

The economic impact of modern retail on choice and innovation in the EU food sector

Key findings

2nd October 2014

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1. Scope and methodology

A comprehensive study, requiring outstanding resources

- ▶ A very broad scope to meet high expectations
 - ▶ Wide scope in the EU
 - ▶ Long period including pre-crisis
 - ▶ Quantitative (including econometrics) and qualitative analyses
- ▶ Outstanding resources
 - ▶ 2004 to 2012 (2 time periods per year)
 - ▶ Data purchase / consolidation from 6 different data sources
 - ▶ Focus on local data: 343 shops, 9 Member states, 105 consumer shopping area
 - ▶ 23 product categories with a full set of information for each product
 - ▶ A database of 11 million data records
 - ▶ 6 case studies
 - ▶ Contribution of academic experts
 - ▶ 40 people in the consortium, 18 months work

A collaborative multifaceted team for a unique study



Objectives of the study

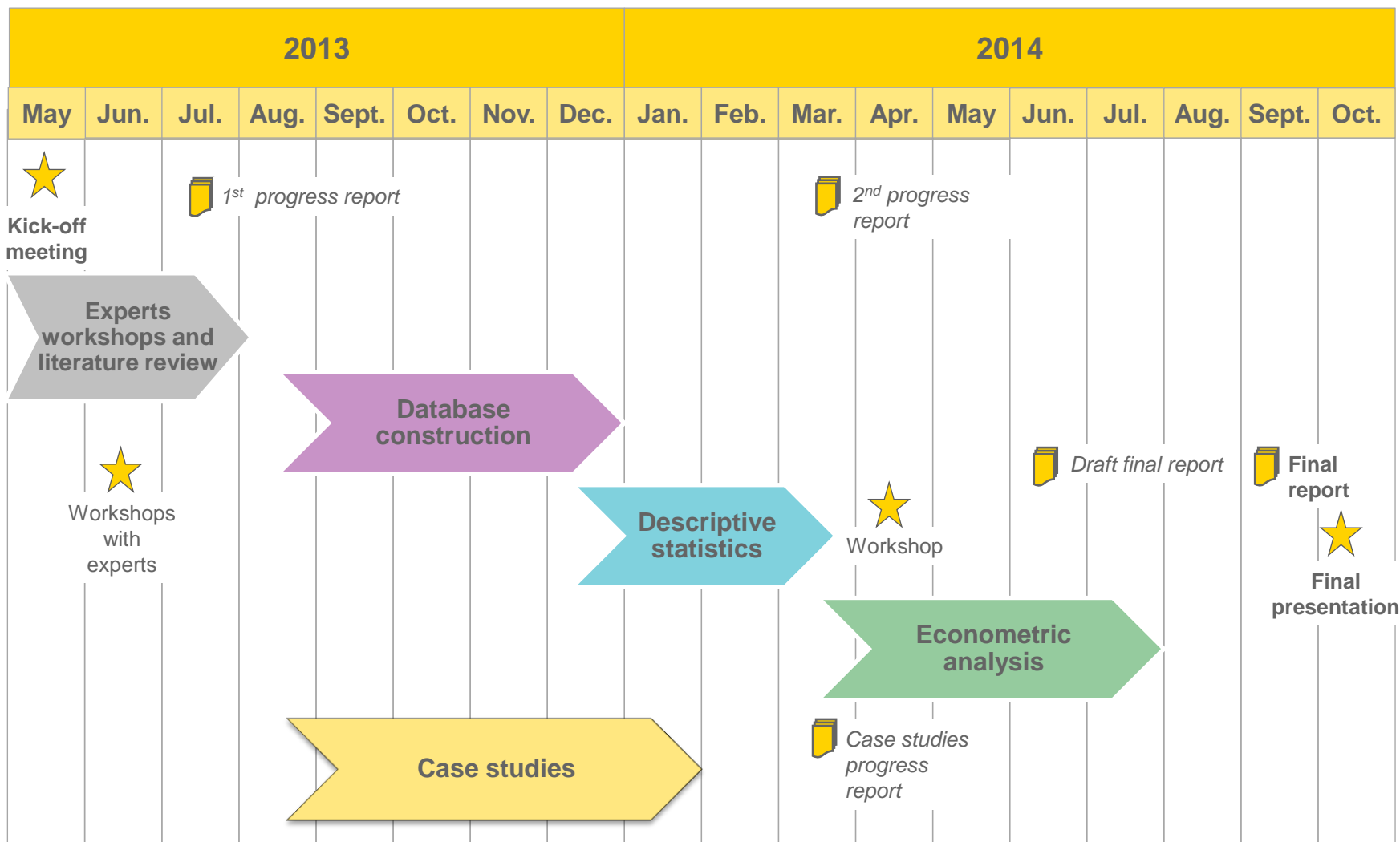
Assess the economic impact of modern retail on choice and innovation in the EU food sector

Analyse the evolution of choice and innovation

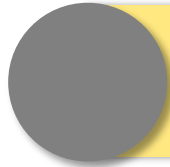
Identify the main potential drivers of choice and innovation (eg concentration) and measure their evolution

Determine the impact of drivers on choice and innovation

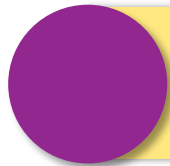
Timeschedule and workplan



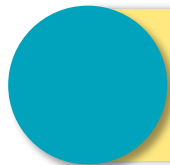
Tasks



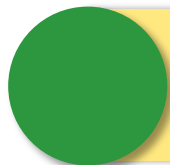
Expert workshops and literature review



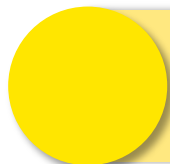
Database construction



Descriptive analyses



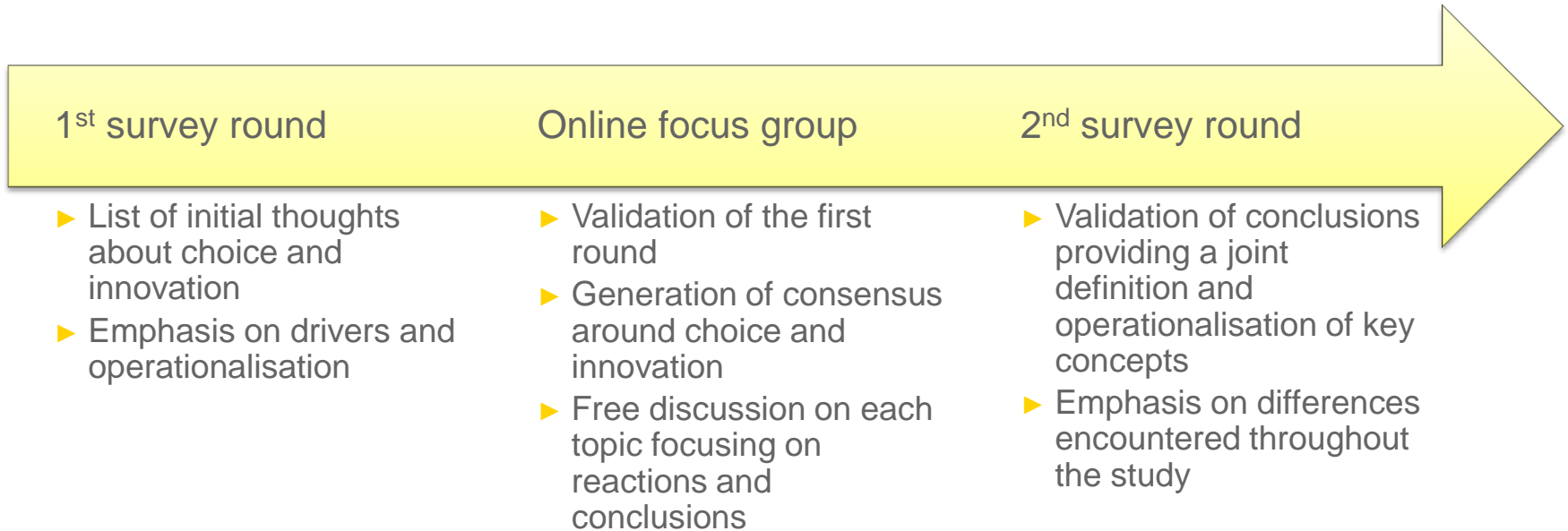
Econometric analyses



Case studies

Expert workshops and literature review

▶ Validation of definitions: work process



Expert workshops and literature review

Components of choice

- ▶ Food choice
 - ▶ Variety of products available in shops
 - ▶ Variety of packaging sizes
 - ▶ Variety of prices
 - ▶ Variety of suppliers

- ▶ Shop choice
 - ▶ Variety of shops to which a typical consumer has access within a normal distance (consumer shopping area)

Expert workshops and literature review

Measurement of innovation

- ▶ Number of new SKUs (excluding promotions)
- ▶ Innovation types
 - ▶ New product
 - ▶ Range extension
 - ▶ New packaging
 - ▶ New formulation
 - ▶ Relaunch

Expert workshops and literature review

Innovation types (Intel – GNPD)

- ▶ **New product:** assigned when a new range, line, or family of products is encountered. This launch type is also used if a brand that already exists on GNPD, in one country, crosses over to a new sub-category
- ▶ **New variety/range extension:** used to document an extension to an existing range of products on the GNPD
- ▶ **New packaging:** determined by visually inspecting the product for changes, and also when terms like New Look, New Packaging, or New Size are written on pack.
- ▶ **New formulation:** determined by visually looking for key terms on pack like New Formula, Even Better, Tastier, Now Lower in Fat, New and Improved, Great New Taste..
- ▶ **Relaunch:** some wording indicating that the product has been relaunched on the packaging or the product does not exist on the database but there is secondary source information (such as from a press release, magazine, trade show, website or a shop display) that the product has been relaunched

Expert workshops and literature review

Identification and definition of potential drivers at local and national levels:

- ▶ Concentration of retailers
- ▶ Concentration of suppliers
- ▶ Measure of imbalance: in the market between retailers and suppliers
- ▶ Private label share
- ▶ Product category turnover
- ▶ Shop type
- ▶ Shop size
- ▶ New shop opening
- ▶ Socio-economic characteristics: GDP per capita, population size and density, unemployment, food consumption, retailers' business expectations

Database construction

- ▶ Identification of data sources for choice and innovation
 - ▶ Nielsen – Opus
 - ▶ Nielsen – Trade dimensions
 - ▶ GNPD – Mintel
 - ▶ Eurostat

- ▶ Concentration at national level
 - ▶ Planet Retail
 - ▶ Euromonitor

Database construction

- ▶ Selection of shops and consumer shopping area at local level
 - ▶ Identification of consumer shopping areas thanks to geolocalisation
 - ▶ Consumer point of view

Geographical perimeter of each consumer shopping area (CSA)

Travel time between the central point (city hall) and outer limit of the area

- ▶ **15 min** travel time for large cities
- ▶ **20 min** travel time for medium and small cities
- ▶ **25 min** for a rural zone

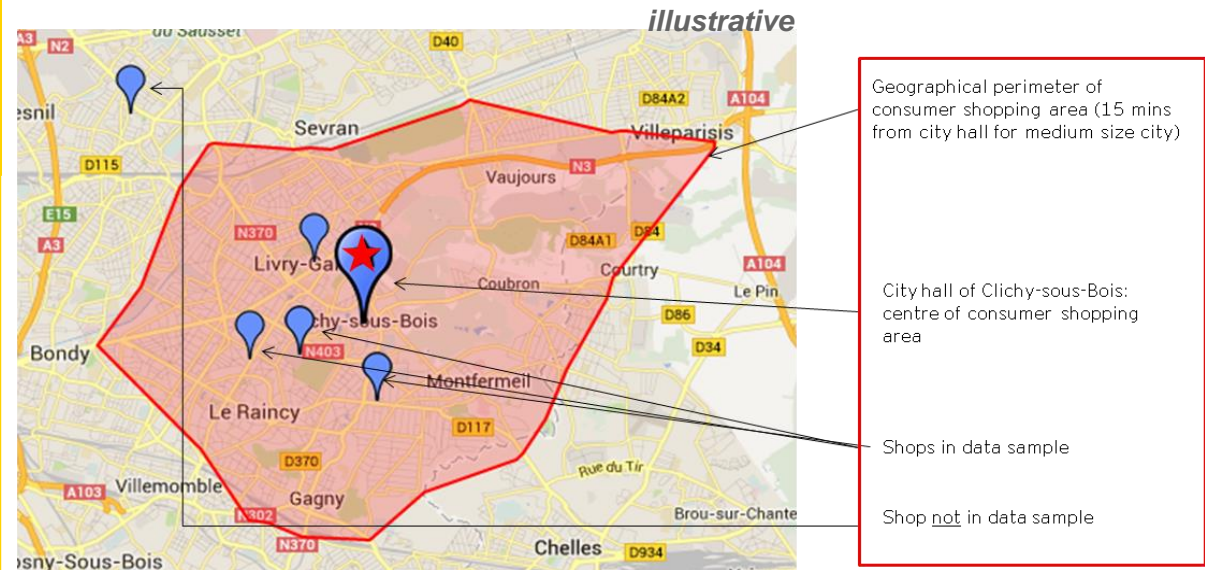


Figure 2: Example: Consumer shopping area - Clichy-sous-Bois (FR)

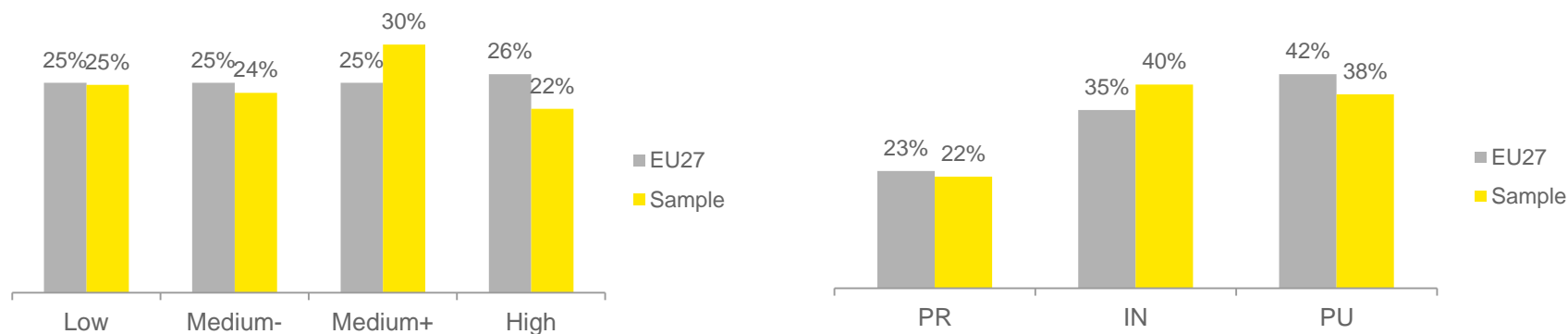


Database construction

► 343 shops in 105 consumer shopping areas

GDP/Capita	Low	Medium -	Medium +	High	Total
Type of living	Number of CSA	Number of CSA	Number of CSA	Number of CSA	Number of CSA
Predominantly Rural (PR)	8	8	3	4	23
Intermediate (INT)	13	9	13	7	42
Predominantly Urban (PU)	5	8	15	12	40
TOTAL	26	25	31	23	105

Representativeness of sample vs EU27 population by standard and type of living categories



Sources: Eurostat, EY analysis

Database construction

- ▶ Identification of catchment areas for each shop in the sample to assess local concentration
 - ▶ The area includes, for a given shop, all modern retail shops in the area
 - ▶ Shop point of view

Geographical perimeter of each catchment areas

Travel time between the central point (shop) and outer limit of the area

- ▶ **10 to 20 min** for supermarkets
 - ▶ **5 to 10 min** for discounters
- depending on area type

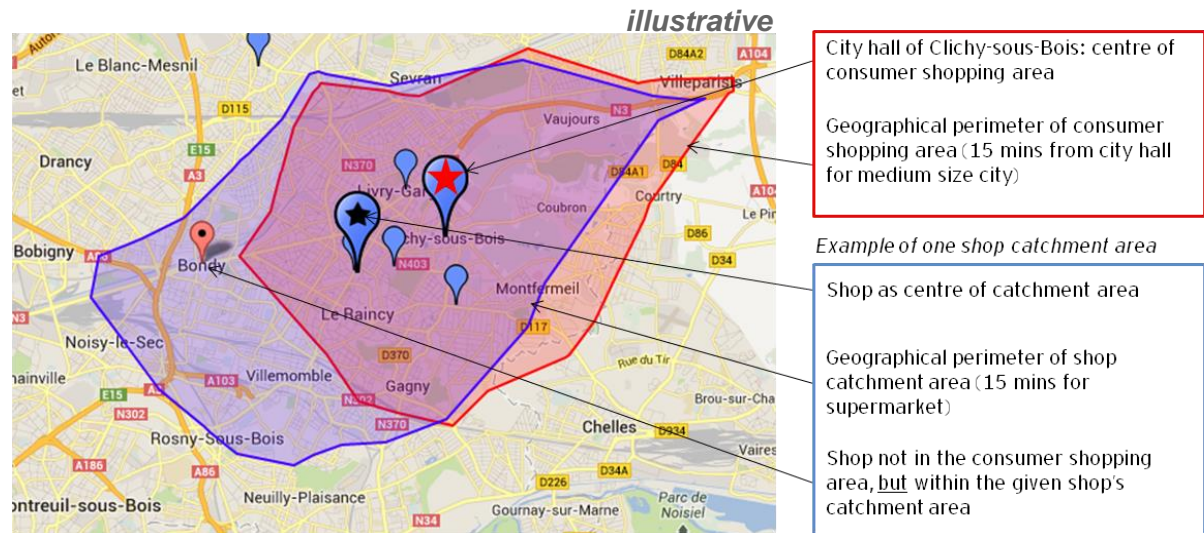
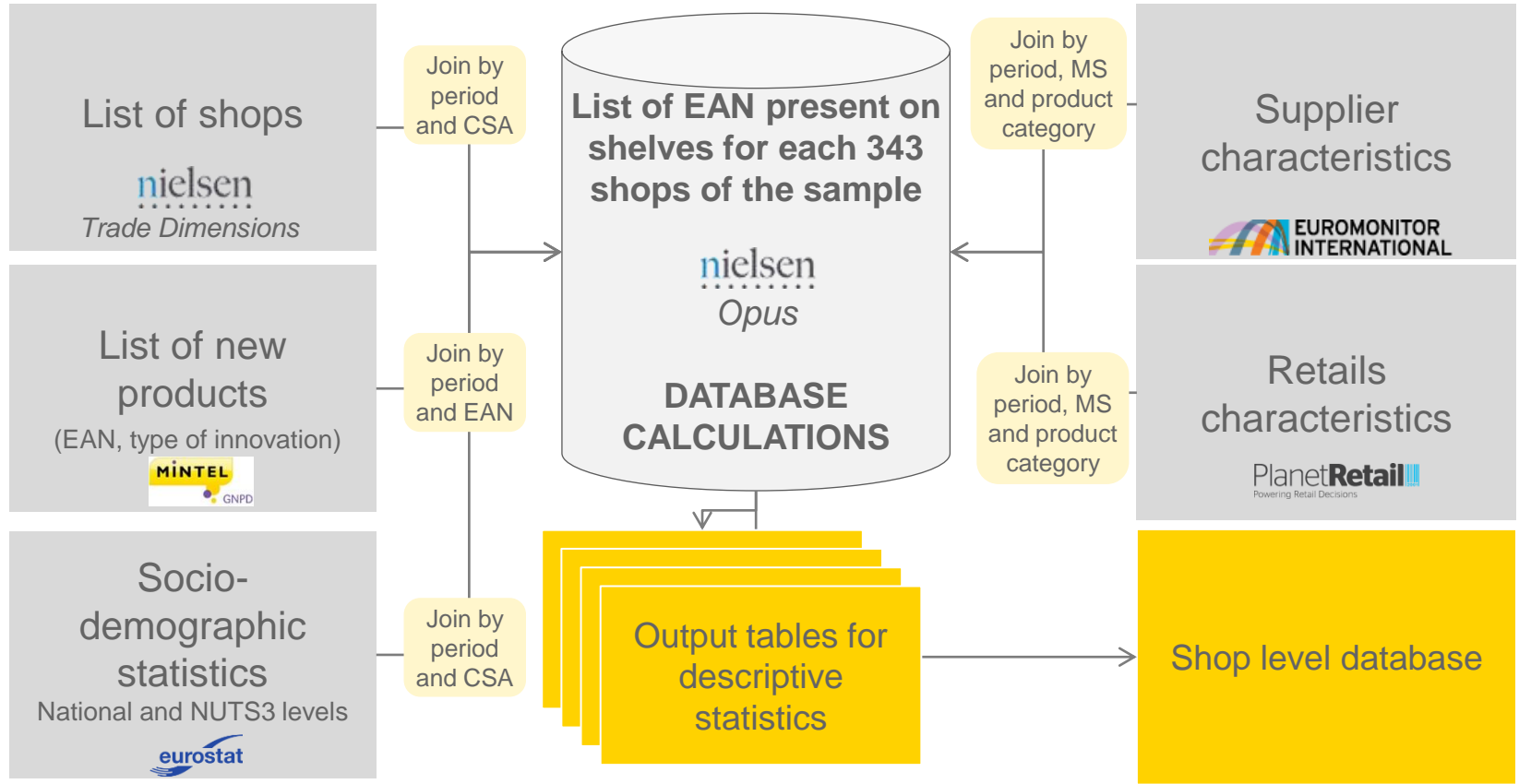


Figure 2: Example: Consumer shopping area and catchment area - Clichy-sous-Bois (FR)

Database construction



Database of 11 millions data records processed

Database construction

Database of 11 millions data records processed

Shop coverage	343 shops	CSA coverage	<ul style="list-style-type: none"> ▸ Belgium ▸ Czech Rep. ▸ Denmark ▸ France ▸ Hungary ▸ Italy ▸ Poland ▸ Portugal ▸ Spain 	Product coverage	23 categories	Time coverage
	<ul style="list-style-type: none"> ▸ Hypermarkets ▸ Supermarkets ▸ Discounters <p>All main retail groups and banners in Europe</p>				▸ 105 CSAs	
			Country coverage		<ul style="list-style-type: none"> Frozen pizzas/starter, frozen ready cooked meals, frozen vegetables Ice cream Milk, cheese, yoghurt, butter/margarine, desserts Bread, ham / delicatessen Baby food, canned vegetables, edible oil, savoury snacks Coffee, tea, Biscuits, cereals, chocolate Fruit juices, mineral water, soft drinks 	2004-2012
			51% of EU pop			

Descriptive analyses

- ▶ Aimed to distill the richness of the database into meaningful statistics
- ▶ Produced a consistent reporting pack covering choice, innovation and all potential drivers for each member state and at consolidated level, for short and long periods
- ▶ Approach allowed comparison between CSA, countries, CSA types, shop types, identifying wider trends as well as those unique to particular markets
- ▶ Informs the econometric analysis and provides hypotheses for testing



Econometric analyses measuring the impact of drivers on choice and innovation

▶ Approach

- ▶ Analyse the historical evidence for the impact of potential drivers on various measures of choice and innovation, controlling for local and national influences
- ▶ Model the behaviour of each shop and the selection of products that it offers, with reference to various national and local drivers and shop characteristics

Econometric analyses measuring the impact of drivers on choice and innovation

$$[\text{choice or innovation}]_{s,p,t} = f \{$$

- shop type_{s,t}
- shop size_{s,t}
- private label share_{n/s,p,t}
- retailers' concentration_{n/s,t}
- suppliers' concentration_{n/s,p,t}
- [or imbalance (retailer vs supplier concentration)_{n/s,p,t}]
- socio-demographic indicators_{c,t}
- rural/urban category_c or population density_c
- product category turnover_{n,p,t}
- economic prosperity/macroeconomic conditions_{c/n,t}
- Member State_n
- product category_p
- year_y
- season_m
- new competitor shop opening_{s,t}

$$}$$

Econometric analyses measuring the impact of drivers on choice and innovation

- ▶ Two data sets to maximize both the length of time period and the number of Member States covered
- ▶ Econometric analysis requires data to be available for *all* drivers in *all* periods for *all* shops
- ▶ The analysis was applied to the following two data sets:

2004 – 2012	2008 – 2012
<i>296 shops</i>	<i>337 shops</i>
France	France
Italy	Italy
Poland	Poland
Portugal	Portugal
Spain	Spain
	Hungary
	Belgium

Case studies

complementing the analysis and serving as illustrative examples

Three EAN barcode product categories



in Finland



in the Netherlands



in Spain

Three non-EAN barcode product categories



in France



in Belgium



in Germany

A wire shopping basket filled with fresh produce. In the foreground, there is a large red bell pepper, a yellow bell pepper, and a red apple. Behind them, a tomato and some green grapes are visible. To the right, there is a clear plastic container filled with strawberries. The basket is set against a bright, slightly blurred background.

