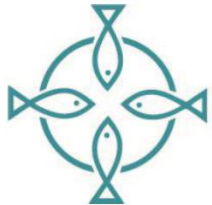




The Rise of Alternative Proteins: A Market overview

RaboResearch Food & Agribusiness



Beyhan de Jong – October, 2019



Rabobank: Globally leading food and agribusiness lender and financial services provider



46 Countries

Over 600 Offices

Over 50,000 Employees

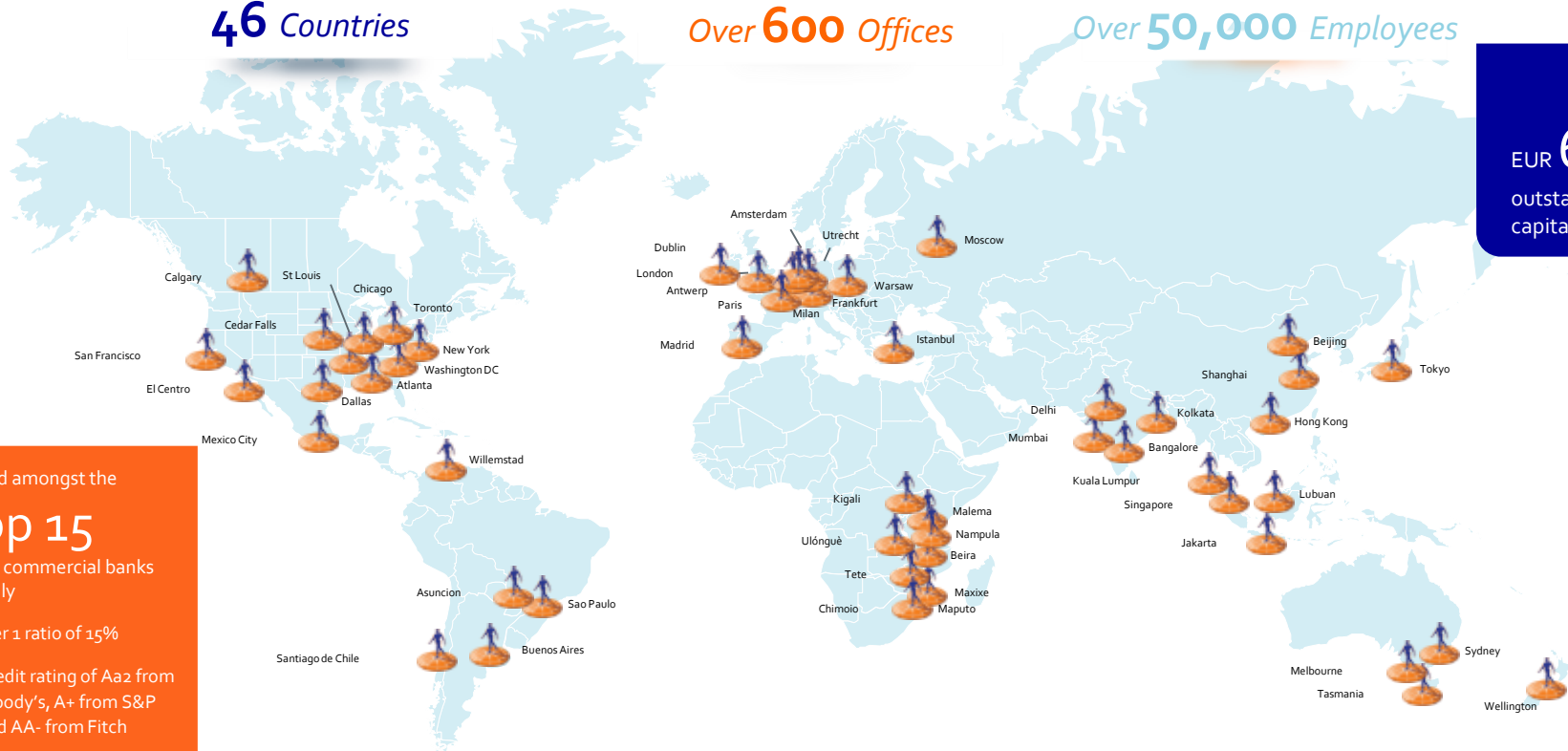
EUR **623bn**
outstanding
capital

