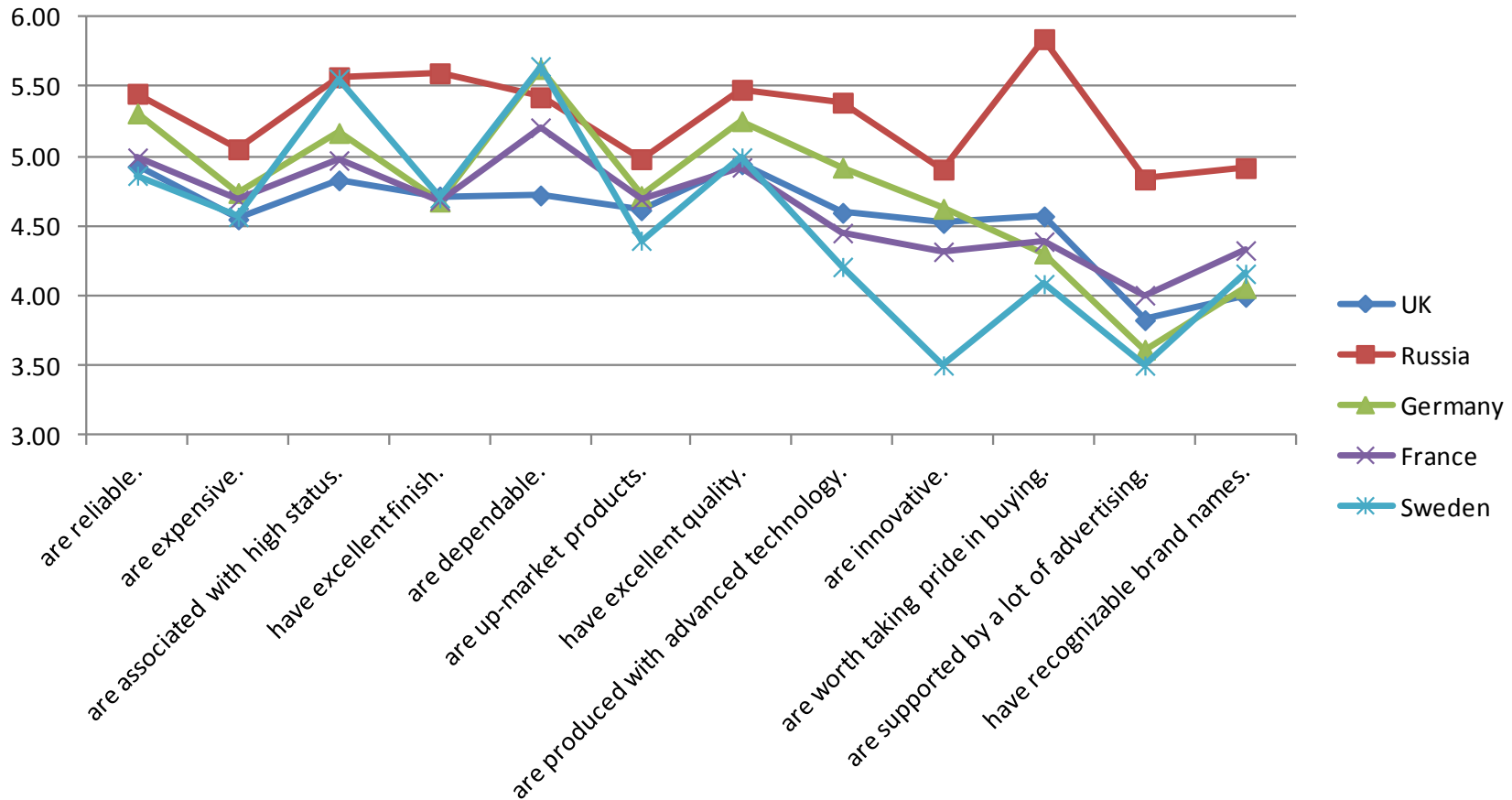
**Sweden**



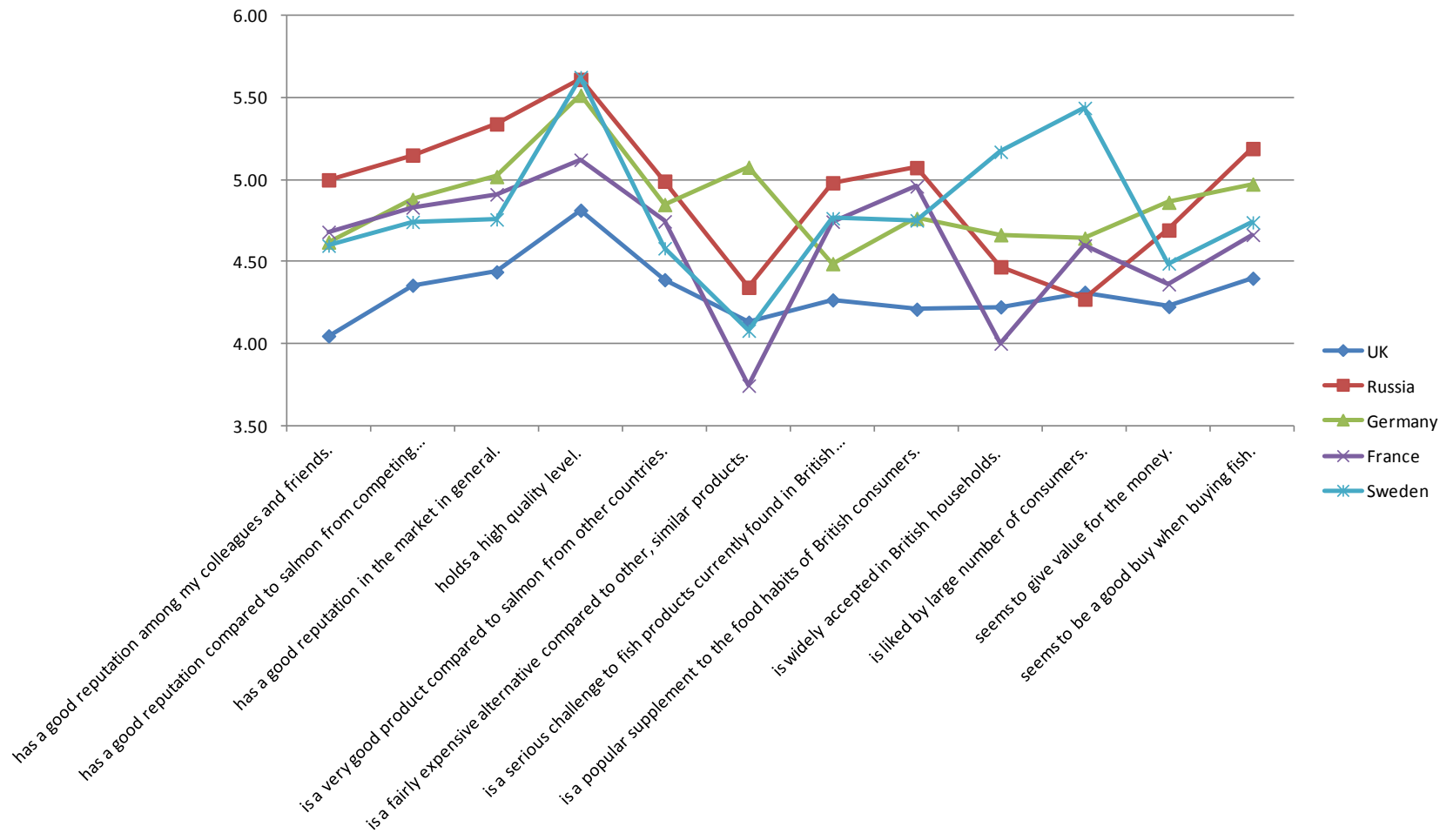
# Macro country image



# Micro country image (Norwegian seafood products)



# Perceptions about Norwegian salmon





# Correlations of country image (factor)

**Correlations**

		Factor score of Macro country image 1	Factor scores of Micro country image 1	Factor scores for product image 1
Factor score of Macro country image 1	Pearson Correlation	1	<b>.653**</b>	<b>.579**</b>
	Sig. (2-tailed)		.000	.000
	N	2402	2255	2270
Factor scores of Micro country image 1	Pearson Correlation	.653**	1	<b>.721**</b>
	Sig. (2-tailed)	.000		.000
	N	2255	2377	2260
Factor scores for product image 1	Pearson Correlation	.579**	.721**	1
	Sig. (2-tailed)	.000	.000	
	N	2270	2260	2414

\*\* . Correlation is significant at the 0.01 level (2-tailed).

# Country image and salmon consumption

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- Correlation: Eating frequency (behavior)
  - With Macro country image 0.158\*\*\*
  - With Micro country image 0.151\*\*\*
  - With product image 0.230\*\*\*

Significant correlations but not so strong

- Correlation: Purchase intention
  - With Macro country image 0.382\*\*\*
  - With Micro country image 0.558\*\*\*
  - With product image 0.618\*\*\*

Significant and strong correlations

# Summary

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- Positioning of salmon
  - Strong in “health” dimension in all countries
  - Somewhat weak in “availability,” “convenience,” and “value for money”
  - Mixed result in “taste”
  - Large variation by country
- Eating frequencies
  - Strong link to perceived quality and convenience of salmon
  - Also positively related to chicken consumption
  - Negative with “Taste” dimension of FRL
- Country of origin
  - Limited knowledge in some countries
  - Positively correlated within and also with eating frequencies

## What's next?

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- More fine-tuned country by country analysis
  - FRL
  - Product ratings
  - Country of origin
- Market segmentation using FRL
  - Exploring the relationship with salmon eating behavior
  - Characterization of the segment by observable measures
- More comprehensive modeling of the effect of country of origin
- Comparison with other species (cod and herring)
- Input from you are very welcome!

Thank you!

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