QUESTIONS






2. Evolution of choice, innovation and their key drivers



Evolution of choice

Choice in shops, alternative products and brand suppliers has increased in the majority of sampled MS

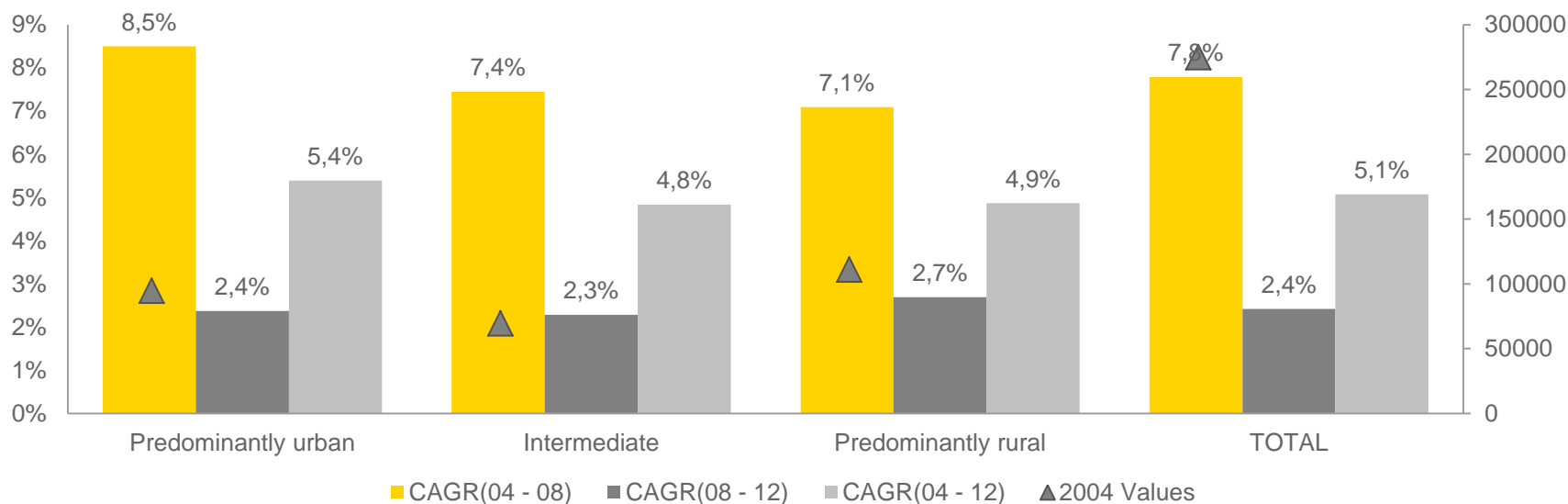
Type of choice	Component	2004-2008	2008-2012	2004-2012	Trend
Food Choice	Choice in alternative products**	7,9%	2,4%	5,1%	
	Choice in packaging sizes	5,0%	2,0%	3,5%	
	Choice in alternative suppliers**	5,6%	1,5%	3,5%	
	Choice in prices per product category ¹	+	--	-	
Shop Choice	Choice in shops*	1,8%	1,3%	1,6%	

+ Positive CAGR; - Negative CAGR; ++ CAGR is twice as much as average growth value; -- CAGR is twice as less as average growth value
¹ : Results need to be considered with caution because of inconsistency found in data

Choice in alternative products

Per CSA - Type of living

Annual growth of total number of EAN by CSA type

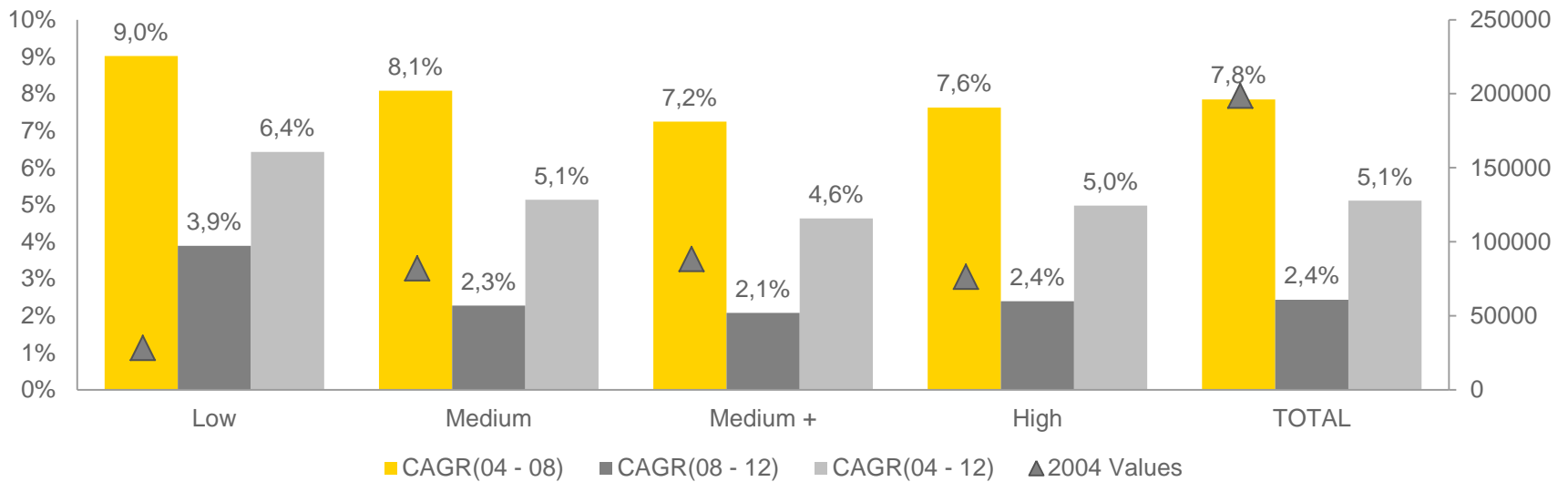


Source: EY analysis based on © Nielsen Opus - FR-IT-PT-SP-HU-BE, 23 product categories

Choice in alternative products

Per CSA – GDP per capita

Annual growth of total number of EAN by GDP

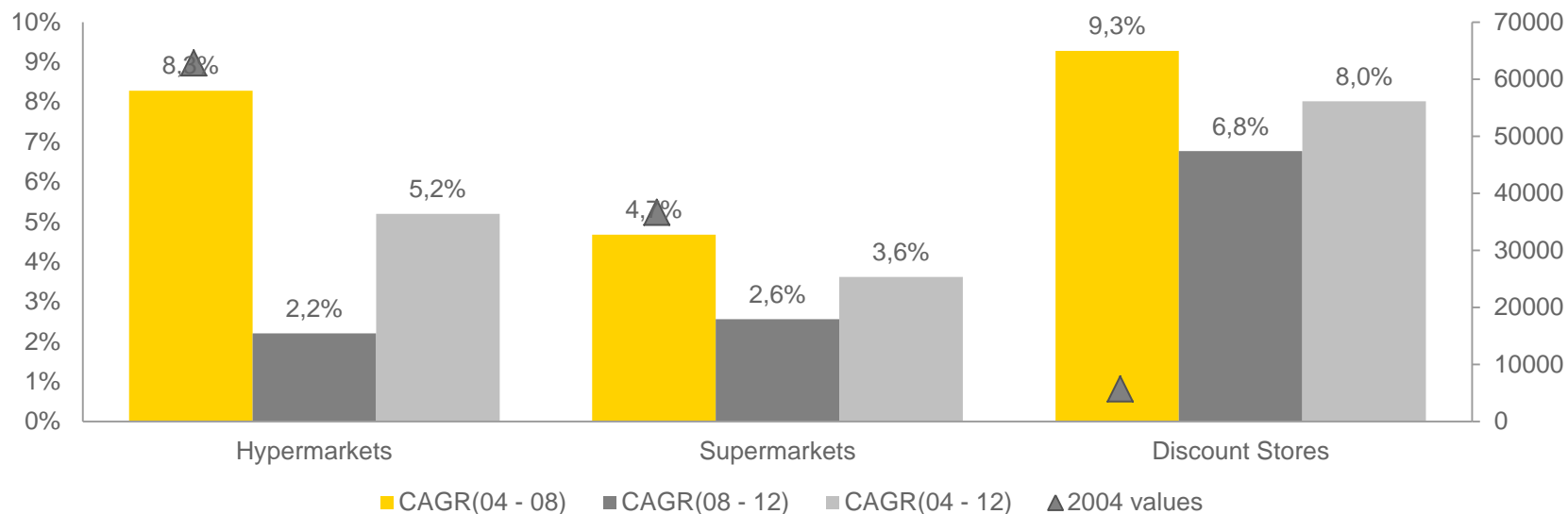


Source: EY analysis based on © Nielsen Opus - FR-IT-PT-SP-HU-BE, 23 product categories

Choice in alternative products

Per shop type

Annual growth of total number of EAN by shop type

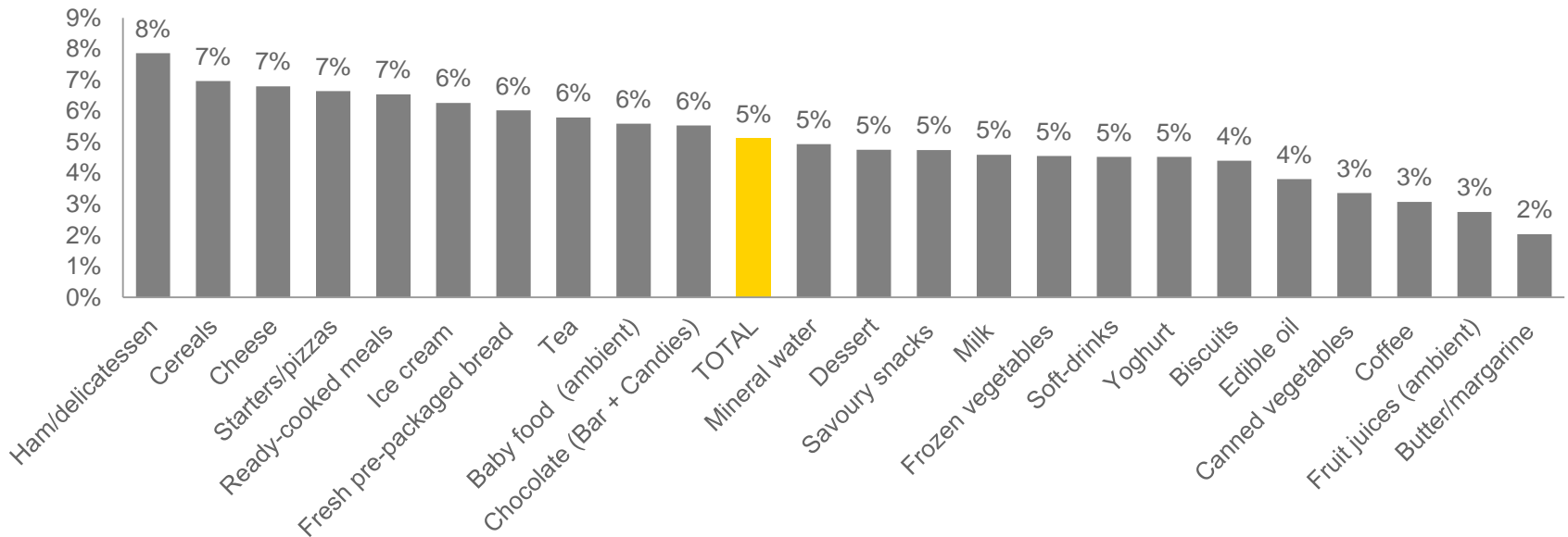


Source: EY analysis based on © Nielsen Opus - FR-IT-PT-SP-HU-BE, 23 product categories

Choice in alternative products

Per product category

Annual growth of total number of EAN by product category 2004-2012

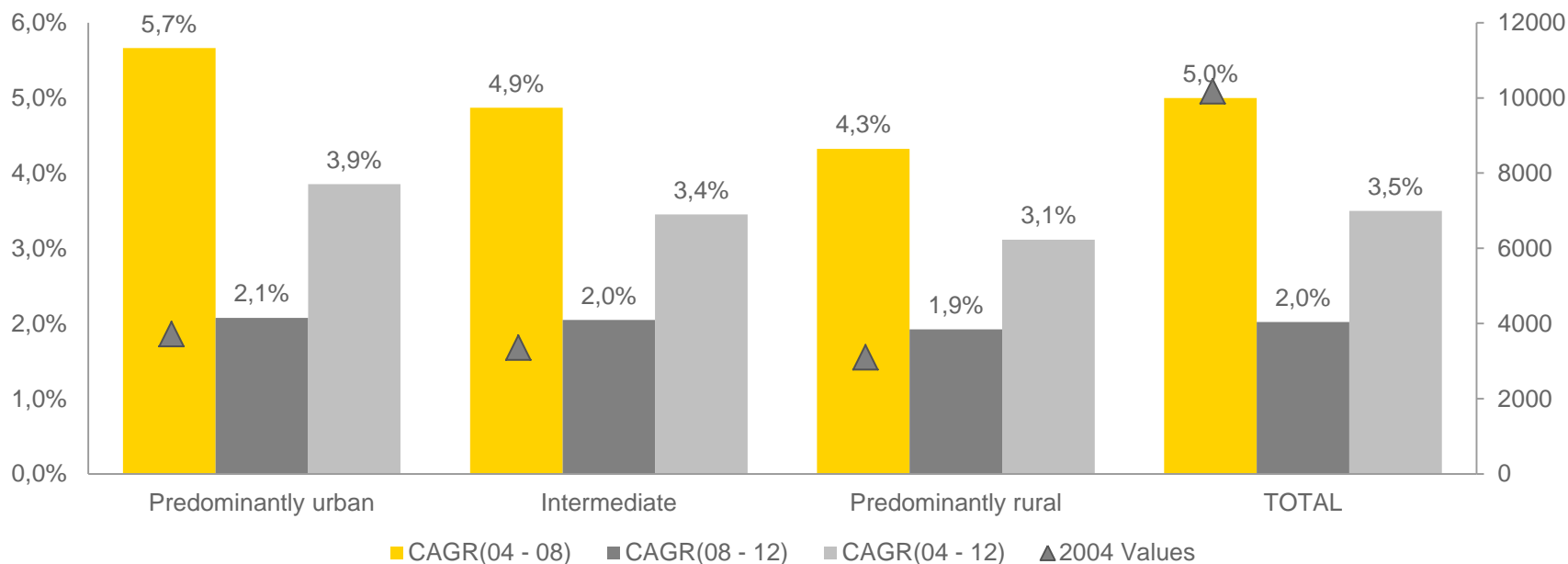


Source: EY analysis based on © Nielsen Opus, at local level - FR-IT-PT-SP-HU-BE, 2004-2012

Choice in packaging sizes

Per CSA - Type of living

Annual growth of total number of pack sizes by CSA

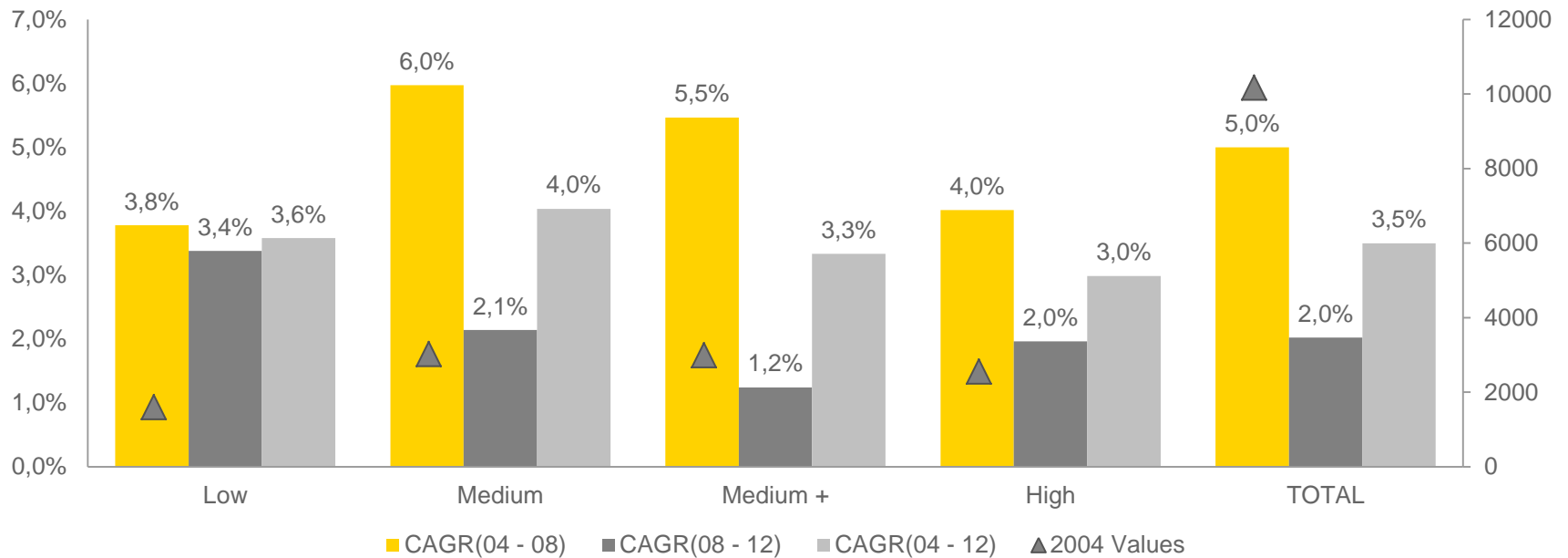


Source: EY analysis based on © Nielsen Opus - FR-IT-PT-SP-HU-BE, 23 product categories

Choice in packaging sizes

Per CSA – GDP per capita

Annual growth of total number of pack sizes by GDP

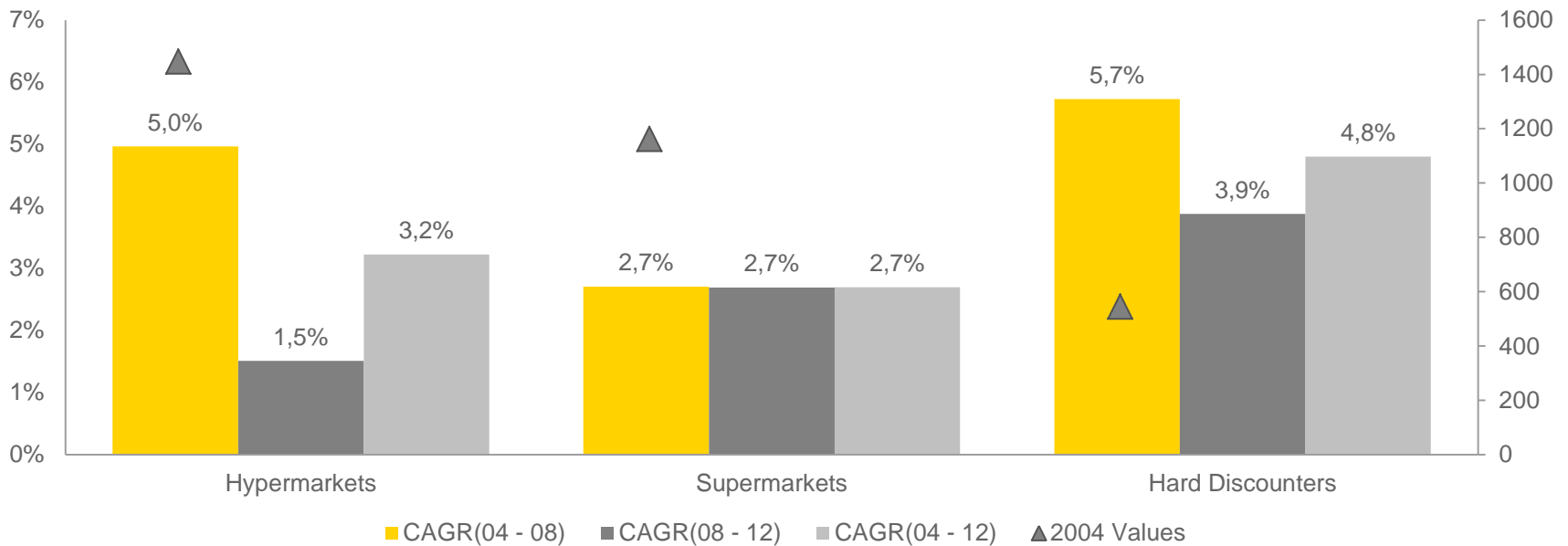


Source: EY analysis based on © Nielsen Opus - FR-IT-PT-SP-HU-BE, 23 product categories