ranked amongst the

Top 15

safest commercial banks
globally

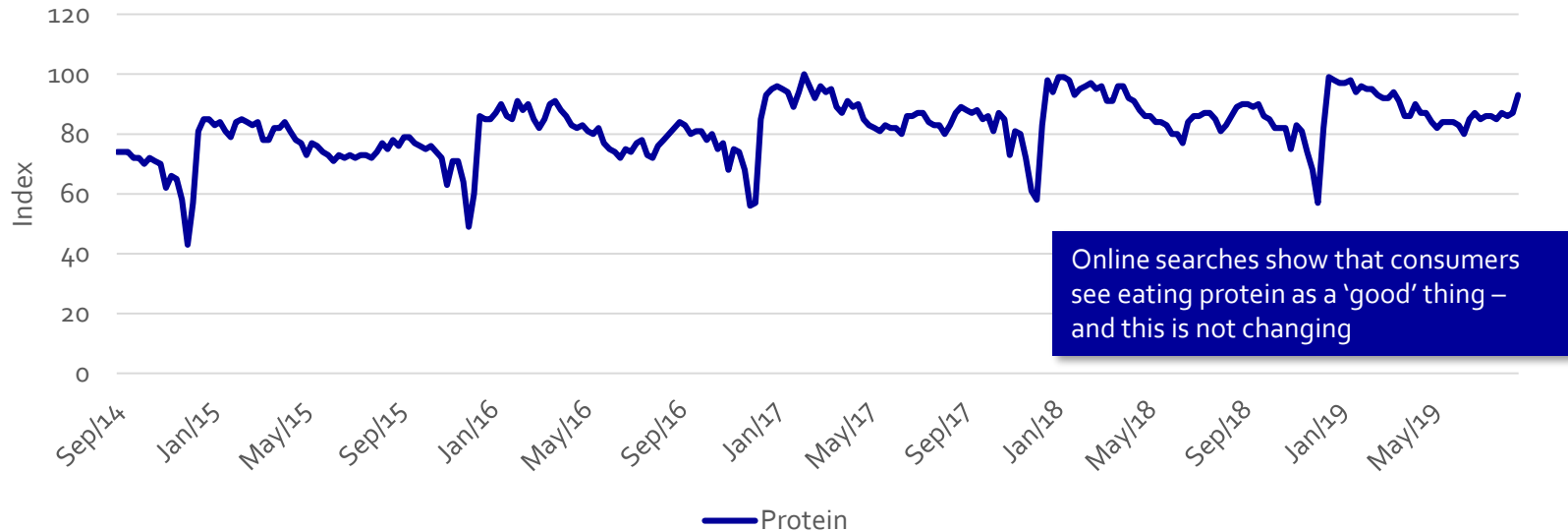
- Tier 1 ratio of 15%
- Credit rating of Aa2 from Moody's, A+ from S&P and AA- from Fitch



Consumers remain switched on to protein...



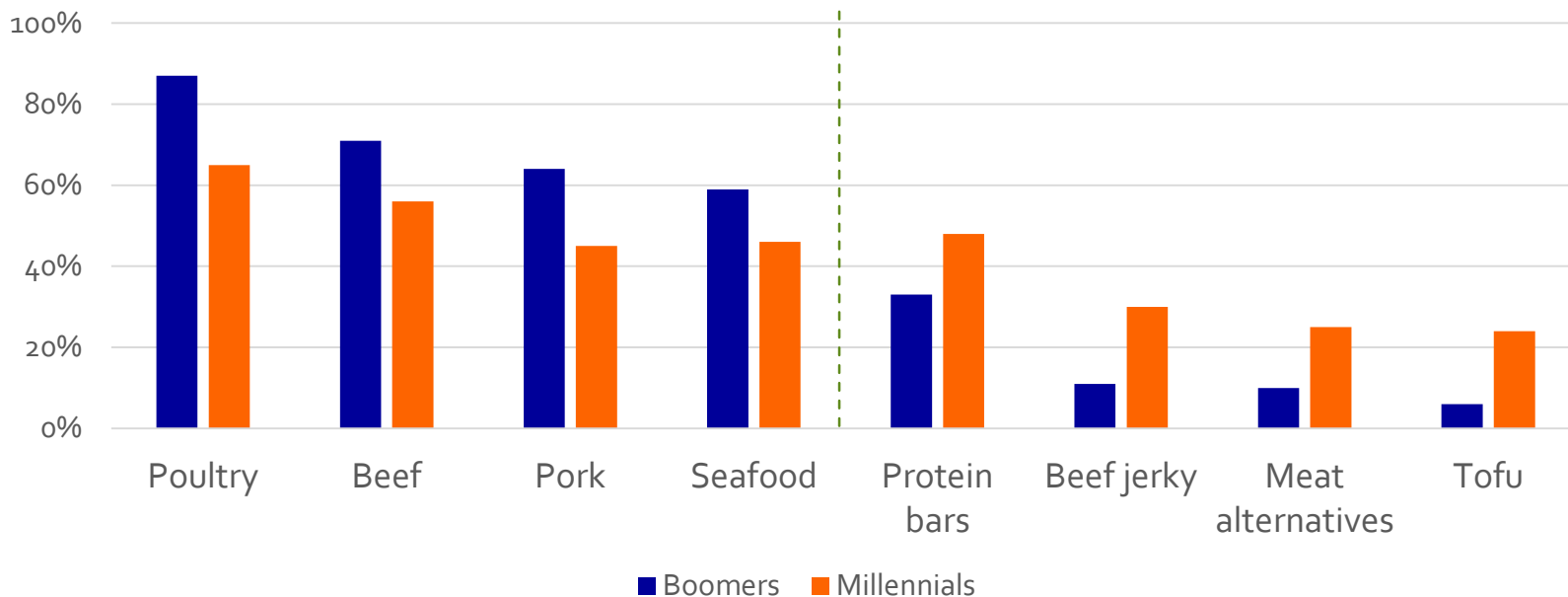
Like clockwork, every year consumers think of protein as one of their good intentions for the year ahead