Choice in packaging sizes

Per shop type

Annual growth of total number of pack sizes by shop type

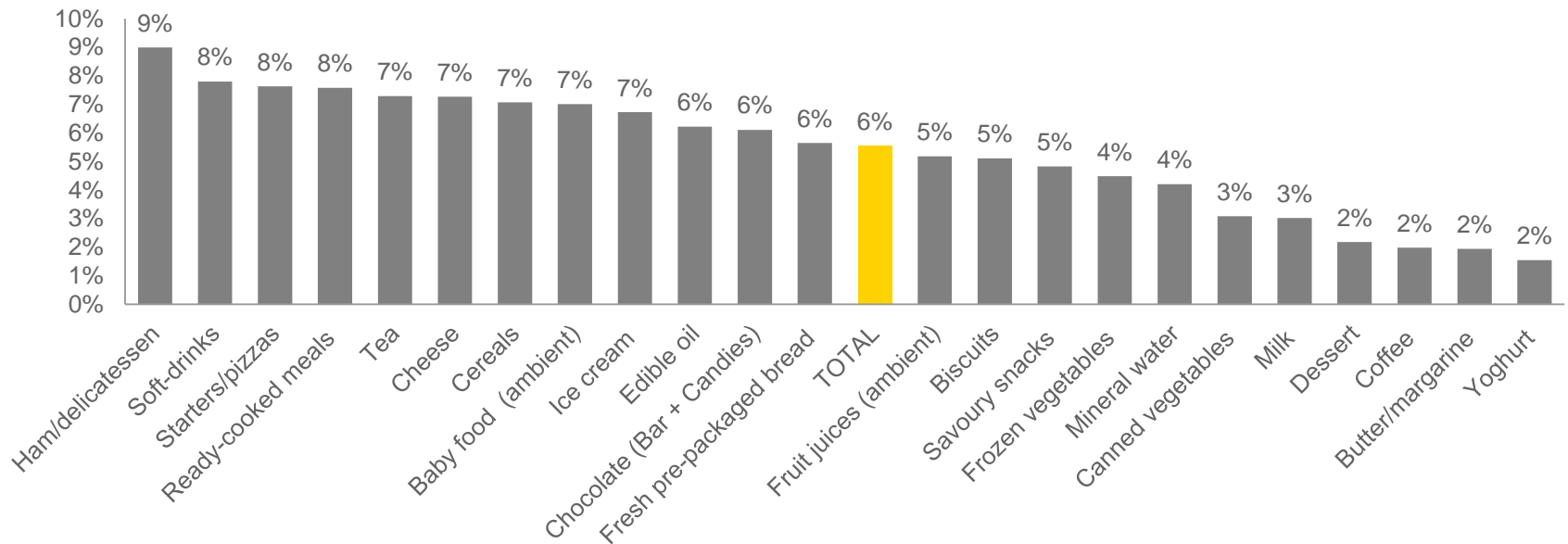


Source: EY analysis based on © Nielsen Opus - FR-IT-PT-SP-HU-BE, 23 product categories

Choice in alternative suppliers

Per product category

Annual growth in number of suppliers by product category 2004-2012

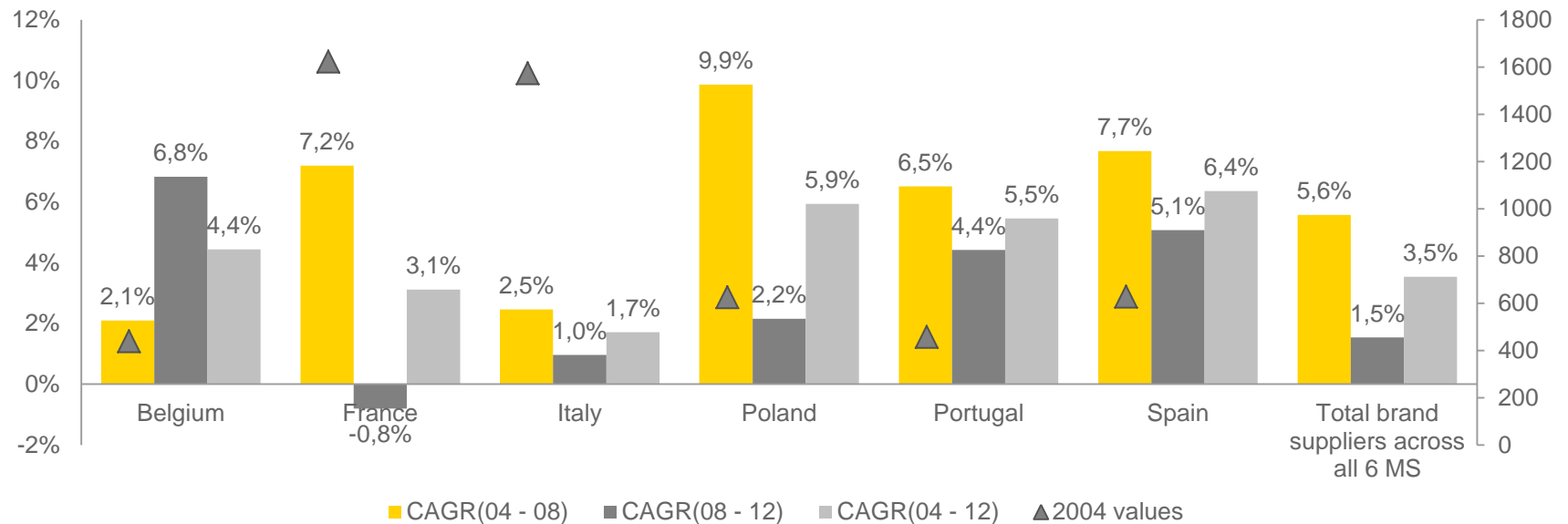


Source: EY analysis based on © Nielsen Opus – BE-FR-IT-PO-PT-SP, 2004-2012

Choice in alternative suppliers

Per Member State

Annual growth in number of suppliers by MS

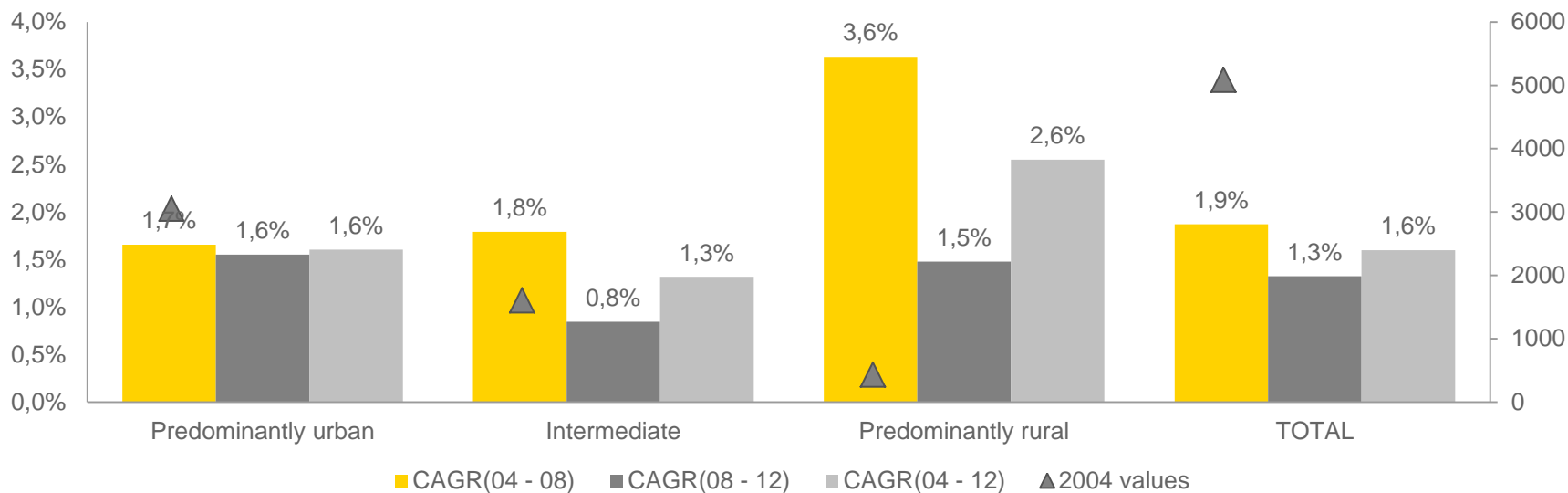


Source: EY analysis based on © Nielsen Opus - 23 product categories,

Choice in shops

Per CSA - Type of living

Annual growth in number of shops by CSA type

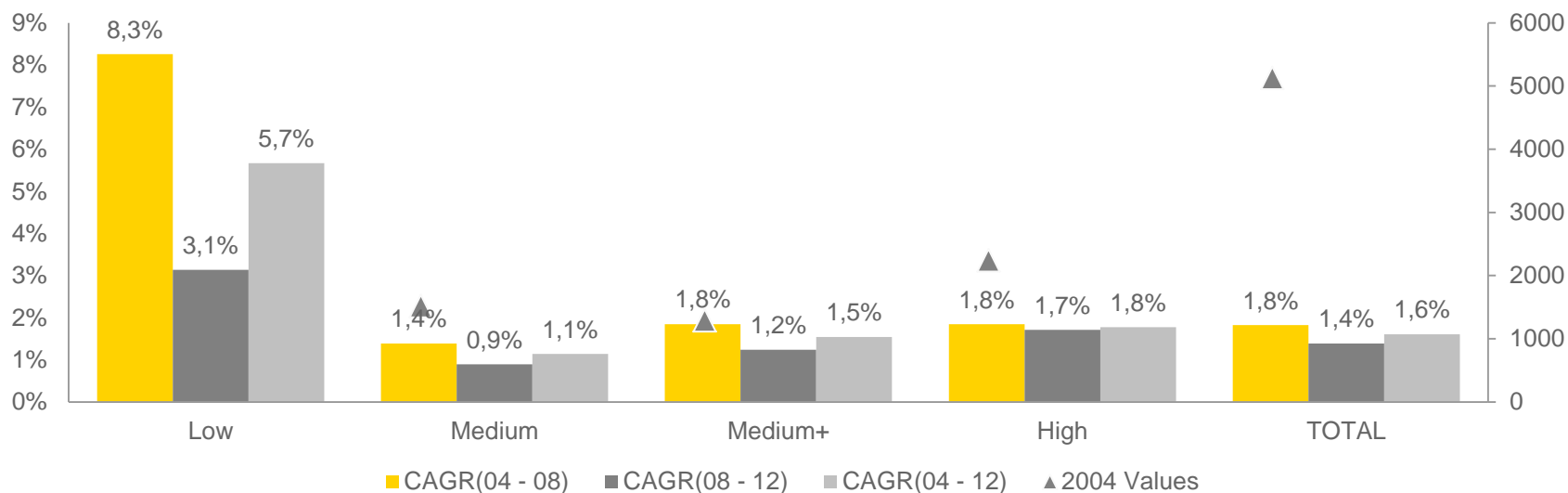


Source: EY analysis based on © Nielsen Trade Dimensions – FR-IT-SP-PT

Choice in shops

Per CSA – GDP per capita

Annual growth in number of shops by GDP

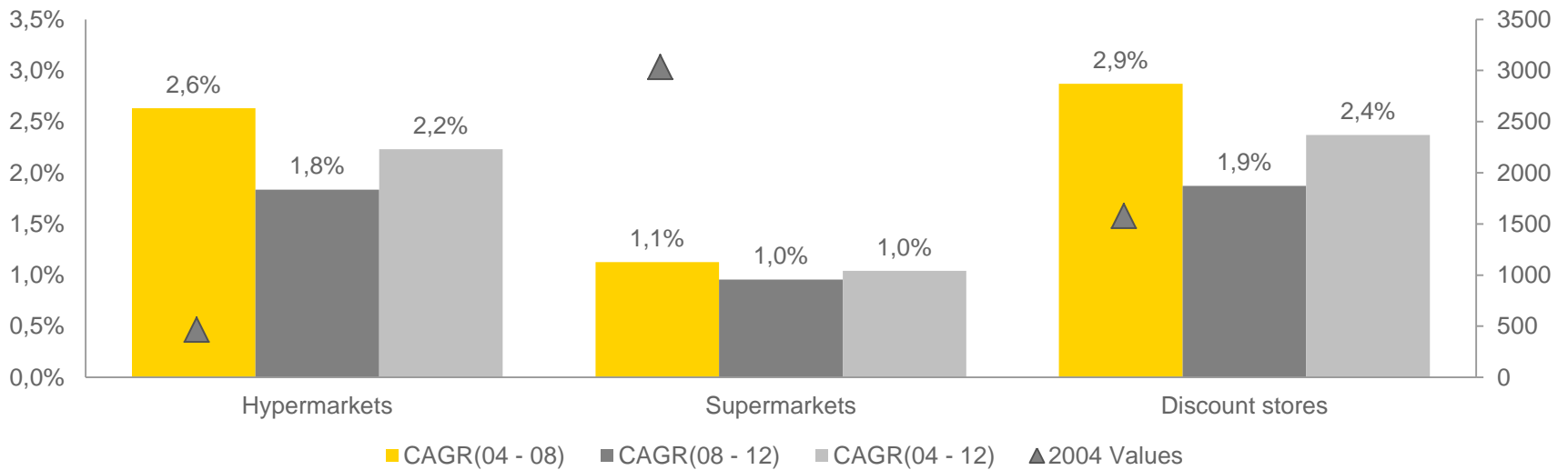


Source: EY analysis based on © Nielsen Trade Dimensions – FR-IT-SP-PT

Choice in shops

Per shop type

Annual growth in number of shops across CSAs by shop type



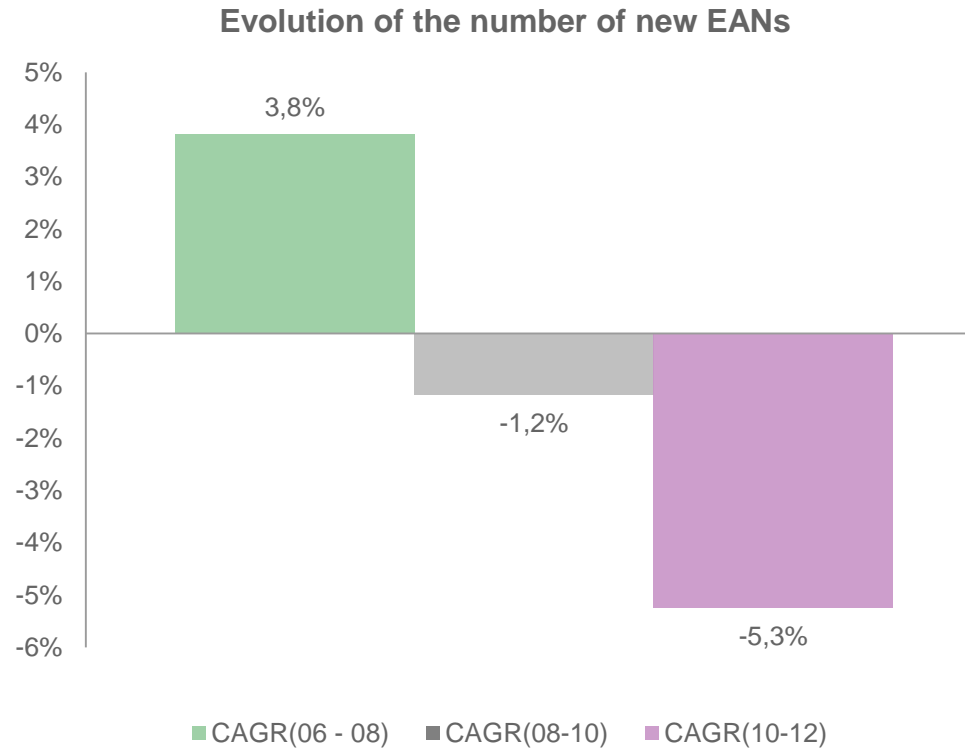
Source: EY analysis based on © Nielsen Trade Dimensions – FR-IT-SP-PT



Evolution of innovation

Innovation: decline since 2008

Evolution of innovations

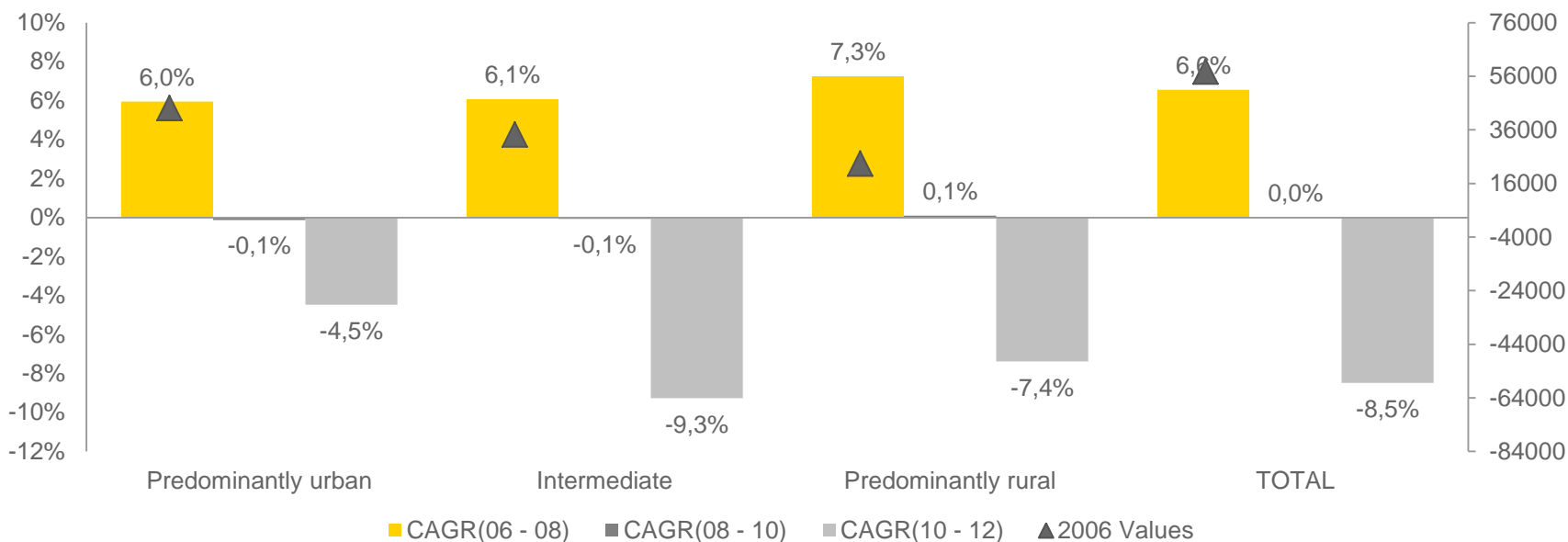


Source: EY analysis based on © Nielsen Opus – BE-FR-IT-PO-PT-SP

Innovation: decline since 2008

Number of innovations by CSA type

Annual growth in number of new products by CSA type

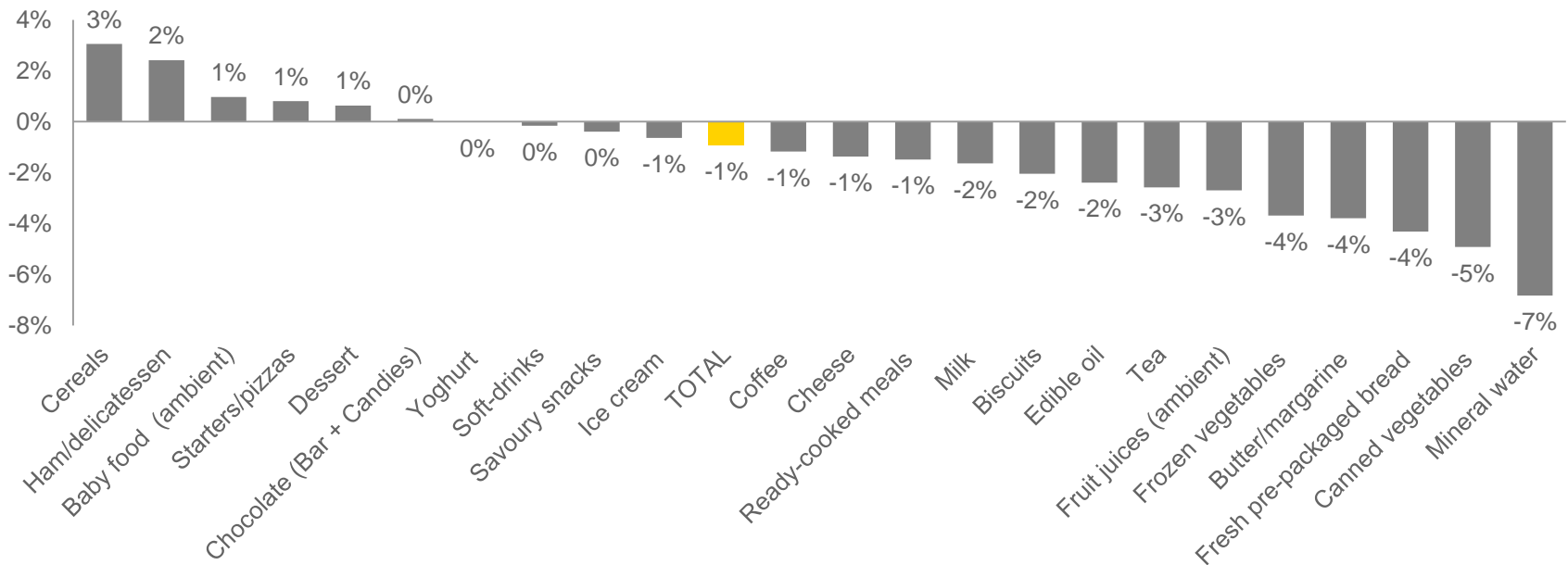


Source: EY analysis based on © Nielsen Opus – BE-FR-IT-PO-PT-SP

Product innovation: decline over almost all product categories

Per product category

Annual growth in number of new EAN codes by product category 2004-2012

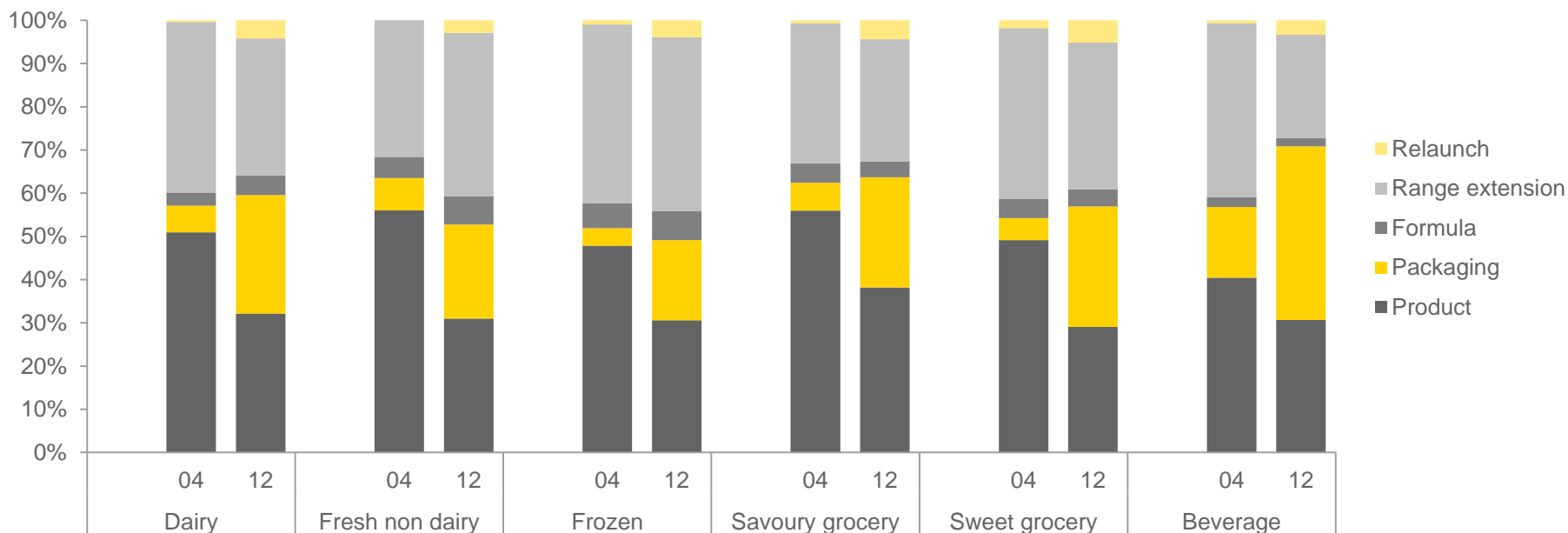


Source: EY analysis based on © Nielsen Opus – BE-FR-IT-PO-PT-SP

Innovation: development of new packaging

Per type of innovation across product categories

Proportion of innovation types by product category

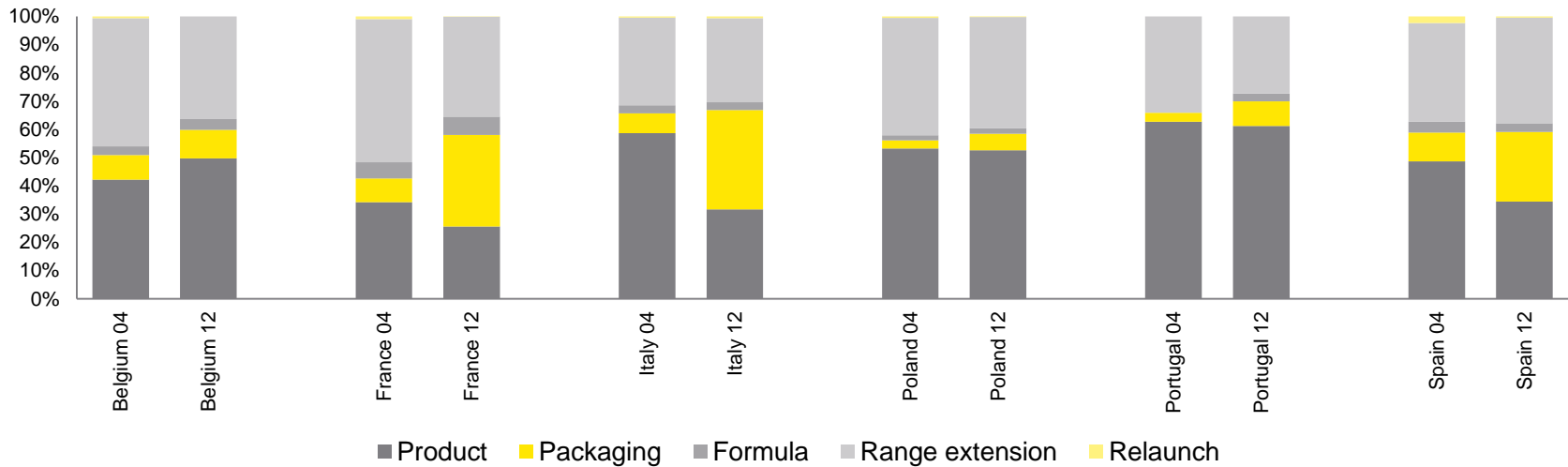


Source: EY analysis based on © Mintel GNPD and © Nielsen Opus – 2004-2012

Innovation: development of new packaging

Per type of innovation across MS

Proportion of types of innovations by MS (local level)

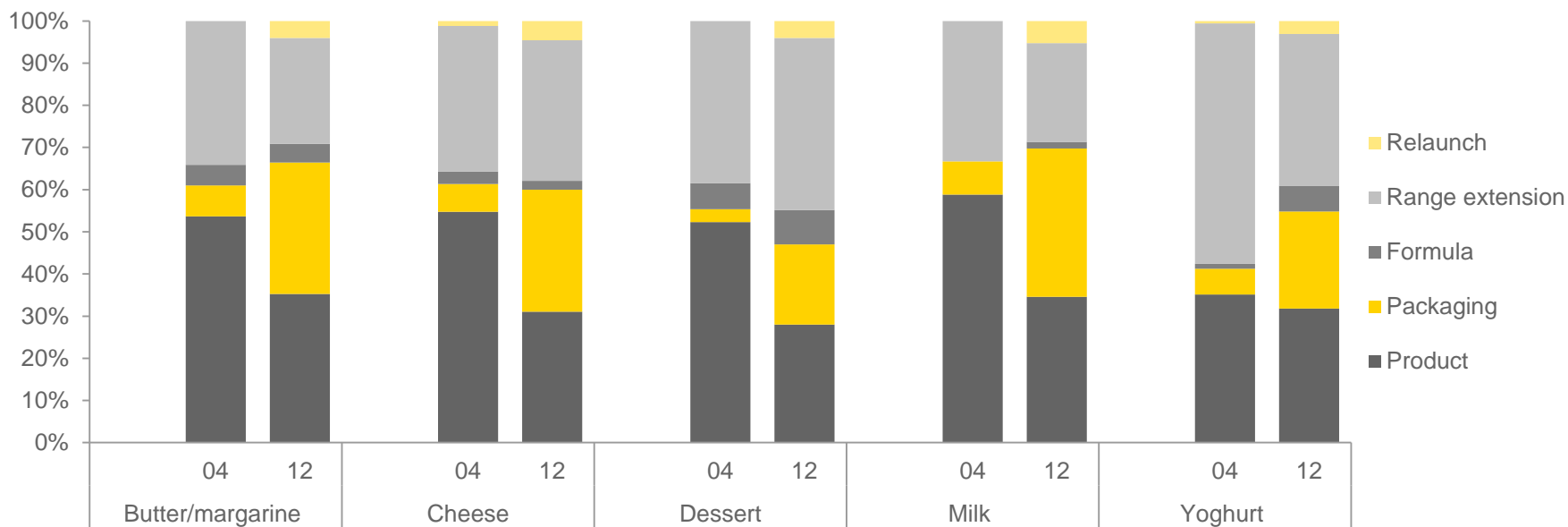


Source: EY analysis based on © Mintel GNPD and © Nielsen Opus – 2004-2012

Innovation: development of new packaging

Per type of innovation and product category

Proportion of types of innovations: Dairy

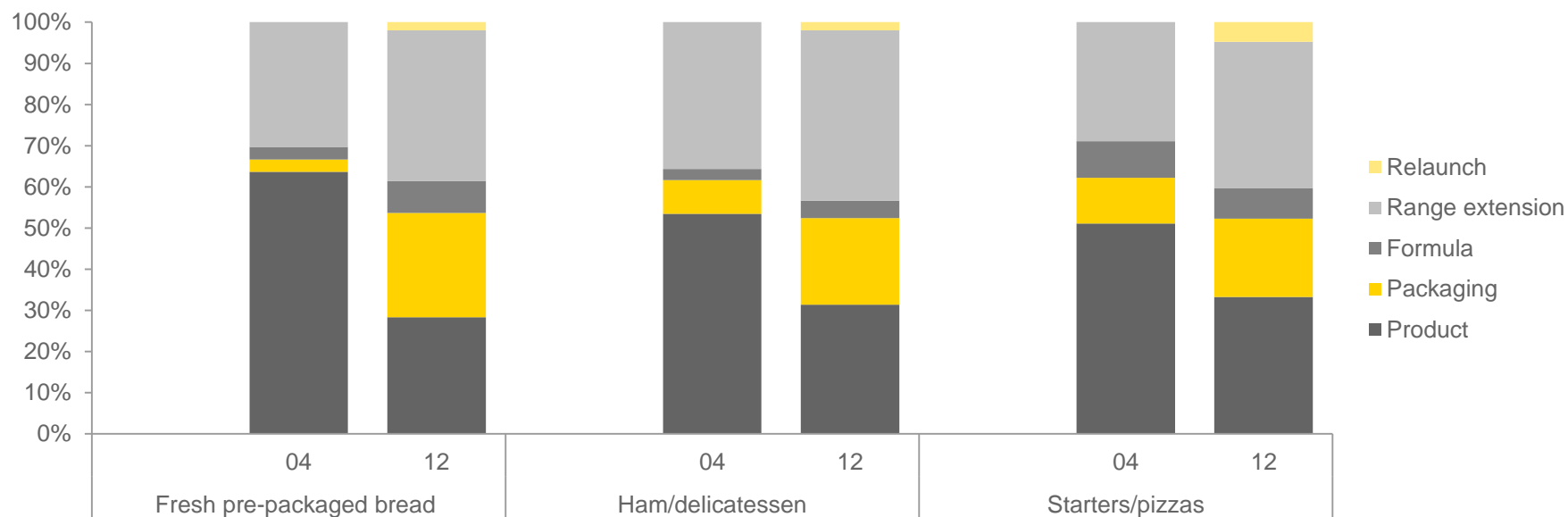


Source: EY analysis based on © Mintel GNPD and © Nielsen Opus – 2004-2012

Innovation: development of new packaging

Per type of innovation and product category

Proportion of types of innovations: Fresh non dairy

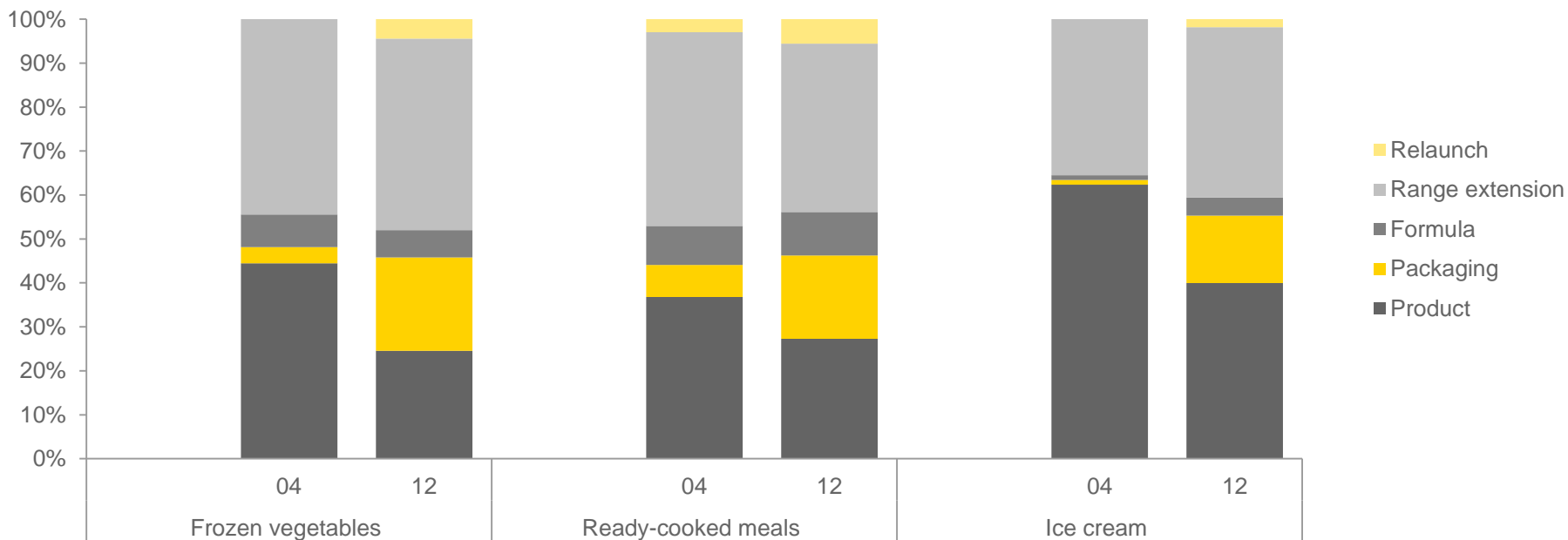


Source: EY analysis based on © Mintel GNPD and © Nielsen Opus – 2004-2012

Innovation: development of new packaging

Per type of innovation and product category

Proportion of innovation types by category: Frozen

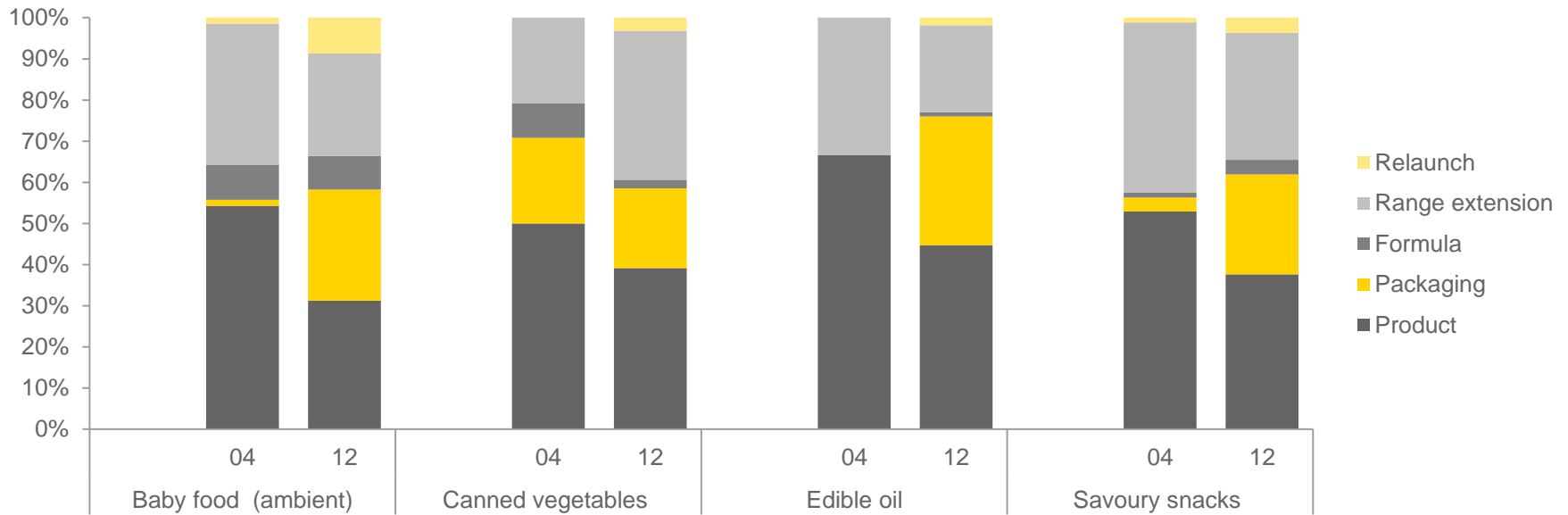


Source: EY analysis based on © Mintel GNPD and © Nielsen Opus – 2004-2012

Innovation: development of new packaging

Per type of innovation and product category

Proportion of types of innovations: Savoury grocery

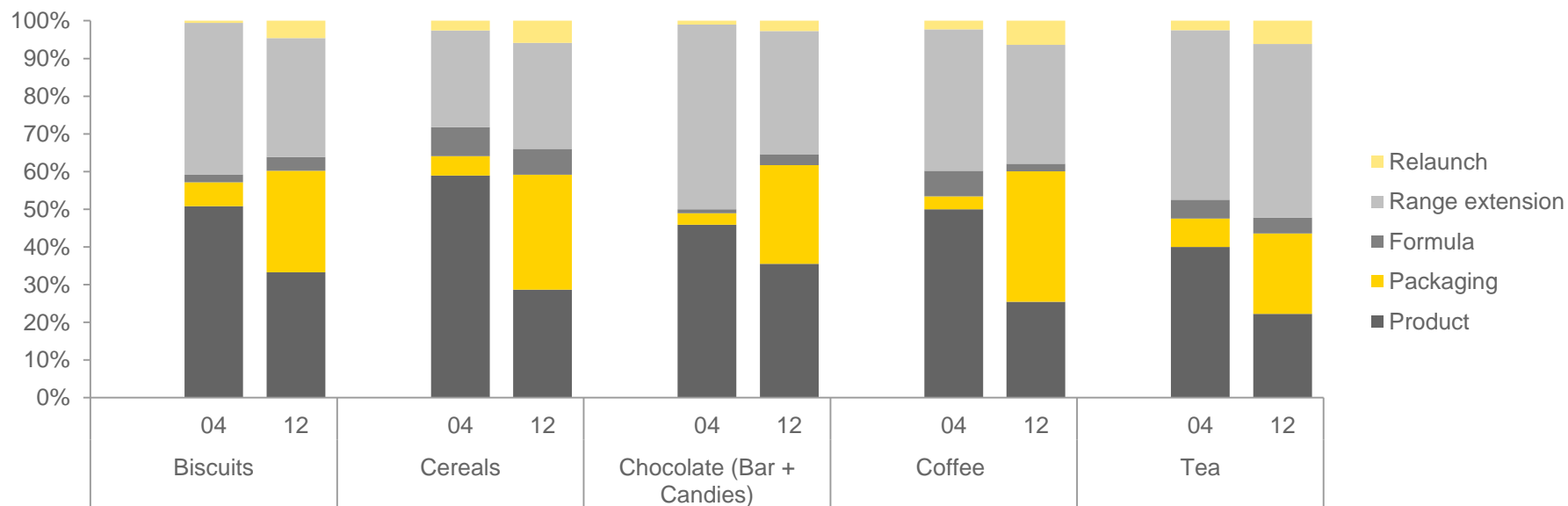


Source: EY analysis based on © Mintel GNPD and © Nielsen Opus – 2004-2012

Innovation: development of new packaging

Per type of innovation and product category

Proportion of types of innovations: Sweet grocery

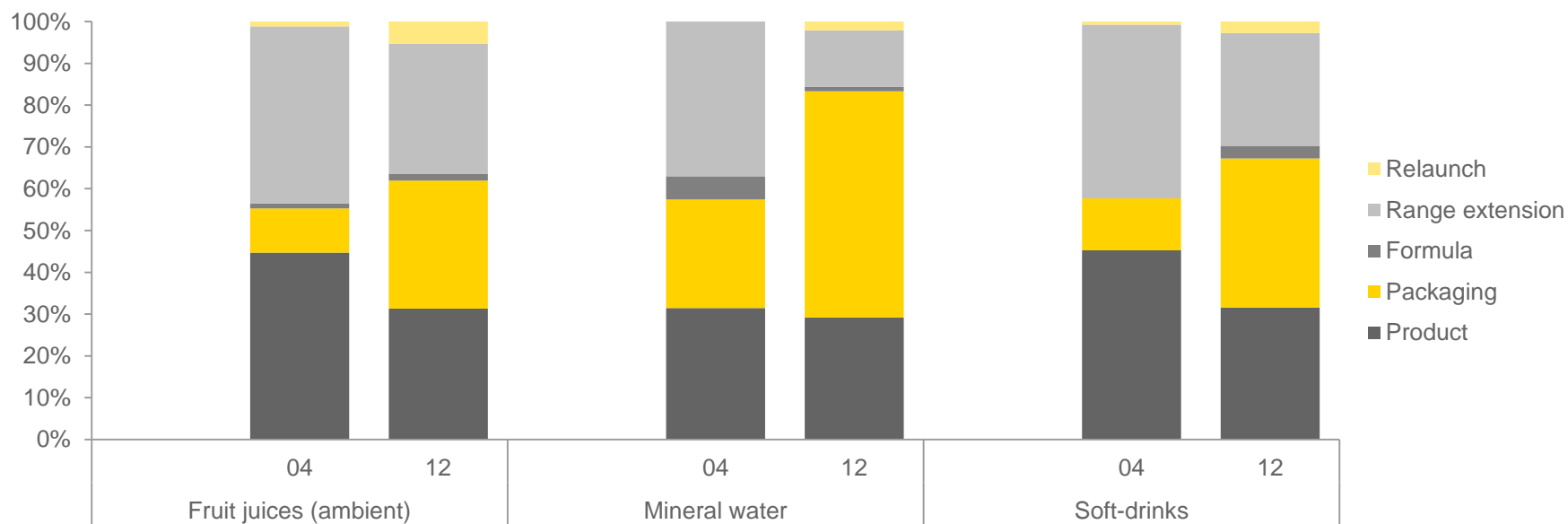


Source: EY analysis based on © Mintel GNPD and © Nielsen Opus – BE-FR-IT-PO-PT-SP

Innovation: development of new packaging

Per type of innovation and product category

Proportion of types of innovations: Beverage



Source: EY analysis based on © Mintel GNPD and © Nielsen Opus – 2004-2012



**Evolution of a selection of potential
key drivers**

Potential drivers of choice and innovation

Potential drivers of choice and innovation

Definition of potential drivers at local and national levels:

- ▶ Concentration of retailers
- ▶ Concentration of suppliers
- ▶ Measure of imbalance: in the market between retailers and suppliers
- ▶ Private label share
- ▶ Product category turnover
- ▶ Shop type
- ▶ Shop size
- ▶ New shop opening
- ▶ Socio-economic characteristics: GDP per capita, population size and density, unemployment, food consumption, retailers' business expectations

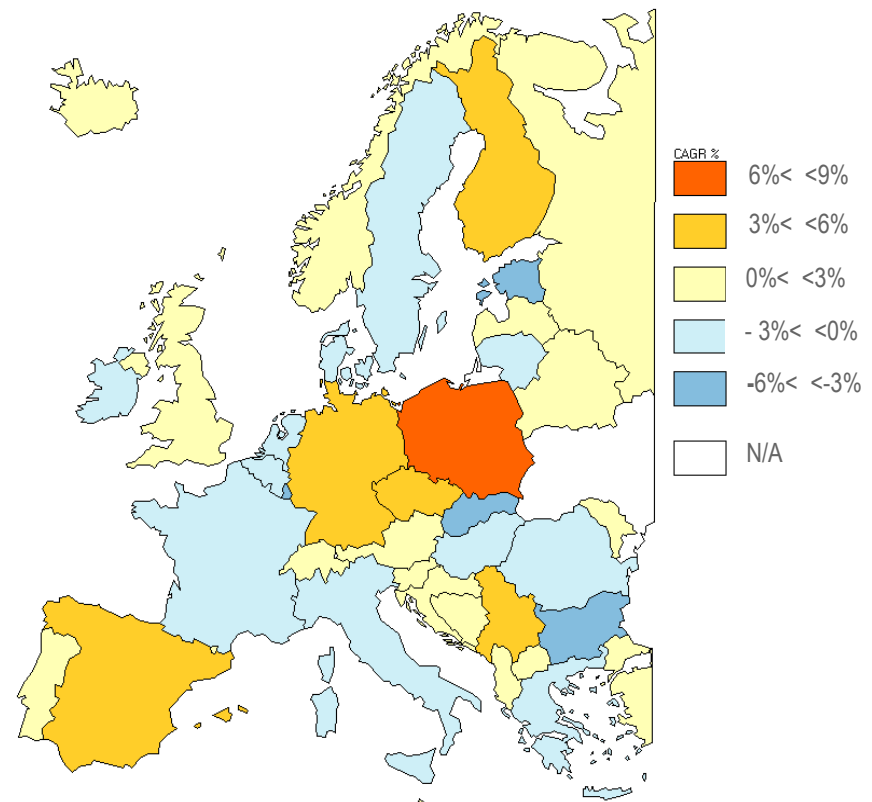
Source EY analysis based on © Planet Retail , with PHILCARTO, HHI 2004-2012