...but protein preferences are changing

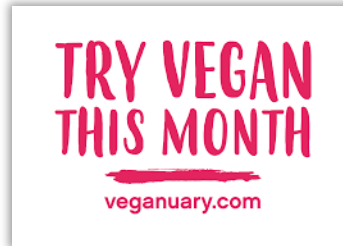


Relative interest of consumers for different proteins: boomers vs. millennials



Source: American Seafoods/Flemming Research, Rabobank 2018

Re-thinking meat consumption has become a global trend



Similar discussions are around seafood production now



<https://www.theguardian.com> > ...

Stop eating fish. It's the only way to save the life in our seas | George ... - The Guardian

9 May 2019 · Unhindered by regulation, driven by greed, the fishing industry is the greatest threat to our oceans. We must take ...

The Guardian Op logo, featuring a stylized orange and black design.

An Ocean of Opportunity

A white paper exploring opportunities to advance the development of plant-based and clean seafood and highlighting specific approaches for capitalizing on these opportunities.

[DOWNLOAD NOW](#)

The United Nations logo, featuring a white globe with a blue border and a white border.

UN Points to Trouble in Our Oceans. Plant-Based & Cultivated Seafood Offer a Solution.

ARTIFISHAL

2:20 patagonia

Artifishal | The Fight to Save Wild Salmon

Saving Martha

10:17 patagonia

Saving Martha

FINANCIAL TIMES

SIGN IN

Food & Beverage

Plant-based fish is the new plant-based meat

The wave of money behind companies such as Beyond Meat and Impossible Foods encourages fish start-ups

A close-up image of a sushi roll, featuring a slice of red fish, a slice of yellow fish, and a slice of green fish.

Forbes

2:56:18PM 11 Jun 19, 10:11 am

Move Over Burgers, It's Time To Dive Into Seafood Alternatives

Maisie Ganzler Contributor
Food & Drink

2 cover food sustainability, especially as it relates to seafood.

A close-up image of a sushi roll, featuring a slice of red fish, a slice of yellow fish, and a slice of green fish.

The growth of alternative protein space is sustained by strong drivers at the consumer level