Mixed evolution of retailer concentration at national level

Retailer concentration at national level

- ▶ Modern retail concentration (HHI) has evolved between 2004 and 2012:
 - ▶ Decrease in 16 EU MS
 - ▶ Increase in the other 10 MS

Evolution of modern retail concentration across Europe

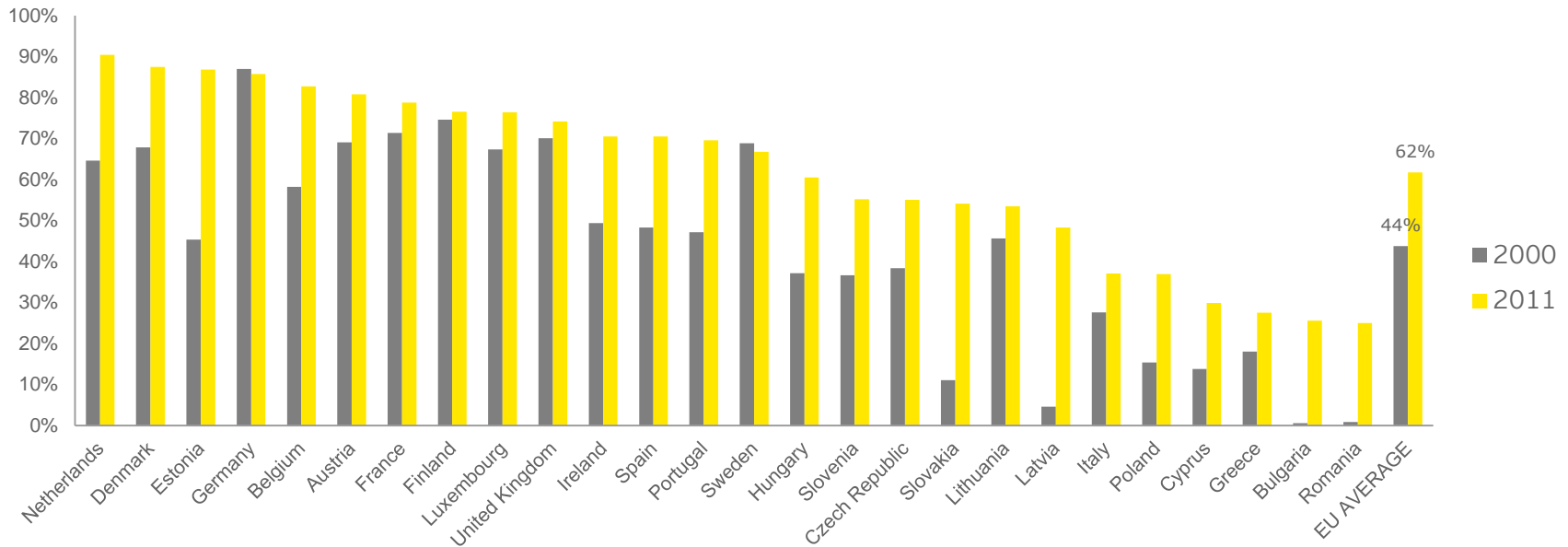


Source EY analysis based on © Planet Retail, with PHILCARTO, HHI 2004-2012

Prevalence of modern retail across Europe

Per Member State

Share of modern retail in total edible grocery market in the EU



Source: EY analysis based on © Planet Retail

Growth of modern retail shops

Evolution of the number of modern retail shops: 2% annual increase

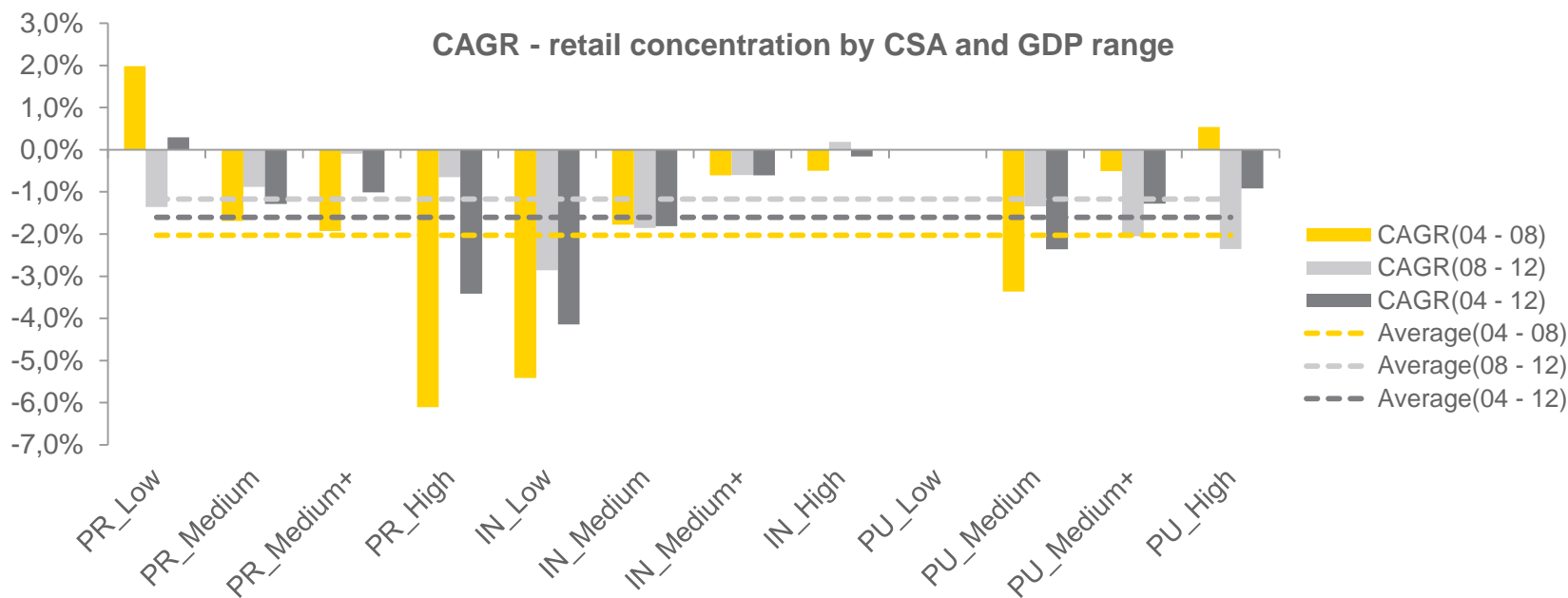


Source EY analysis based on © Planet Retail

Decrease of retailer concentration at local level

Retailer concentration at local level per CSA type

- ▶ Retail concentration by consumer shopping area decreased slightly between 2004 and 2012
- ▶ No significant general conclusions for types of living areas



Source: EY analysis based on © Nielsen Trade Dimensions,, HHI - FR-IT-PT-SP
 PU: Predominantly Urban
 IN: Intermediate
 PR: Predominantly Rural

The total floorspace of modern retail shops increased by 44% over the last decade in the EU

Total sales area per shop type

Hypermarkets (>= 2,500 m²)

Supermarkets (400 to 2,499 m²)

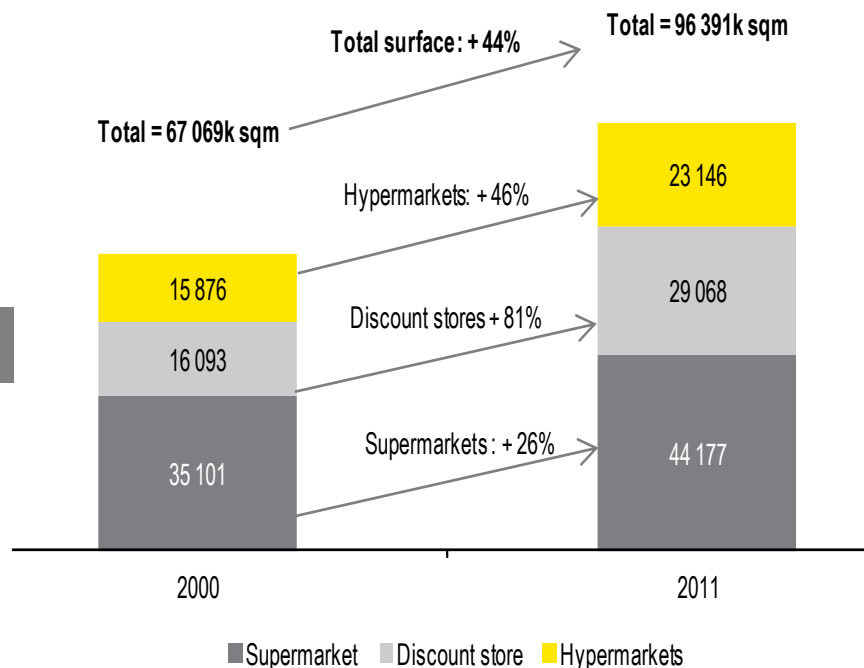
- ▶ Growth in all shop types over the past decade
- ▶ Higher growth during the pre-crisis period than the crisis period

Average sales area per shop type

On average for each modern retail outlet:

- ▶ Discount stores have grown by 2% over the last decade
- ▶ Supermarkets have grown by 1.1%
- ▶ Hypermarkets have decreased by -0.5% over the last decade

Evolution of the European food retail sales area (in thousands of m²)



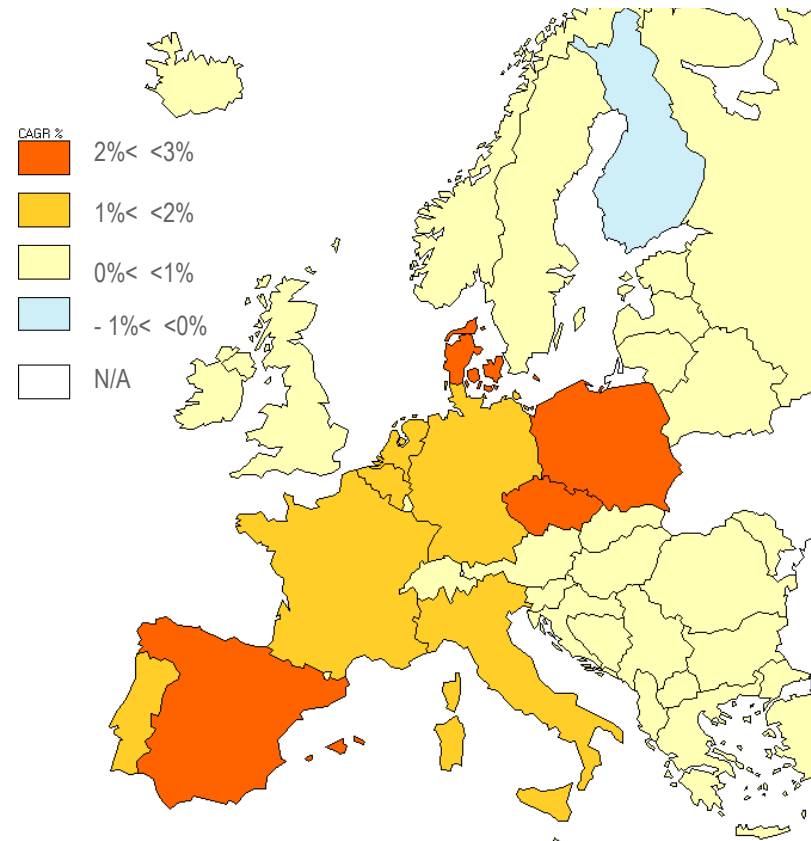
Source EY analysis based on © Planet Retail

Increase of supplier concentration at national level

Supplier concentration at national level: 1.3% annual increase

- ▶ Growth of 1.9% during the pre-crisis period and 0.6% over the crisis period
- ▶ Everywhere in the 14 MS except Finland
- ▶ Frozen ready-cooked meals, baby food, cereals and coffee have the highest concentration levels over the last decade

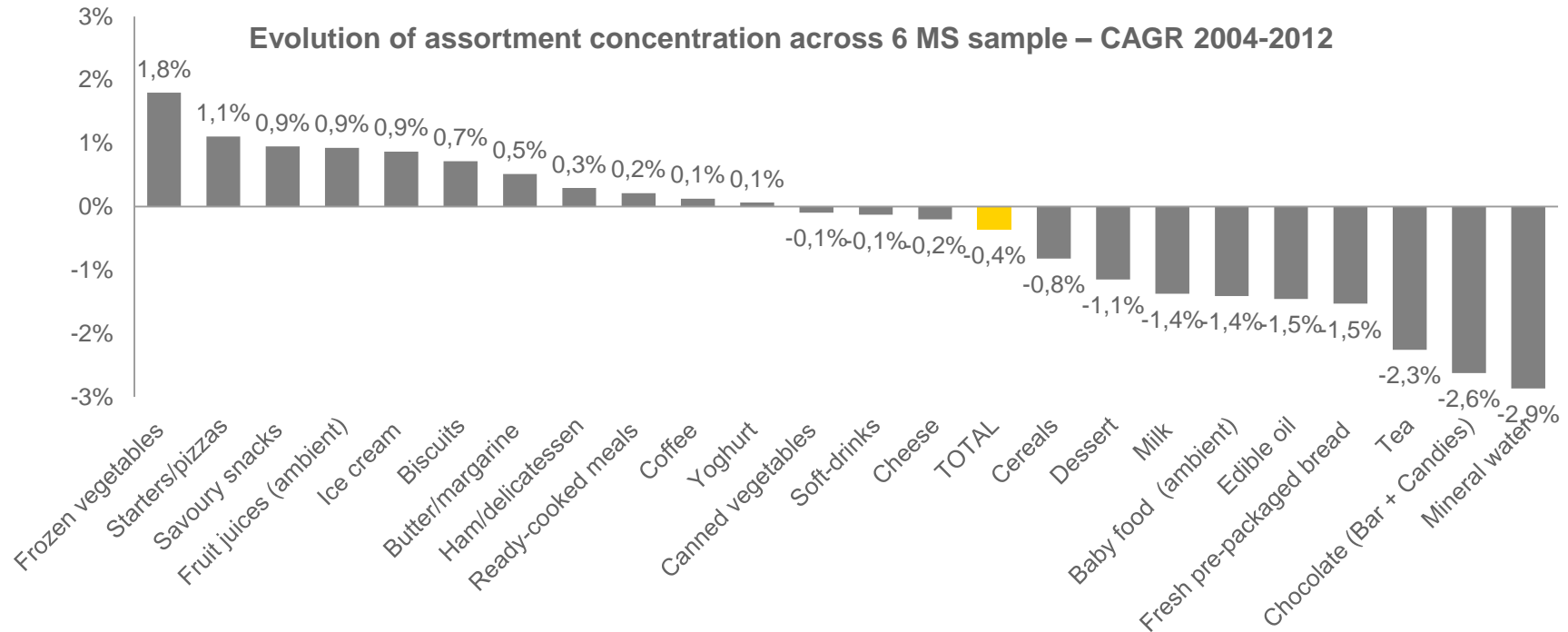
Evolution of supplier concentration across Europe



Source: EY analysis based on © Euromonitor International with PHILCARTO

Evolution of supplier concentration at local level

Supplier concentration at local level: 0.9% annual decrease



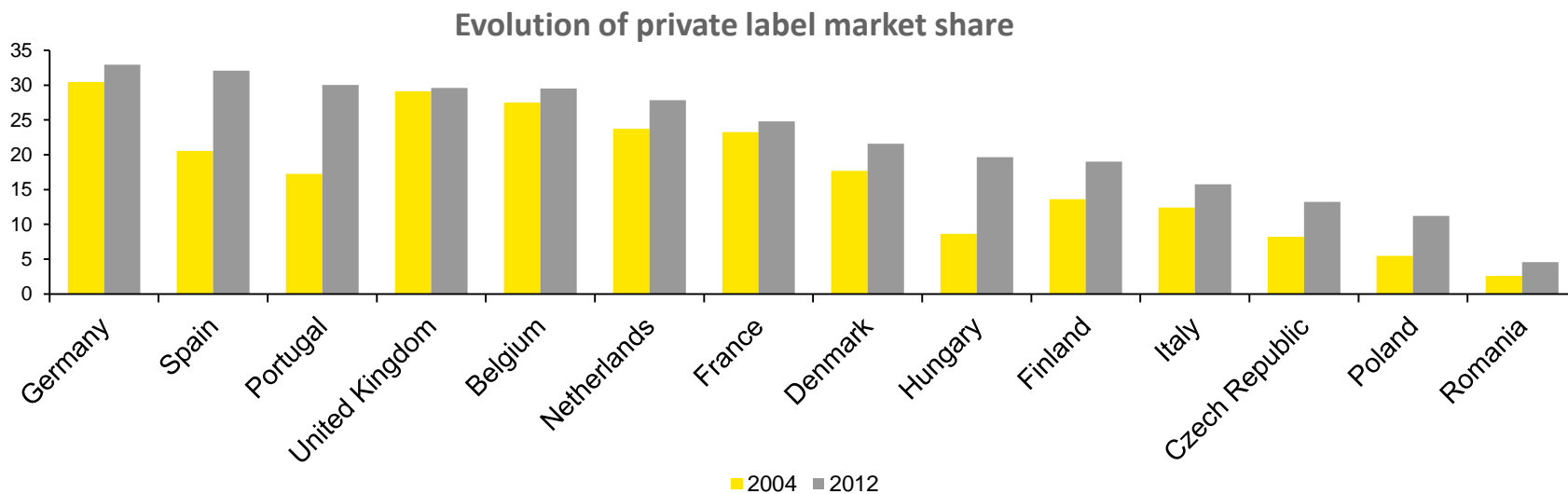
- ▶ Decrease of -1.3% for the pre-crisis period compared to -0.4% during the crisis period
- ▶ Link to the increase in choice in suppliers

Source EY analysis based on © Nielsen Opus, 2004-2012, BE-FR-IT-PO-PT-SP

Private label share: 5% annual increase

At national and local levels

- ▶ At procurement level, private label share ranges from 4.5% on average in Romania to 32.9% on average in Germany in 2012
- ▶ At national level, increase of private label share in the 14 MS sample
- ▶ At local level, higher proportion of private label products on shop shelves



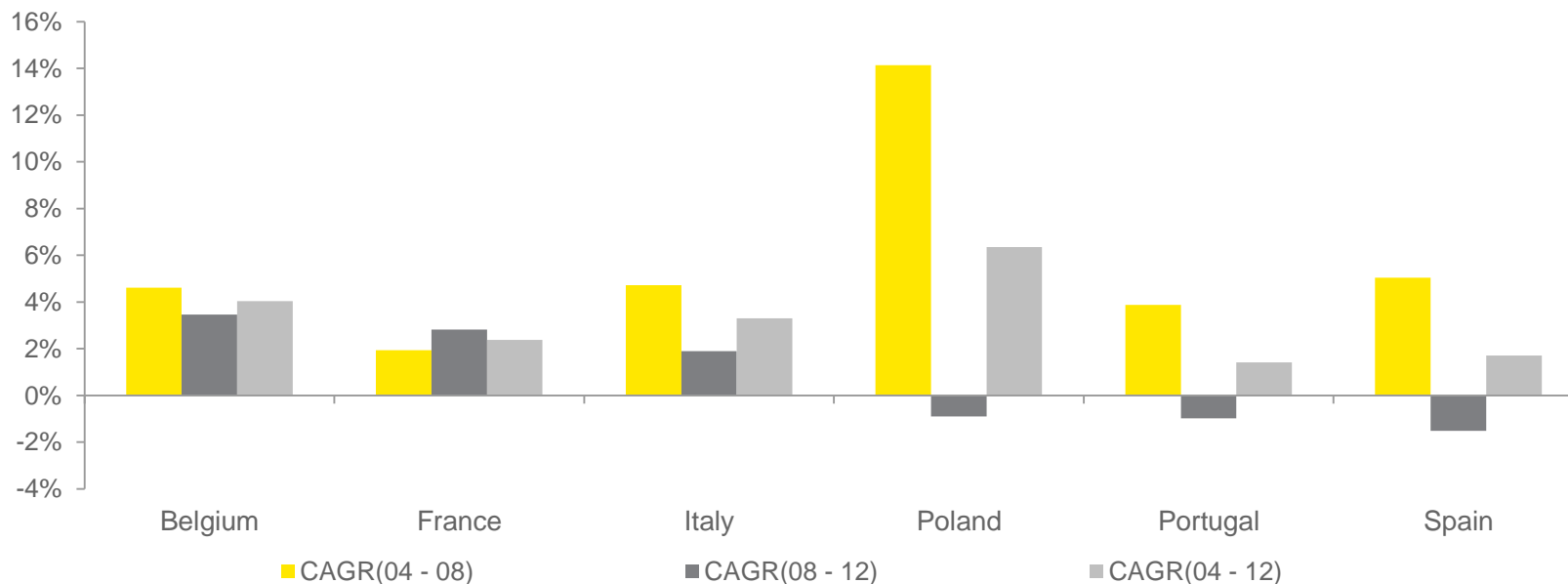
Source: EY analysis based on © Euromonitor International – 23 product categories

Product category turnover: 2.9% annual increase

Variation across the sample MS

- ▶ Annual growth during the pre-crisis period (4.5%) greater than after 2008 (1.4%)
- ▶ Increase for 20 of the 23 product categories except for mineral water, butter/margarine and edible oil

Annual increase in product category turnover (national level)



Source: EY analysis based on © Euromonitor International – 23 product categories

Evolution of socio-economic characteristics in CSAs

Socio-economic characteristics in CSAs

CAGR	2004-2012	2004-2008	2008-2012
Unemployment rate	+3,2%	- 5,4%	+ 13,2%
GDP per capita	+2,0%	+3,2%	+0,8%



QUESTIONS



Econometrics results

Choice

Innovation

Positive impacts on choice

- ▶ Product category turnover
- ▶ Economic prosperity
- ▶ Shop size
- ▶ Shop type
- ▶ New shop opening in the local area

No or low economic impact on choice

- ▶ Concentration drivers
- ▶ Private labels (+)
- ▶ Unemployment (+)
- ▶ Population density (-)

Product category turnover, economic prosperity, shop size and shop type are the most important drivers for choice

Drivers for choice	Product variety			Product size variety			Product supplier variety			Product price variety		
	impact	Signif.	Import.	impact	Signif.	Import	impact	Signif.	Import	impact	Signif.	Import
Product category turnover	▲	✓✓	●●	▲	✓✓	●●	▲	✓✓	●●	▼	✓✓	..
GDP per capita	▲	✓✓	●●	▲	✓✓	●●	▲	✓✓	●●	?	✓✓	..
Shop floor space	▲	✓✓	●●	▲	✓✓	●●	▲	✓✓	●●	▲	✓	..
Shop type	▲	✓✓	N.A.	▲	✓✓	N.A.	▲	✓✓	N.A.	?	✓✓	N.A.
New shop opening in the local area	▲	✓✓	●	▲	✓✓	●	▲	✓✓	..	▲	✓✓	..

- ▲ Positive impact
- ▼ Negative impact
- ? Where the sign varies according to whether the parameter is estimated over the long or short data sets
- ✓ Significant at 5% level
- ✓✓ Significant at 1% level
- Impact of more than 5%
- Impact of more than 10%
- Not statistically significant or economically important according to these thresholds

Product category turnover, economic prosperity, shop size and shop type are the most important drivers for choice

Product category turnover

Statistical significance

▶ 1% level

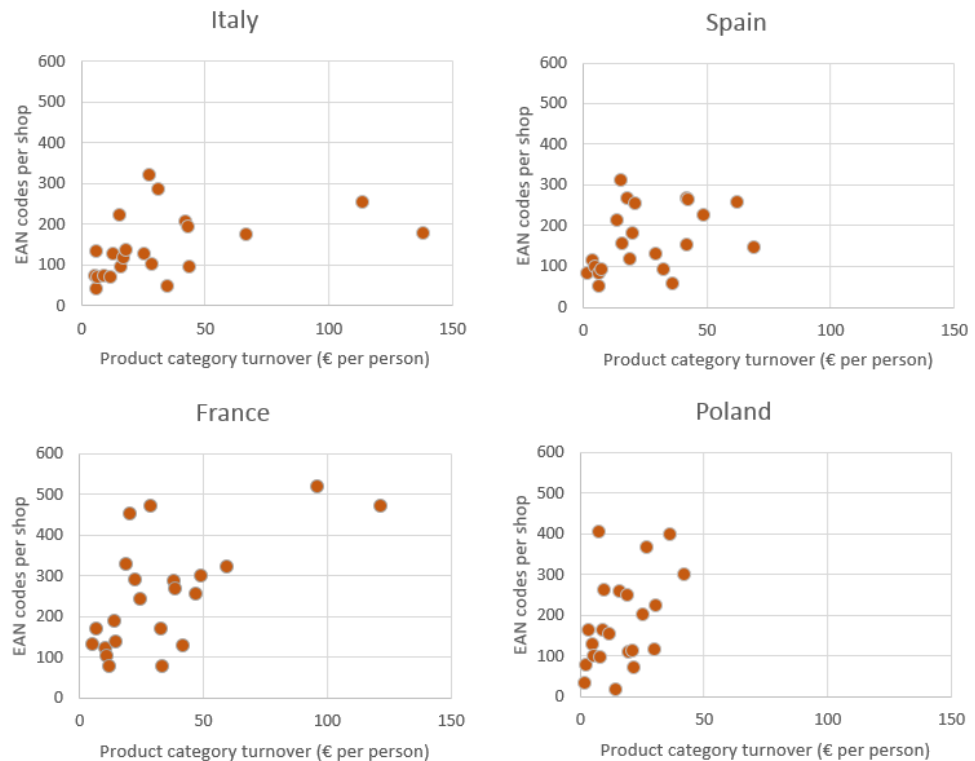
Direction of impact

▶ Positive

Economic importance

▶ Large

Choice in variety of EANS versus national product category sales turnover in 2010 period 1 in four Member States



Sources: Analysis based on © Nielsen Opus and © Euromonitor International

Product category turnover, economic prosperity, shop size and shop type are the most important drivers for choice

GDP per capita

Statistical significance

- ▶ 1-5% level

Direction of impact

- ▶ Positive

Economic importance

- ▶ Large

Floorspace

Statistical significance

- ▶ 1% level

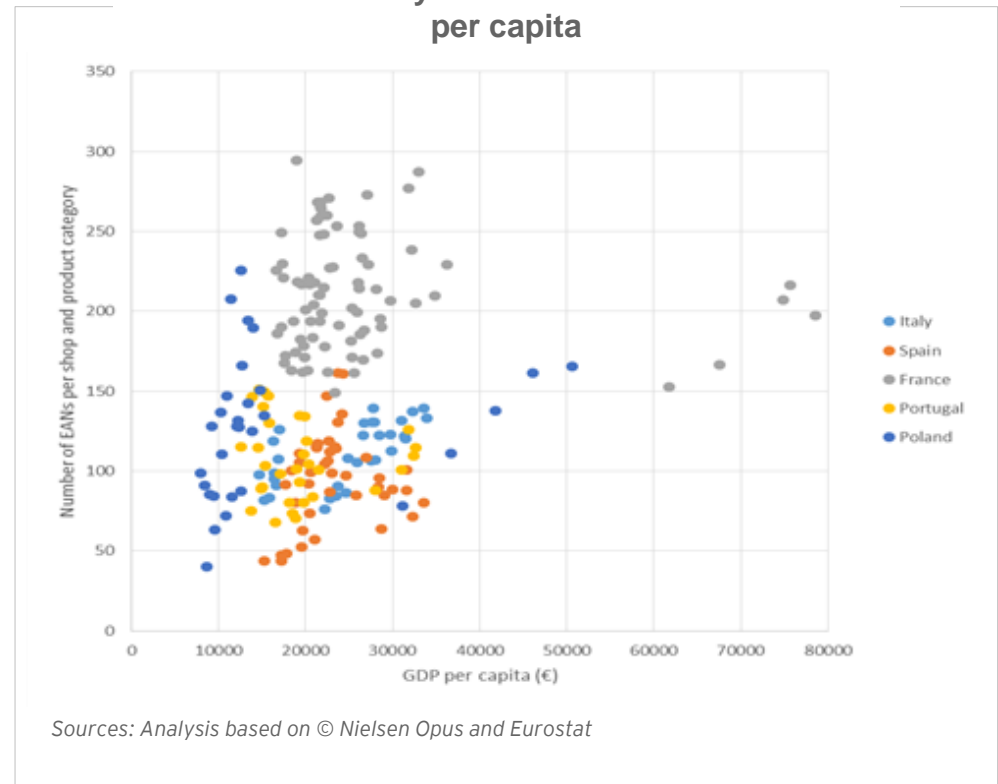
Direction of impact

- ▶ Positive

Economic importance


- ▶ Large

Choice in variety of EAN codes versus GDP per capita



Other drivers have no or low economic impact on choice

Drivers for choice	Product variety			Product size variety			Product supplier variety			Product price variety		
	impact	Signif.	Import	impact	Signif.	Import	impact	Signif.	Import	impact	Signif.	Import
Retail concentration at national level 	▼	✓✓	●●
Retail concentration at local level	▼	✓
Supplier concentration at national level	▲	✓✓
Imbalance between retailers and suppliers at national level	?	✓✓	?	✓✓	●
Private labels (local)	▲	✓✓	..	▲	✓✓	..	▲	✓✓	..	▼	✓✓	..
Unemployment	▲	✓✓	..	▲	✓✓	..	▲	✓✓	..	▼	✓✓	●
Population density	▼	✓✓	●	▼	✓✓	●	▼	✓✓	●	▼	✓✓	..

 Too few observations for conclusions to be drawn with confidence.

Little indication of an impact of national retail concentration on choice

Retail concentration at national level

Very few observations from which to draw conclusions

Statistical significance

- ▶ No, except product price variety

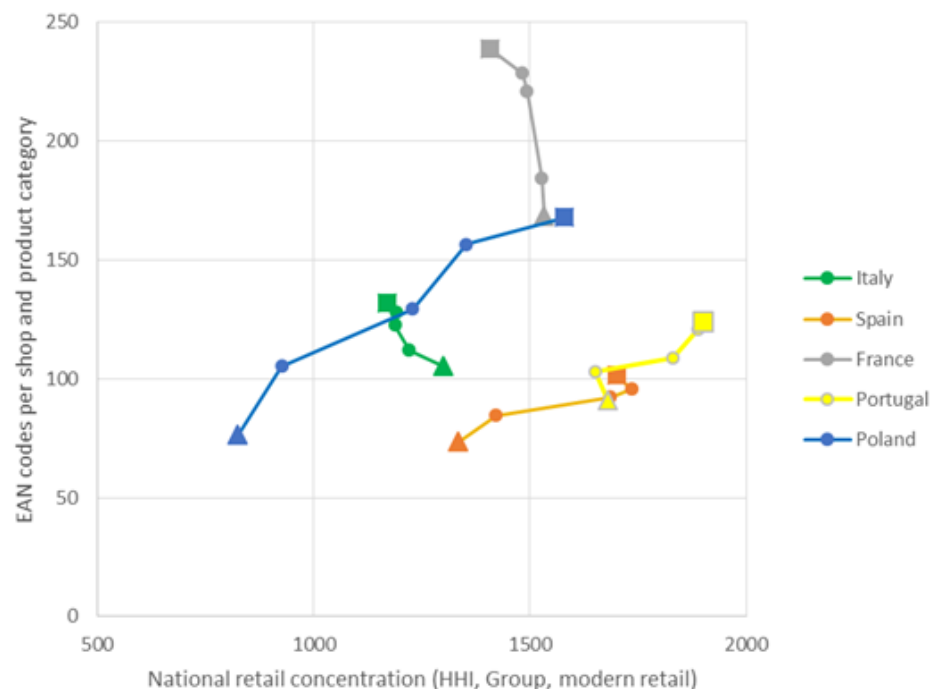
Direction of impact

- ▶ Negative for product price variety

Economic importance

- ▶ Large for product price variety

Choice in variety of EAN codes in the sampled shops versus national retail concentration



Sources: Analysis based on © Nielsen Opus and © Planet Retail

There is no evidence that supplier concentration is an economic driver of choice

Supplier concentration at national level

Statistical significance

- ▶ No (except product size variety)

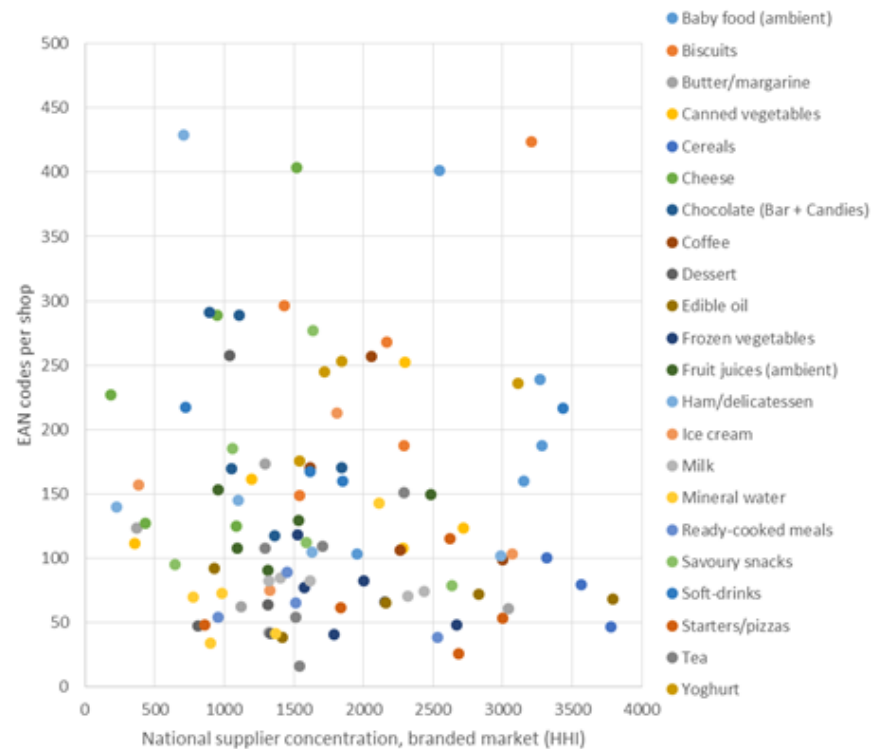
Direction of impact

- ▶ Positive for product size variety

Economic importance

- ▶ Small

Choice in variety of EAN codes versus national supplier concentration by product category, 2008



Sources: Analysis based on © Nielsen Opus and © Euromonitor International

Other econometric results regarding factors driving choice

Population density

Statistical significance

- ▶ 1% level

Direction of impact

- ▶ **Negative**

Economic importance

- ▶ Moderate

Unemployment

Statistical significance

- ▶ Various

Direction of impact

- ▶ **Positive; negative for product price variety**

Economic importance

- ▶ Small

Private labels

Statistical significance

- ▶ 1% level

Direction of impact

- ▶ **Positive**

Economic importance

- ▶ Small

Measure of imbalance between retailers and suppliers at national level

Statistical significance

- ▶ Various

Direction of impact

- ▶ Ambiguous for statistically significant cases

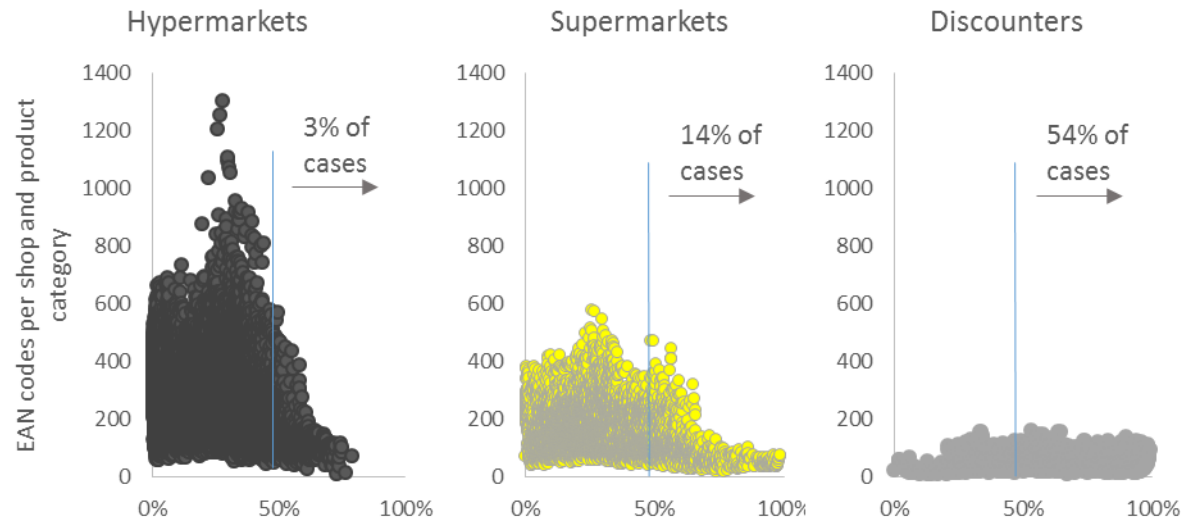
Economic importance

- ▶ Moderate for product price variety

But there is some indication from graphical analysis that high shares of private labels may be associated with less choice in hypermarkets and supermarkets

Share of private labels (in each product category) in each shop

Choice in variety of EAN codes versus private labels share, by shop type



Sources: Analysis based on © Nielsen Opus and © Euromonitor International


Measured impacts on innovation


- ▶ Product category turnover (+)
- ▶ Shop size (+)
- ▶ Shop type (+)
- ▶ New shop opening in the local area (+)
- ▶ Retailers' business expectations (+)
- ▶ Unemployment (-)
- ▶ Population density (-)
- ▶ **Local retailer and supplier concentration (-)**

No or low economic impact on innovation

- ▶ Private labels

Shop size, shop type, retailer business expectations and product category turnover are the most important positive drivers for innovation

Drivers for innovation	Opus innovations			New products			New packaging			New formulations			New line extensions		
	impact	Signif.	Import.	impact	Signif.	Import.	impact	Signif.	Import.	impact	Signif.	Import.	impact	Signif.	Import.
Shop size	▲	✓✓	●●	▲	✓✓	●●	▲	✓✓	●●	▲	✓	●●	▲	✓✓	●●
Shop type	▲	✓✓	N.A.	▲	✓✓	N.A.	▲	✓✓	N.A.	▲	✓✓	N.A.	▲	✓✓	N.A.
Retailer business expectations 	▲	✓✓	●●	?	✓✓	●●	▲	✓✓	●●	▲	✓✓	●	▲	✓✓	●●
Product category turnover	?	✓✓	●●	▲	✓✓	●●	?	✓✓	●●	▲	✓✓	●●

- ▲ Positive impact
- ▼ Negative impact
- ? Where the sign varies according to whether the parameter is estimated over the long or short data sets
- ✓ Significant at 5% level
-  Too few observations for conclusions to be drawn with confidence.
- ✓✓ Significant at 1% level
- Impact of more than 5%
- Impact of more than 10%
- Not statistically significant or economically important according to these thresholds

Shop size, shop type, retailer business expectations and product category turnover are the most important positive drivers for innovation

Shop size

Statistical significance

▶ 1% level

Direction of impact

▶ Positive

Economic importance

▶ Large

Retailer business expectations

Very few observations from which to draw conclusions

Statistical significance

▶ 1% level

Direction of impact

▶ Positive

Economic importance

▶ Large

Shop type

Statistical significance

▶ 1% level

Direction of impact

▶ Positive (larger formats offer a greater number of innovative products)

Economic importance

▶ Large

Opus innovations versus retailer business expectations



Sources: Analysis based on © Nielsen Opus and © Eurostat

Shop size, shop type, retailer business expectations and product category turnover are the most important positive drivers for innovation

Product category turnover

Statistical significance

- ▶ 1% level

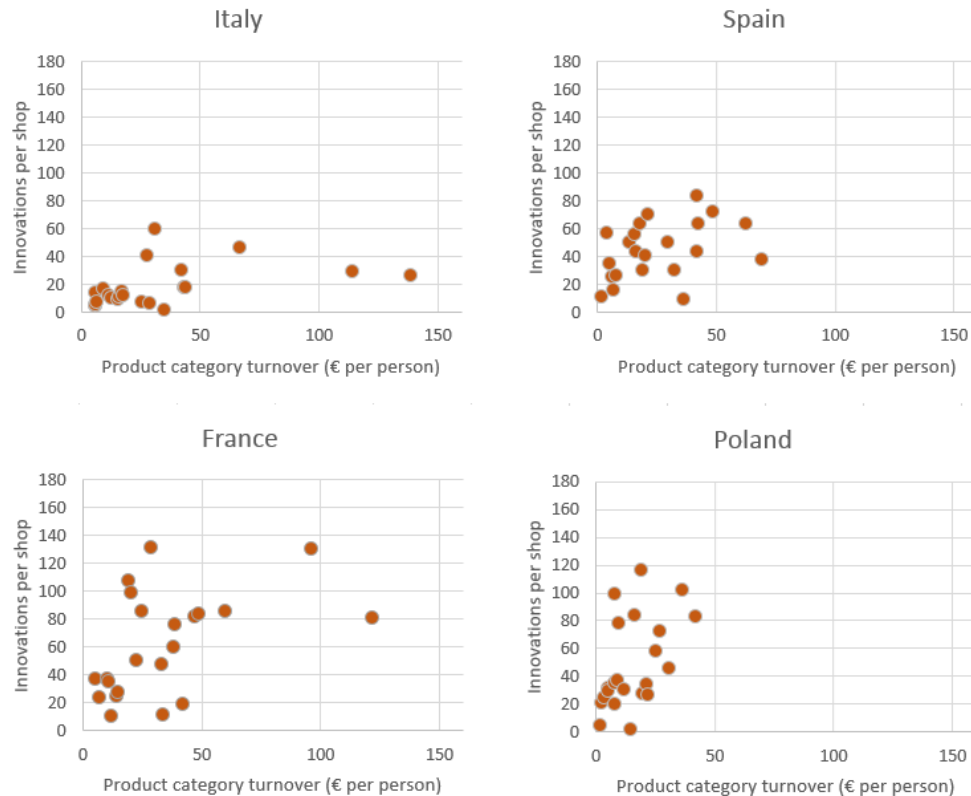
Direction of impact

- ▶ Generally positive

Economic importance

- ▶ Various


New EAN codes (innovations) versus national product category sales turnover in 2010 period 1 in four Member States



Sources: Analysis based on © Nielsen Opus and © Euromonitor International

Other drivers have various impacts on innovation

Drivers for innovation	Opus innovations			New products			New packaging			New formulations			New line extensions		
	impact	Signif.	Import.	impact	Signif.	Import.	impact	Signif.	Import.	impact	Signif.	Import.	impact	Signif.	Import.
Retail concentration at national level	▲	✓✓	●●	▲	✓✓	●●	▼	✓✓	●●	?	✓	●●	▲	✓✓	●●
Retail concentration at local level	▼	✓✓	●●
Supplier concentration at national level	▼	✓✓	●	?	✓✓	●●	▼	✓✓	●●	▼	✓✓	●●
Imbalance between retailers and suppliers at national level	▲	✓✓	●●	▲	✓✓	●●	?	✓✓	●●	▲	✓✓	●●	▲	✓✓	●●
Private labels	▲	✓✓	▼	✓	..
New shop opening in the local area	▲	✓✓	●●

 Too few observations for conclusions to be drawn with confidence.