Drivers for the growth of alternative proteins are well understood



Sustainability



Animal welfare



Health and wellness



Uniqueness & novelty



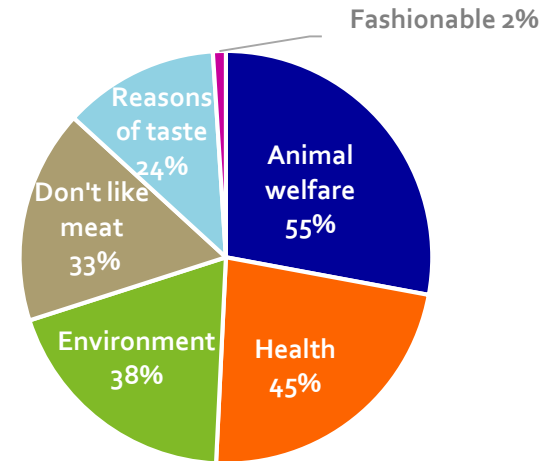
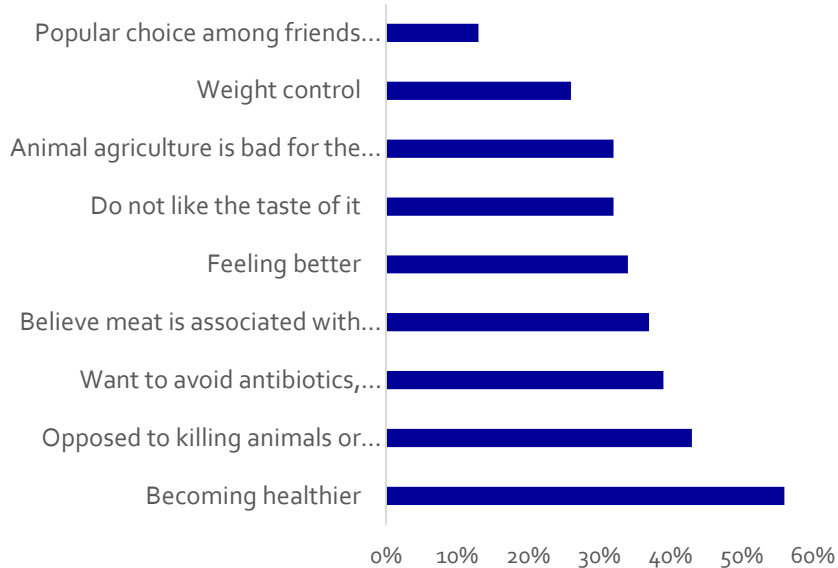
Adaptability & convenience

Health and animal welfare concerns around meat consumption motivate consumers to have less meat



For the US consumer, health is the main reason to follow a vegetarian/vegan diet

Animal welfare concerns outweighs health concerns with UK consumers



Barriers also exist for the future growth of alternative protein



These barriers can also be turned into key success factors



Questionable nutrition



Taste



Supply chain issues



Price



Other healthy proteins

Alternatives are currently sold at a premium – similar to seafood



Price per kg of burger patty options



There is a range of possibilities in alternative proteins, but differences in markets exist



Established

Emerging



Traditional Vegetarian Products

(Tofu / Tempeh / Seitan)



Veggie Burgers



Hybrids



Meat and Seafood Imitations



IMPOSSIBLE

Novel Alternatives (Insect / Algae-based)



Cellular Meat & Seafood



Four types of companies are active in the alternative proteins market

Pure Play Companies / Start-ups



- Leading innovation in the space – main strength
- Tend to focus on niches, but evidence show that this can grow

Branded Food Companies / Big Food



- Historically dominated by branded food brands
- Innovation has been limited, single digit growth
- Strength is brand, distribution, product development

Animal Protein Companies



- Multiple approaches
- Strength is ownership of the center of the plate

Private Label



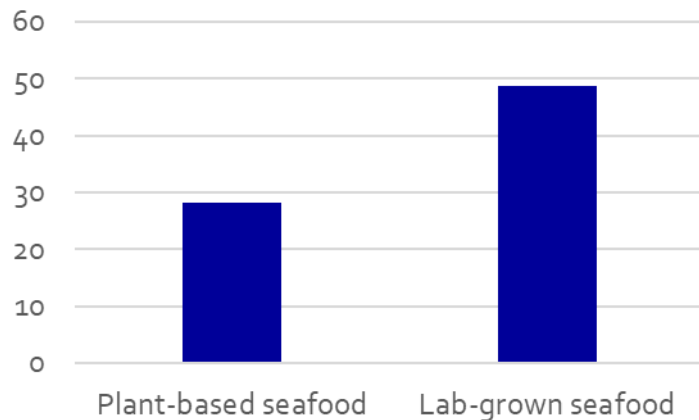
- Brand owners and food retail and foodservice companies all want a slice of the action
- Strength is product developments, capabilities and cost

The size of the seafood alternatives market is smaller than the meat alternatives market



Capital is swimming towards seafood alternatives

USD million



Source: Crunbase, industry media, Rabobank 2019

Cellular seafood



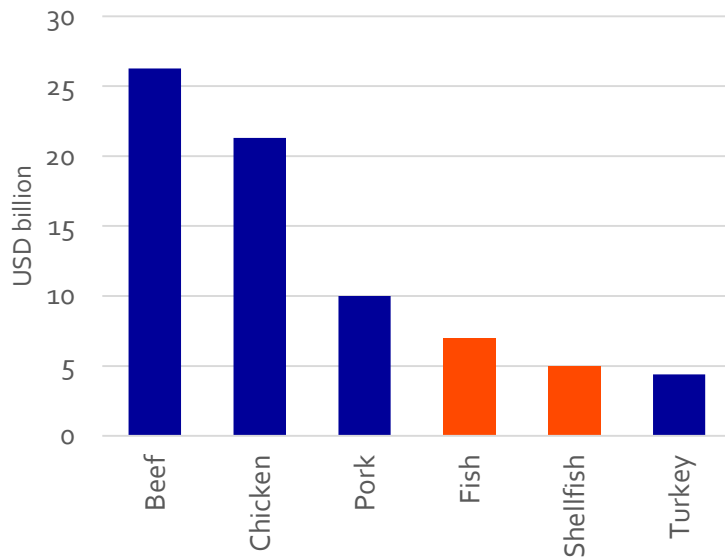
Seafood imitations



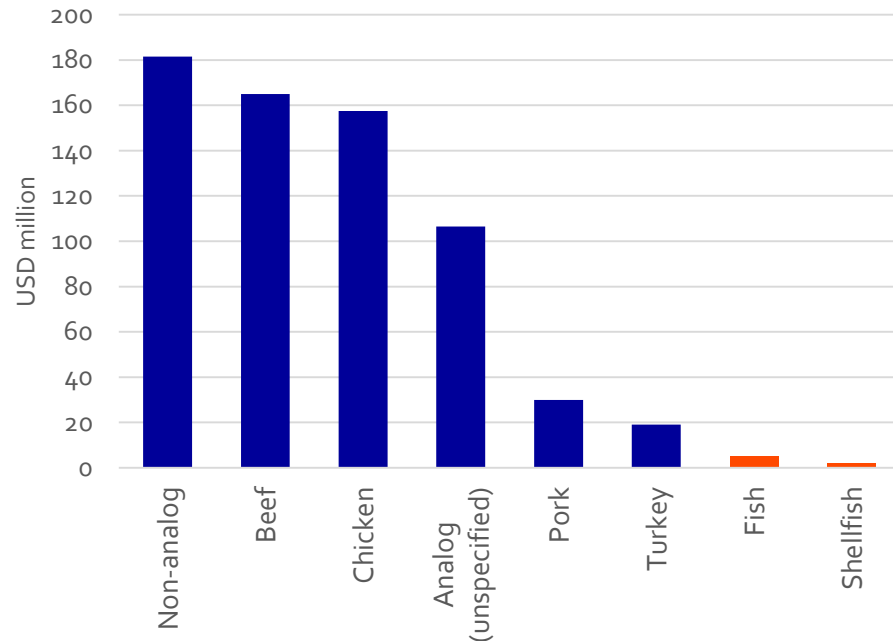
Seafood alternatives currently makes a small fraction of total seafood sales in the US



Animal based proteins



Plant based proteins



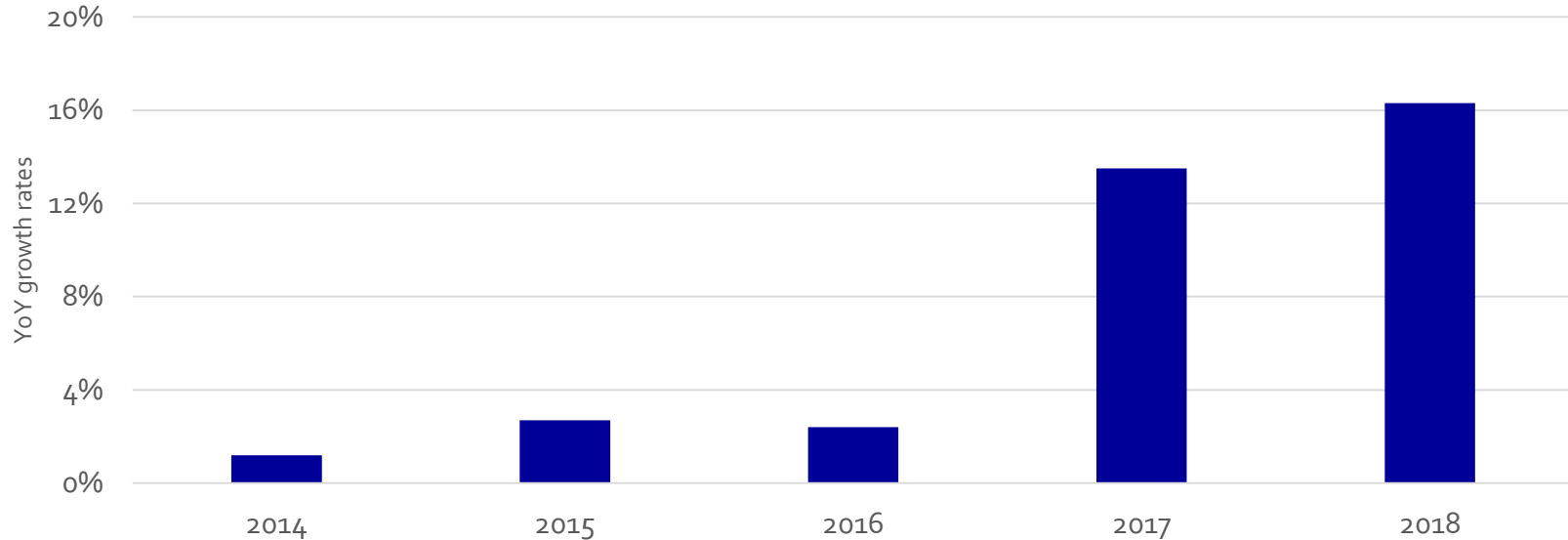
Source: GFI based on Nielsen, Rabobank 2019