Greater concentration among retailers at a local level is associated with less innovation in new packaging

Retailer concentration at the procurement level

Very few observations from which to draw conclusions

Statistical significance

▶ 1%

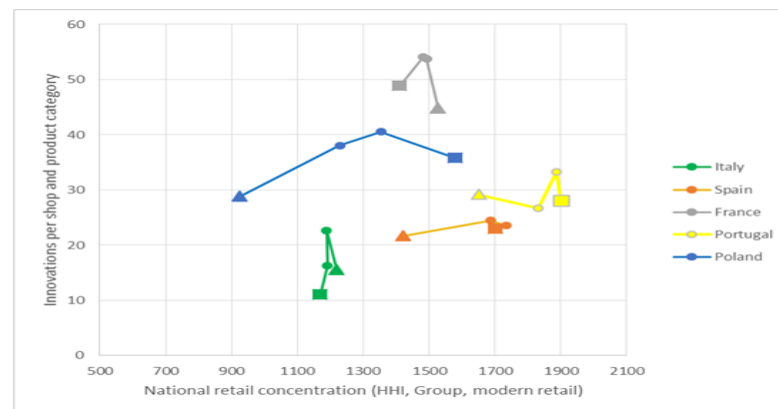
Direction of impact

▶ Positive except for new packaging (negative) and new formulations (ambiguous)

Economic importance

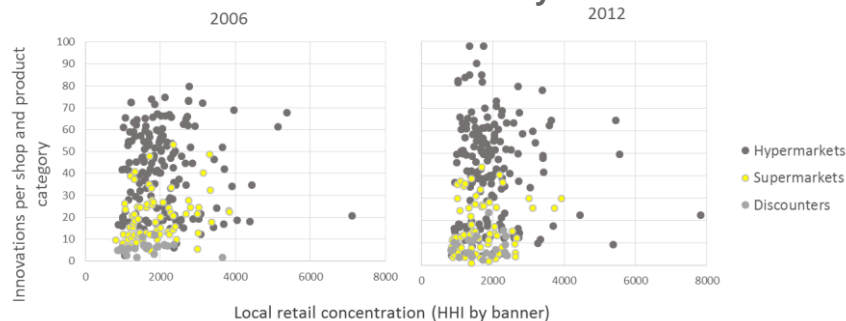
▶ Large (for modern retail measure)

New EAN codes (innovation) versus national retail concentration



Source: Analysis based on © Nielsen Opus and © Planet Retail

New EAN codes (innovation) versus local retail concentration in two years



Sources: Analysis based on © Nielsen Opus and © Nielsen Trade Dimensions

Retailer concentration at the local level

Statistical significance

▶ No (except for new packaging)

Direction of impact

▶ Negative

Economic importance

▶ Large for new packaging

Greater concentration among suppliers at national level is associated with less innovation (some measures)

Supplier concentration at the national level

Statistical significance

- ▶ 1% for several innovation indicators

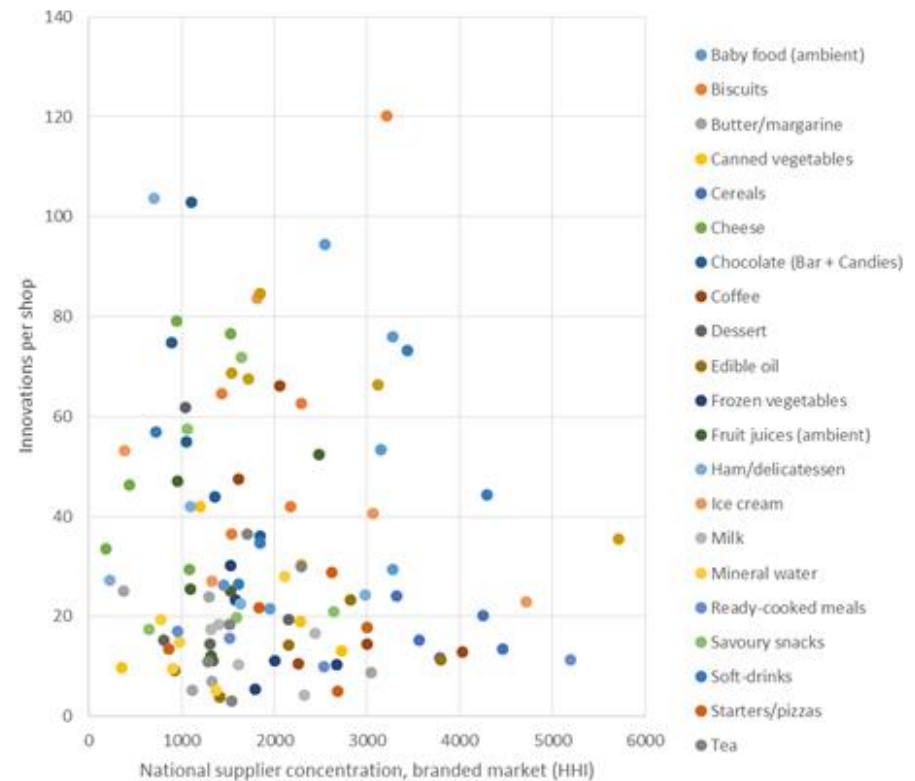
Direction of impact

- ▶ **Mostly negative**

Economic importance

- ▶ Moderate to large

Opus innovations versus national supplier concentration by product category, 2008



Sources: Analysis based on © Nielsen Opus and © Euromonitor International

The finding for supplier concentration is also reflected in the finding for retailer – supplier imbalance

Imbalance between retailers and suppliers at national level

Statistical significance

- ▶ 1% for most innovation indicators

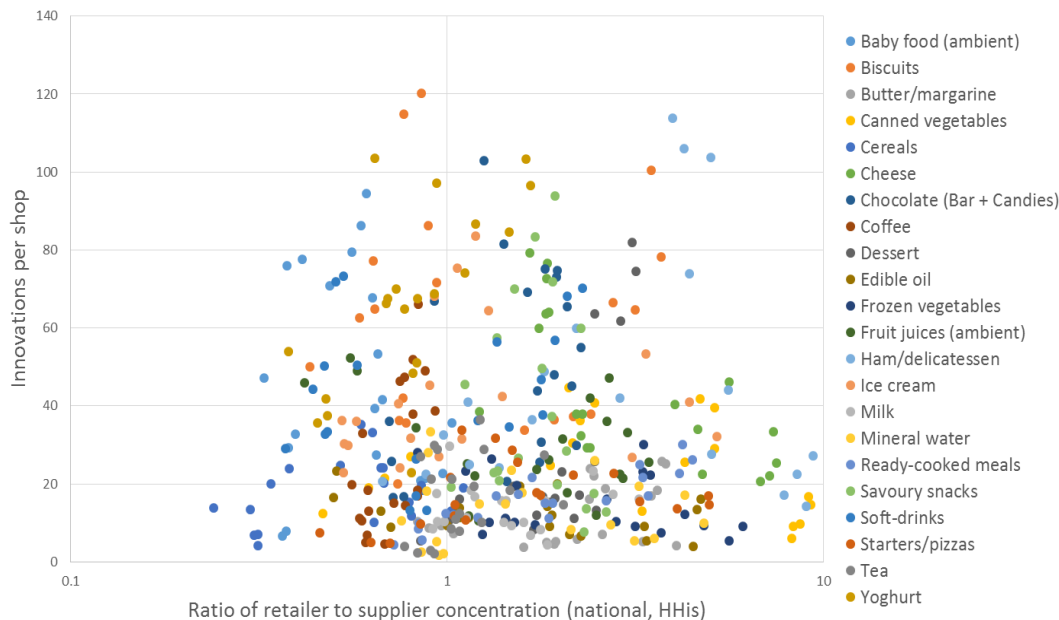
Direction of impact

- ▶ **Positive** (i.e. a greater imbalance in favour of suppliers has a negative impact) (except new packaging where ambiguous)
- ▶ But remember that the sample does not have cases with high national retail concentration

Economic importance

- ▶ Generally large

Choice in variety of EAN codes versus imbalance between retailers and suppliers



Sources: Analysis based on © Nielsen Opus and © Euromonitor International

Other general economic drivers have low or negative impact on innovation

Drivers for innovation	Opus innovations			New products			New packaging			New formulations			New line extensions		
	impact	Signif.	Import.	impact	Signif.	Import.	impact	Signif.	Import.	impact	Signif.	Import.	impact	Signif.	Import.
Unemployment	▼	✓✓	●●	▼	✓✓	●●	▲	✓✓	●●	▼	✓✓	●●
Population		▲	✓	●
Population density		▼	✓✓	●●	▼	✓✓	●●

The rate of unemployment in the region has a generally important negative impact on innovation

Unemployment

Statistical significance

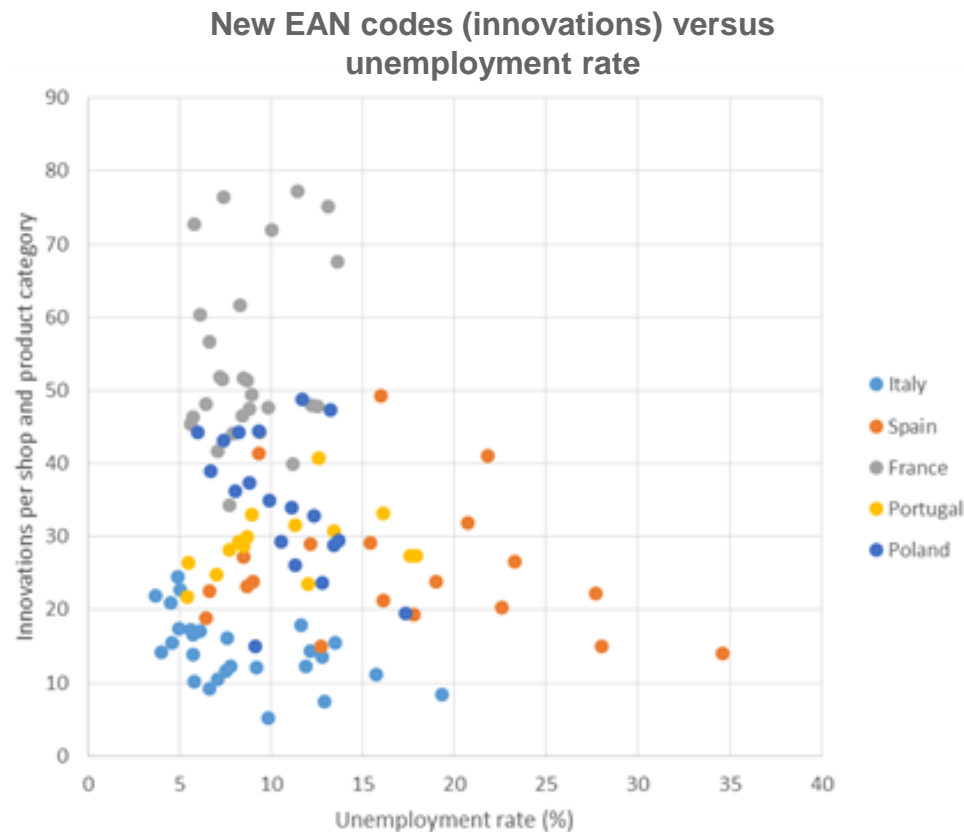
- ▶ 1% level (in long data set)

Direction of impact

- ▶ **Negative (in long data set)**

Economic importance

- ▶ Large



Sources: Analysis based on © Nielsen Opus and © Eurostat

Other econometric results regarding factors driving innovation

Population and population density

Statistical significance

- ▶ 1% (for population density for new packaging and new formulations)

Direction of impact

- ▶ **Negative (in those cases)**

Economic importance

- ▶ Large (in those cases)

Private labels

Statistical significance

- ▶ 1% level for a few cases

Direction of impact

- ▶ No consistent direction found

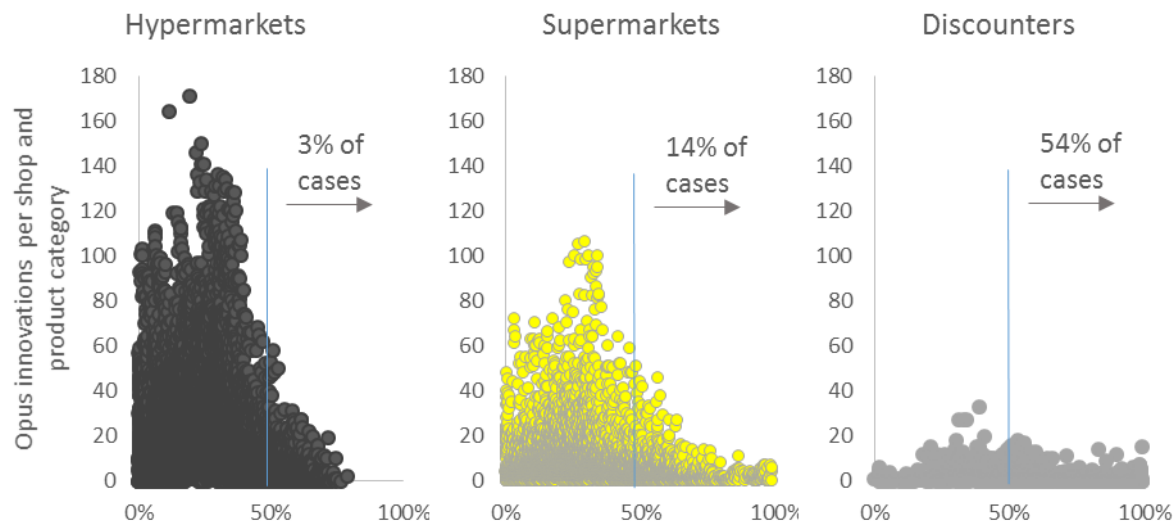
Economic importance

- ▶ Small

But there is some indication from graphical analysis that high shares of private labels may be associated with less innovation in hypermarkets and supermarkets

Share of private labels (in each product category) in each shop

New EAN codes (innovations) versus private labels share, by shop type



Sources: Analysis based on © Nielsen Opus and © Euromonitor International



QUESTIONS



4. Presentation of the case studies

Objectives of the case studies

A

Broaden the scope of coverage in the study

B

Provide concrete examples of how and why certain drivers impact choice and product innovation

C

Investigate the impact of sector/supply chain characteristics on choice and product innovation



Our approach

Case study design: combination of product / country

Three EAN barcode product categories



in Finland



in the Netherlands



in Spain

Three non-EAN barcode product categories



in France



in Belgium



in Germany

Case study selection: rationale

- ▶ Above average product consumption and production
- ▶ Economic significance of the industry
 - ▶ Domestic market / trade
- ▶ Diversity in supply chain organisation including
 - ▶ Different levels of upstream concentration
 - ▶ Different levels of vertical integration / coordination across the supply chain
- ▶ Include high levels of retail concentration and high levels of supplier concentration
- ▶ Closer link to the agricultural level

Key research questions

The supply chain

1. What does the supply chain for each product type look like in each Member State from farm to retail?
2. Who are the main actors that drive choice and innovation for each product type?
3. What are the relations between upstream suppliers throughout the supply chain and retailers ?

Choice and innovation

1. What are the **characteristics** of choice and innovation per product and in each Member State?
2. Which level of the chain is driving innovation?
3. How have choice and innovation **evolved** over the last decade ?
4. What are the key **drivers and obstacles** to choice and innovation for each product and Member State?

Case study research

1. Describe context and trends
 - ▶ Existing market studies
 - ▶ Academic work
 - ▶ Brief discussions with trade associations
2. Identify specific topics
3. Describe supply chain including route to market for new products
4. Interview main stakeholders
 - ▶ 3-5 suppliers
 - ▶ 4-5 retailers
 - ▶ 1-2 group purchasing organisations
 - ▶ Consumer association
 - ▶ Other (e.g. authority, researchers where relevant)
5. Analysis
6. Reporting



Key conclusions

Key conclusions

1. Choice has generally increased
2. Innovation has generally been stable or positive
3. Innovation increases due to upstream supply organisation and consolidation
4. Increased choice through innovation, retailer competition and the need for lower consumer prices



Market & supply chain overview

Overview of key market drivers (1/2)

Belgium Fresh tomatoes

- ▶ **Stable/declining production**
 - ▶ Large seasonal import/export volumes
- ▶ **Producer organisations, united under VBT-LAVA**
 - ▶ All tomato farmers in BE must be members of PO
- ▶ Sale through auction or contract

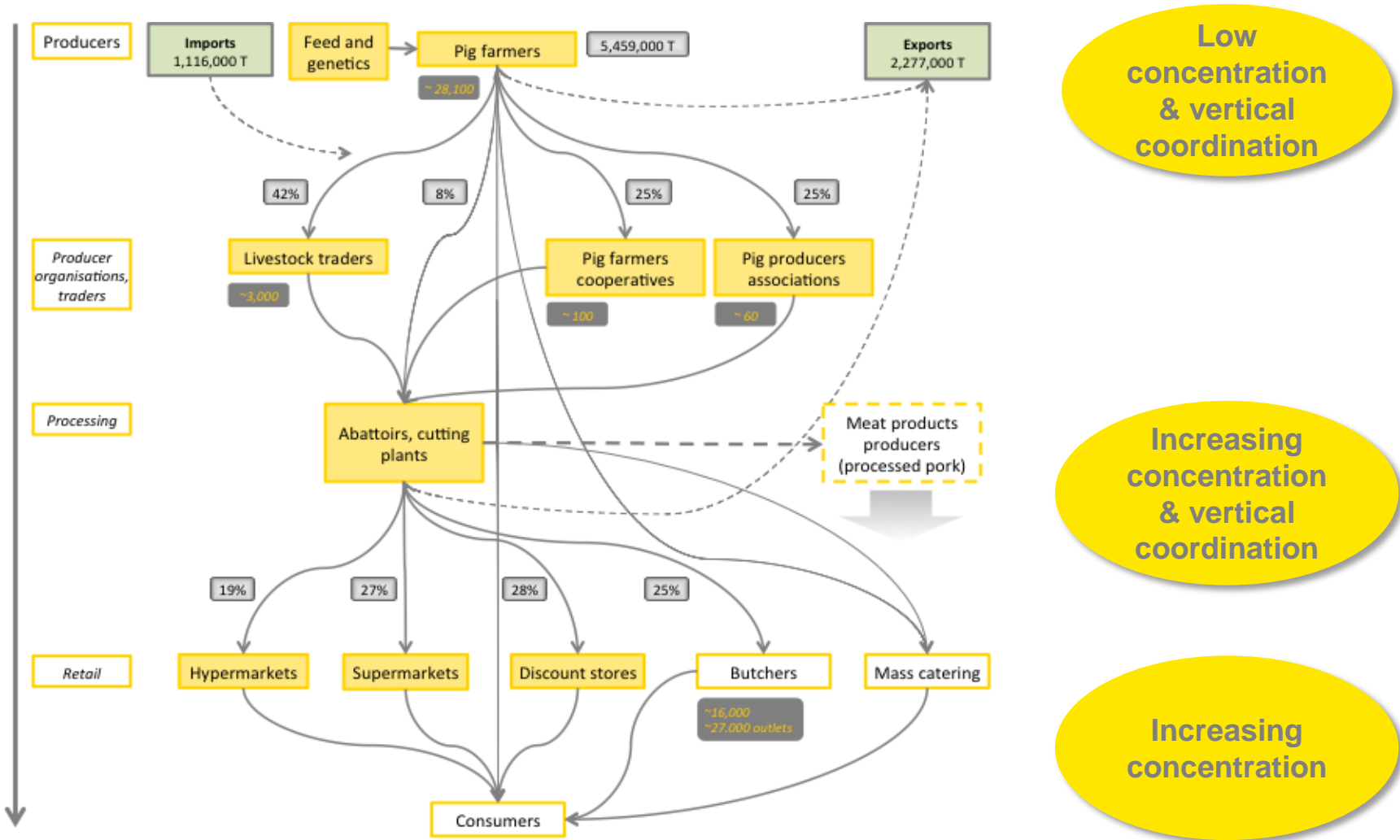
France Apples

- ▶ **Stable production**
 - ▶ Third largest producer in the EU
- ▶ Organised into **producer organisations**
- ▶ Existence of vertically integrated “**clubs**” of breeders, producers and traders to promote a single variety

Germany Fresh pork

- ▶ **Largest producer and consumer in EU**
 - ▶ Large share of domestic production is exported
- ▶ **Decline in consumption of pork meat**
- ▶ Retail driven by **discounters**

Example supply chain: pork in Germany



Overview of key market drivers (2/2)

Spain Olive oil

- ▶ **Largest producer** in world
 - ▶ >50% of domestic production exported
- ▶ Increasing **concentration** among cooperatives
- ▶ Strong pressure on **price** by retailers

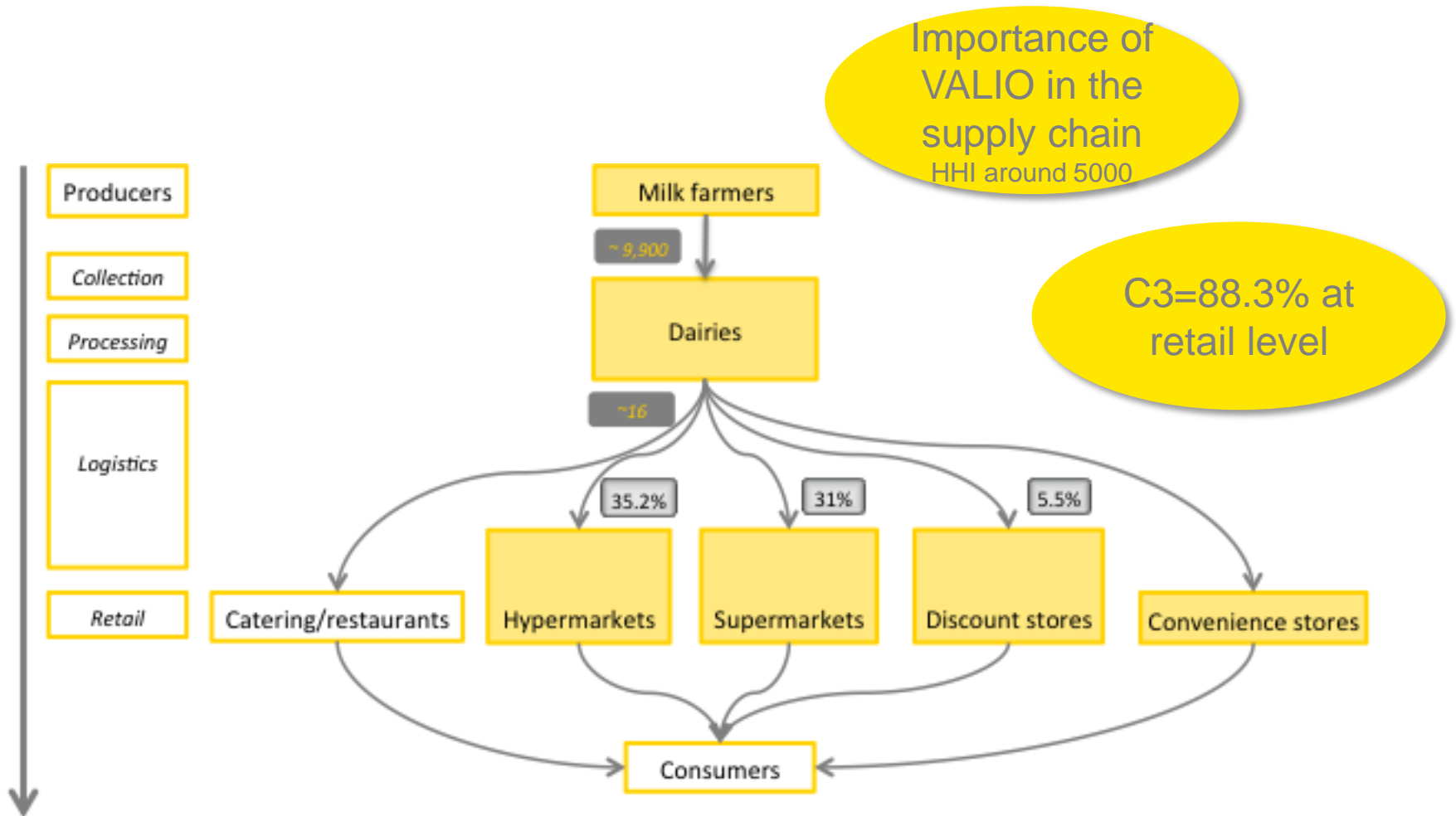
Finland Milk

- ▶ Very high **domestic demand**
- ▶ Growing market size due to higher milk price & **premium products**
 - ▶ Mainly domestic raw milk
- ▶ Highly **concentrated**
 - ▶ Supply chain (Valio)
 - ▶ Retail (most concentrated in Eurozone)

The Netherlands Cheese

- ▶ One of largest producers in the EU
 - ▶ Second largest exporter in EU (more than 60% of production)
- ▶ High domestic consumption
- ▶ High **vertical integration & organisation**
 - ▶ 7 dairies producing cheese including Friesland Campina
- ▶ High retail **concentration**

Example supply chain: milk in Finland





Consumer choice

Choice has generally increased

Product category	Level of choice (current)	Evolution of choice over time
Milk in Finland	High	→
Pork in Germany	Low	↗
Tomato in Belgium	Medium	↗
Cheese in the Netherlands	High	→
Apple in France	Medium	↗
Olive oil in Spain	High	↗

Key characteristics of consumer choice (1/2)

Belgium Fresh tomatoes

- ▶ **Medium-high level of choice**
 - ▶ Legal & commercial categorisations
 - ▶ Packaging and presentation
 - ▶ Production method
 - ▶ Variety
- ▶ Low development of private labels
- ▶ **POs consider the number of varieties too high**

France Apples

- ▶ **Medium level of choice**
 - ▶ Colour, variety, size, packaging, quality, price
 - ▶ Origin, cultivation technique, use segmentation
- ▶ **But consumers can only remember an average of 5 variety names**

Germany Fresh pork

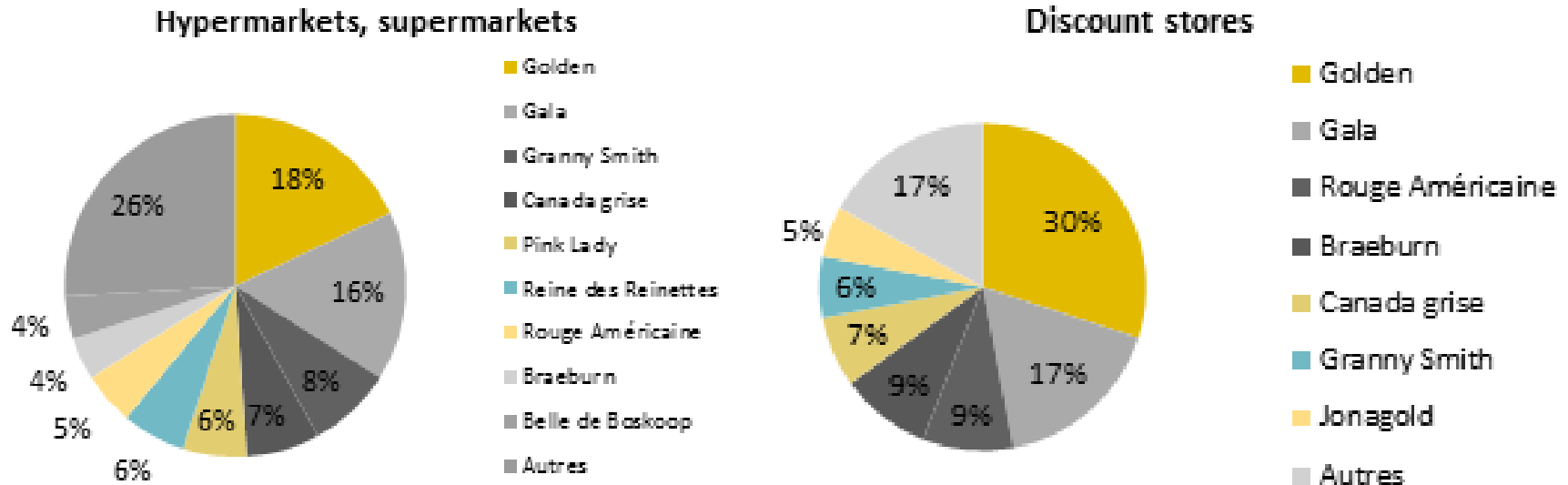
- ▶ **Relatively low level of choice**
 - ▶ Packaged and non-packaged options,
 - ▶ Availability of different cuts, grades, packaging options, brands, and prices
- ▶ Private-label domination of the market
- ▶ **Over the counter seen as necessary to bring in customers, profits lie in pre-packaged**

Example: Typical number of tomato varieties available in different retail outlets in Belgium

RETAILER	CUSTOMER PROFILE	N° VARIETIES ON SHELVES
CARREFOUR	All consumer segments	+ 30 , i.e. all available
DELHAIZE	Urban, mid-upper income	+ 20, of which 15 specialties
COLRUYT	Sustainability-minded, price-sensitive consumers	+ 15, of which 11 small ones
ALDI	Low-mid income	Max 3

Source: VBT + Interviews + Shop visits

Example: Apple varieties observed on shelves in hypermarkets / supermarket and discount stores in France



Source: SNM, L'offre en pomme au stade détail en 2008

Key characteristics of consumer choice(2/2)

Spain Olive oil

- ▶ **Wide range** of products differentiated by
 - ▶ Type of oil
 - ▶ Variety of olives
 - ▶ Volume and packaging
 - ▶ Brand / Private label
 - ▶ Price
- ▶ Used as a **'hook'** by retailers to get customers through the door

Finland Milk

- ▶ **Wide range** of products including
 - ▶ 'Standard' milk products
 - ▶ Flavoured,
 - ▶ Nutrients
 - ▶ functional milk products
- ▶ Relatively low number of suppliers or price points
- ▶ Long **lead times** for new products to enter market

The Netherlands Cheese

- ▶ **Wide range** of products including different
 - ▶ Types of cheese
 - ▶ Brands
 - ▶ Traditional / new
 - ▶ Private labels
 - ▶ Packaging
 - ▶ Imported / domestic
 - ▶ Prices
- ▶ **Some retailers consider choice as "too high" / confusing**

Evolution of consumer choice

Belgium Fresh tomatoes

- ▶ Significant **increase** nationally
 - ▶ Evolution in types, packaging & presentation
- ▶ Share of **specialty tomatoes** to increase further

France Apples

- ▶ **Increase** in varieties and packaging nationally
 - ▶ But at local level choice stable due to **shelf space limits**
- ▶ **Cannibalisation** between SKUs for end consumers

Germany Fresh pork

- ▶ **Increase** in choice nationally thanks to
 - ▶ growing popularity of packaged pork
 - ▶ high **price sensitivity** (70% sold as price promotions)

Spain Olive oil

- ▶ **Increase** through more variety in quality nationally
 - ▶ Strong premiumisation strategy
 - ▶ Packaging options have increased

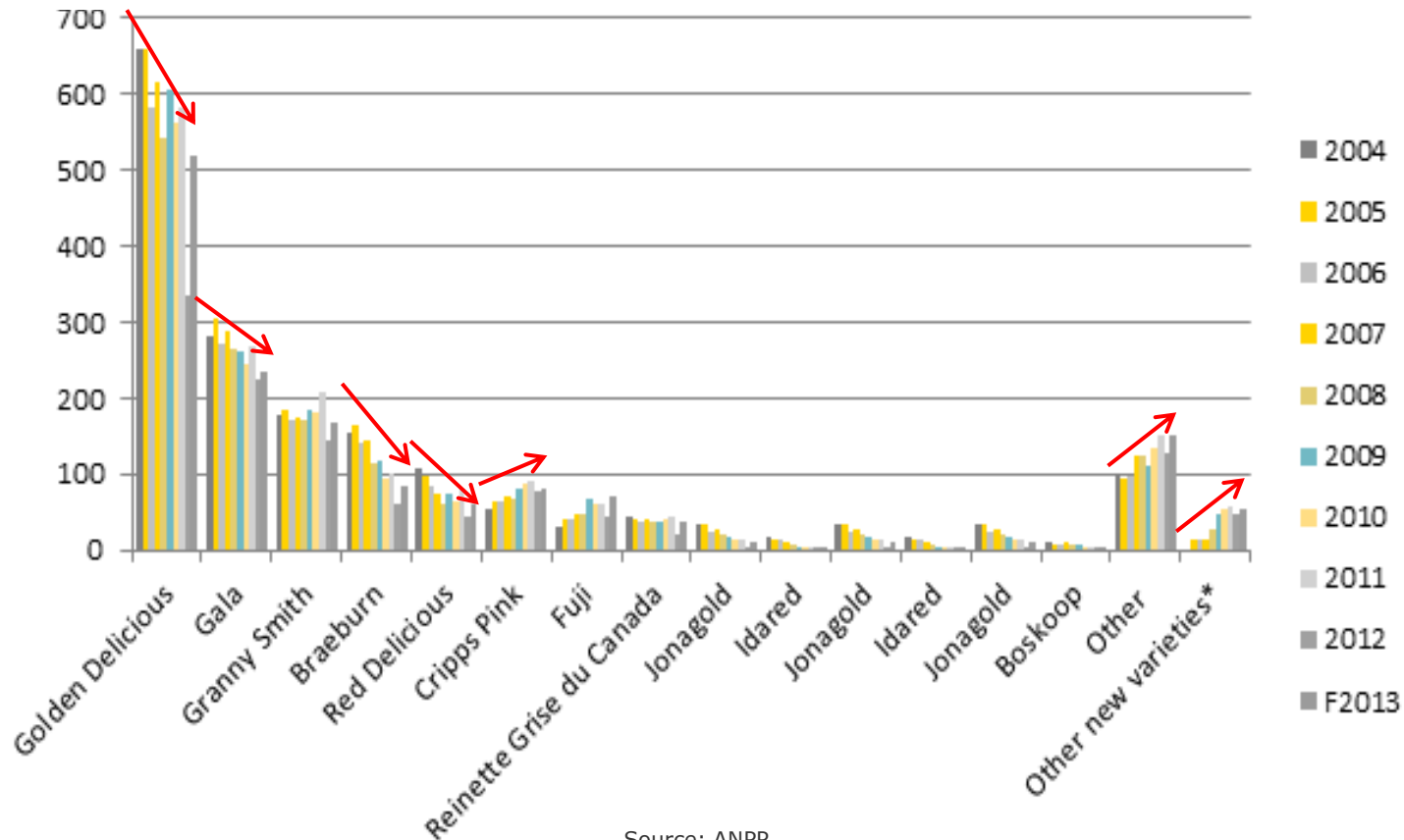
Finland Milk

- ▶ **Stable** level of choice nationally
 - ▶ No new entrants but private labels provide **additional price points**

The Netherlands Cheese

- ▶ High and **stable** number of brands/products nationally
 - ▶ About 30% branded, 40% private label, 30% imported

Example: Evolution of apples production by variety, from 2004 to 2013 (estimated data for 2013) in France



Determinants of consumer choice

Belgium Fresh tomatoes

- ▶ Retailer shelf space management
- ▶ CAP regime structures production
- ▶ Consumer interest in specialty tomatoes

France Apples

- ▶ Producer search for added value and higher profits
- ▶ Dietary habits

Germany Fresh pork

- ▶ Little differentiation and branding leads to
 - ▶ Increase in packaged product
 - ▶ meat counters to differentiate offers

Spain Olive oil

- ▶ Increasing competition
- ▶ Shop size and shop type
- ▶ Investment in marketing to increase perceived added value
- ▶ High share of **private labels** (>50%)

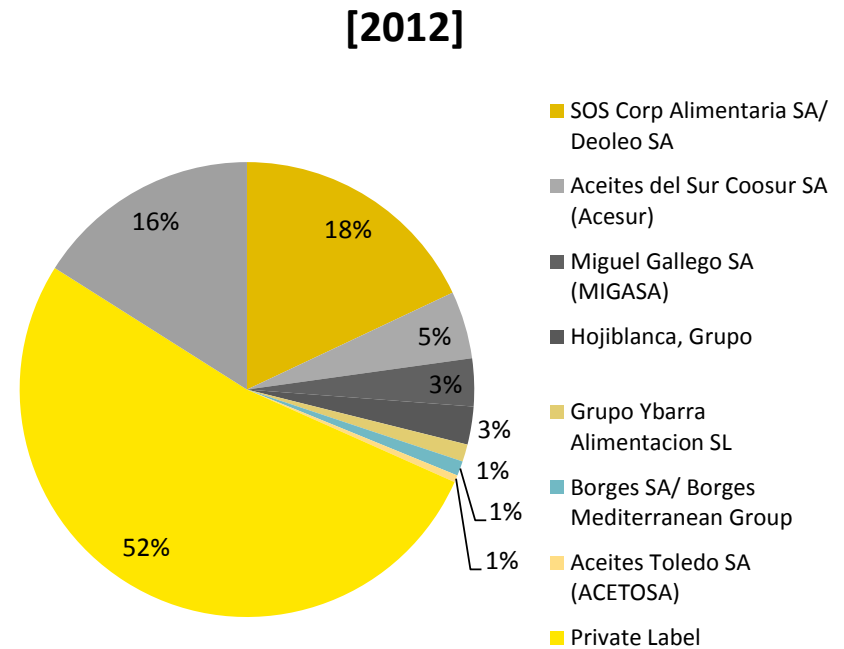
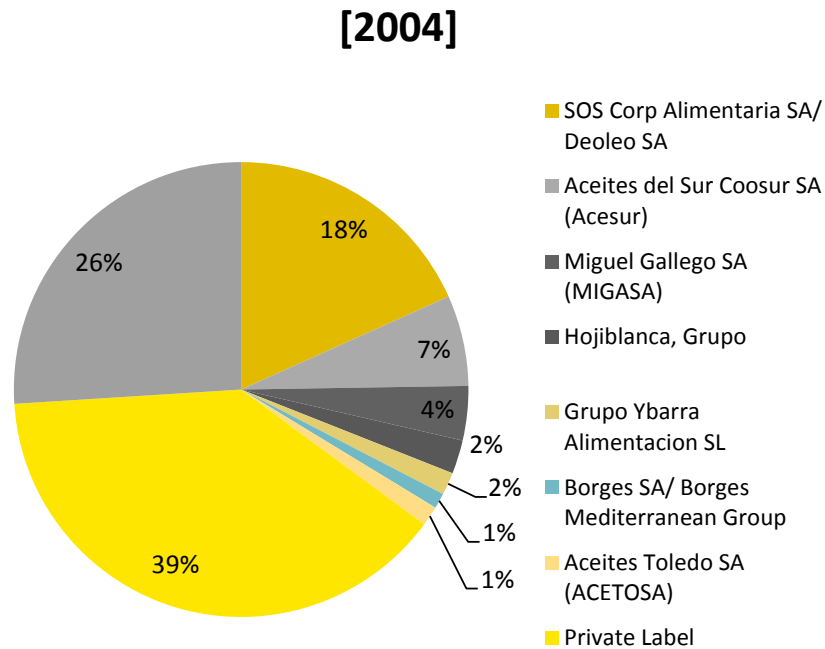
Finland Milk

- ▶ Largest supplier (Valio) operates 10% renewal rate per year
- ▶ 50% of product launches considered successful
- ▶ Rising share of **private labels** (11%)

The Netherlands Cheese

- ▶ Increasing share of **private labels** (32.5%)
- ▶ Limited shelf space
- ▶ Changes in consumer behaviour, preferences and expectations

Example: Brand sale share and evolution for olive oil in Spain





Product innovation

Innovation has generally been stable or positive

Product category	Level of innovation (innovation rate)	Evolution of innovation over time
Milk in Finland	High	→
Pork in Germany	Low	↗
Tomato in Belgium	Medium	↗
Cheese in the Netherlands	High	↗
Apple in France	Low	↗
Olive oil in Spain	High	↗

Innovation characteristics

Belgium Fresh tomatoes

- ▶ Packaging
- ▶ Marketing
- ▶ Product (varieties and types)

France Apples

- ▶ Distinctive variety
- ▶ Packaging
- ▶ Marketing
- ▶ Cultivation techniques

Germany Fresh pork

- ▶ Most product innovations are packaging innovations
 - ▶ Niche innovations include meat characteristics & cuts

Spain Olive oil

- ▶ New products (57%)
- ▶ New variety / range extension (25%)
- ▶ Packaging (18%)

Finland Milk

- ▶ New products (e.g. functional products): 49%
- ▶ Product extensions, varieties: 38%
- ▶ Packaging: 12%

The Netherlands Cheese

- ▶ New products: 44%
- ▶ Product varieties and range extensions: 32%
- ▶ Packaging: 19%

Example: Pink Lady club apple

▶ Main dates:

- ▶ 1973: development of new Cripps Pink variety, by hybridization from Golden Delicious and Lady Williams, by the Australian breeder Apple and Pear Australia Limited and the Department of Agriculture of Western Australia
- ▶ 1988-1991: experiments to acclimatize the variety in South of France
- ▶ 1992: the breeder Star Fruits® obtains exploitation rights for Cripps Pink variety and for Pink Lady® brand for Western Europe, North Africa and Middle-East
- ▶ 1993: first sales of Pink Lady® in France
- ▶ 1994: Star Fruits® accredited 3 traders: Cardell, Fruivial and Gerfruit
- ▶ 1995: first tree plantations
- ▶ 1997: creation of Association Pink Lady® Europe (APLE)
- ▶ 2000: Star Fruits® obtains exclusive rights for Europe
- ▶ 2003: 15 traders, 2800 producers in France, Spain and Italy

Innovation evolution

Belgium Fresh tomatoes

- ▶ Variety improvement (genetic product innovation)
- ▶ Visual appeal of assortment
- ▶ New plastic containers

France Apples

- ▶ Club apples have marked a turning point: Pink Lady, Jazz, etc.
- ▶ Sharing risks and controlling value chain, clubs push innovation to shelves
- ▶ Blend of marketing, product & organisational innovation

Germany Fresh pork

- ▶ Low degree of product innovation (primary process innovation oriented).
- ▶ Recent innovations include “convenience” items using cuts or seasoning to reduce preparation time.

Spain Olive oil

- ▶ Strong innovation in packaging, in sizes, shape and materials used
- ▶ Innovation in marketing to accompany the premiumisation strategy

Finland Milk

- ▶ High overall level of innovation
- ▶ No change in rate of innovation
- ▶ Focus on premium market

The Netherlands Cheese

- ▶ Innovation culture in Dutch Food Valley
- ▶ Increasing innovation levels

Determinants of innovation

Belgium Fresh tomatoes

- ▶ Commercial strategies of retail
- ▶ Breeding progress by seed companies.
- ▶ Greater profitability in new products (especially for retailers)
- ▶ Scale economics and competition among farmers

Spain Olive oil

- ▶ Competition amongst producers – need for differentiation
- ▶ Price pressure on refined oil
- ▶ Easier access to new process technology

France Apples

- ▶ Development of apples with better agronomic qualities
- ▶ Search for added value and profits at different levels of the value chain
- ▶ Share risks

Finland Milk

- ▶ Consumer trends demand, including health / diet
- ▶ Regulation around health claims for functional milk products
- ▶ High R&D spend by largest processor (Valio)

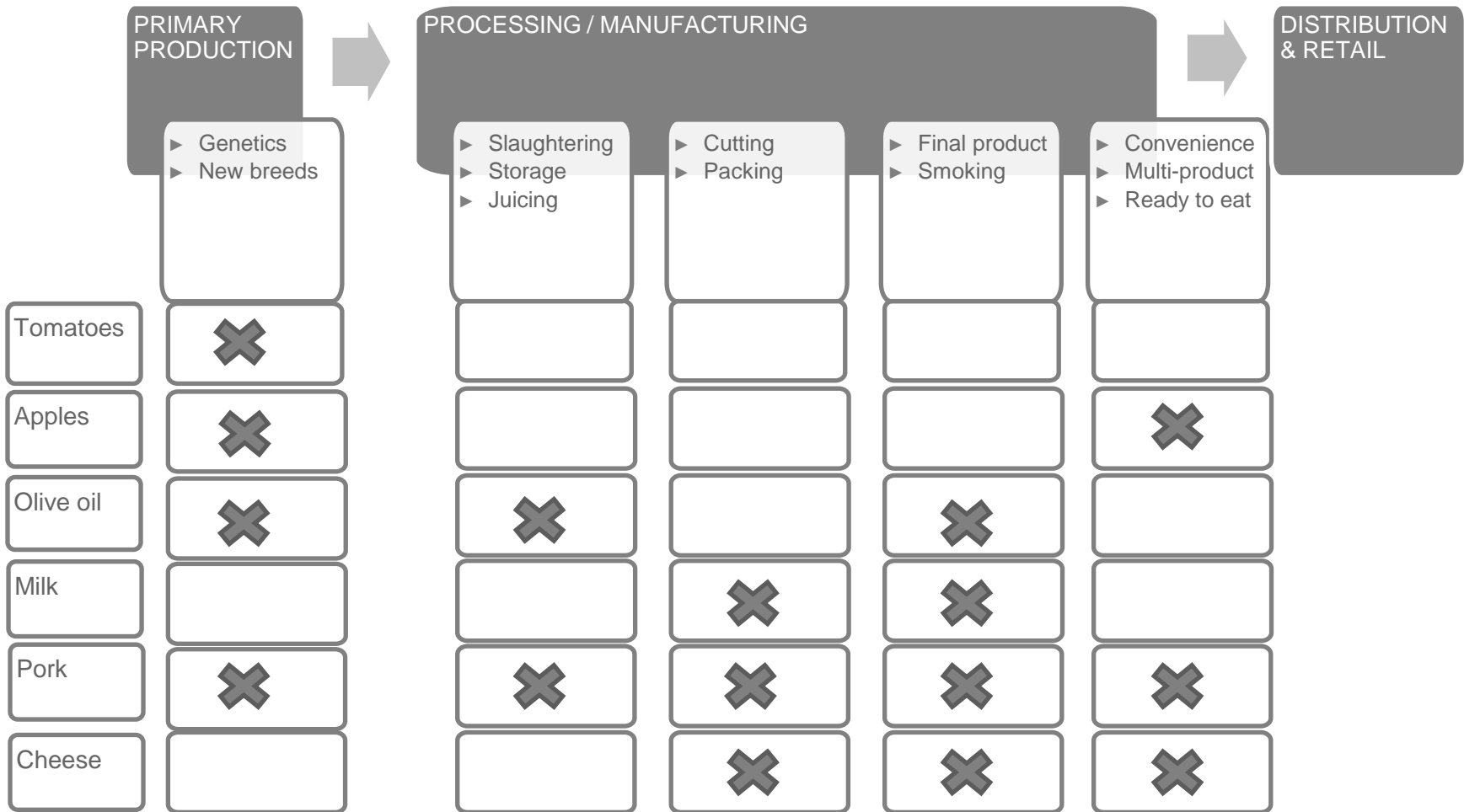
Germany Fresh pork

- ▶ Price considerations for meat packaging
- ▶ Price sensitivity of consumers

The Netherlands Cheese

- ▶ Consumer demand (incl China)
- ▶ Competitiveness need & high cost in NL
- ▶ Retail concentration and private labels could have negative impact

Where does INNOVATION take place



Key conclusions

1. Choice has generally increased
 - ▶ Consistent with econometric results
 - ▶ But the level and evolution of choice is very contingent on product / country contexts
2. Innovation has generally been stable or positive
 - ▶ Generally consistent with econometric results
 - ▶ But the cases offer more in-depth information at a single point in time rather than a precise evolution over time
3. There is evidence in some cases that closer coordination within the supply chain facilitates innovation
 - ▶ Suggests that resources and bargaining power in the supply chain can be a determining factor for innovation
4. Increased choice through innovation, retailer competition and the need for lower consumer prices
 - ▶ Pricing is a key element in defining choice
5. The case studies emphasise the need to:
 - ▶ Analyse the specificities of the supply chain and the national and product context
 - ▶ Consider market-level factors in the analysis



QUESTIONS



5. Annexes

The study on choice and innovation in local CSAs covers 23 product categories

Savoury Grocery	Sweet Grocery	Fresh dairy
<ul style="list-style-type: none"> ▶ Edible oil ▶ Savoury snacks ▶ Canned vegetables ▶ Baby food 	<ul style="list-style-type: none"> ▶ Chocolate ▶ Coffee ▶ Tea ▶ Cereals ▶ Biscuits 	<ul style="list-style-type: none"> ▶ Yoghurt ▶ Desserts ▶ Cheese ▶ Milk

Savoury Frozen	Beverage	Fresh non dairy	Sweet Frozen
<ul style="list-style-type: none"> ▶ Ready-cooked meals ▶ Starters/Pizzas ▶ Frozen Vegetables 	<ul style="list-style-type: none"> ▶ Mineral water ▶ Fruit juice ▶ Soft drinks 	<ul style="list-style-type: none"> ▶ Butter/Margarine ▶ Fresh pre-packed bread ▶ Ham/Delicatessen 	<ul style="list-style-type: none"> ▶ Ice-cream

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