Note: The analog (unspecified) category was used to categorize plant based meat products like hot dogs, chorizo, and sausage links when animal terms like "pork sausage" or "beef hot dog" were not used on the package.

The excitement is in the growth in the alternative proteins retail sales



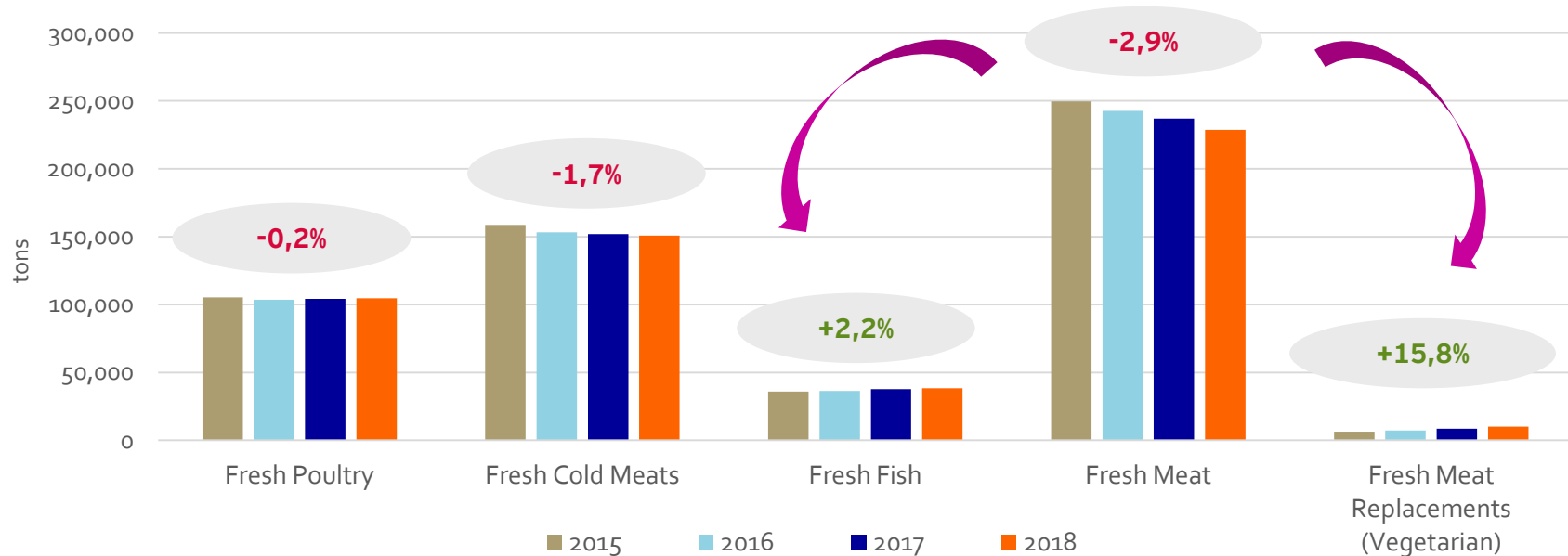
Double digit growth in meat alternatives in the last two years in the US



Also in the Netherlands, the growth of meat substitutes is more relevant than the market size



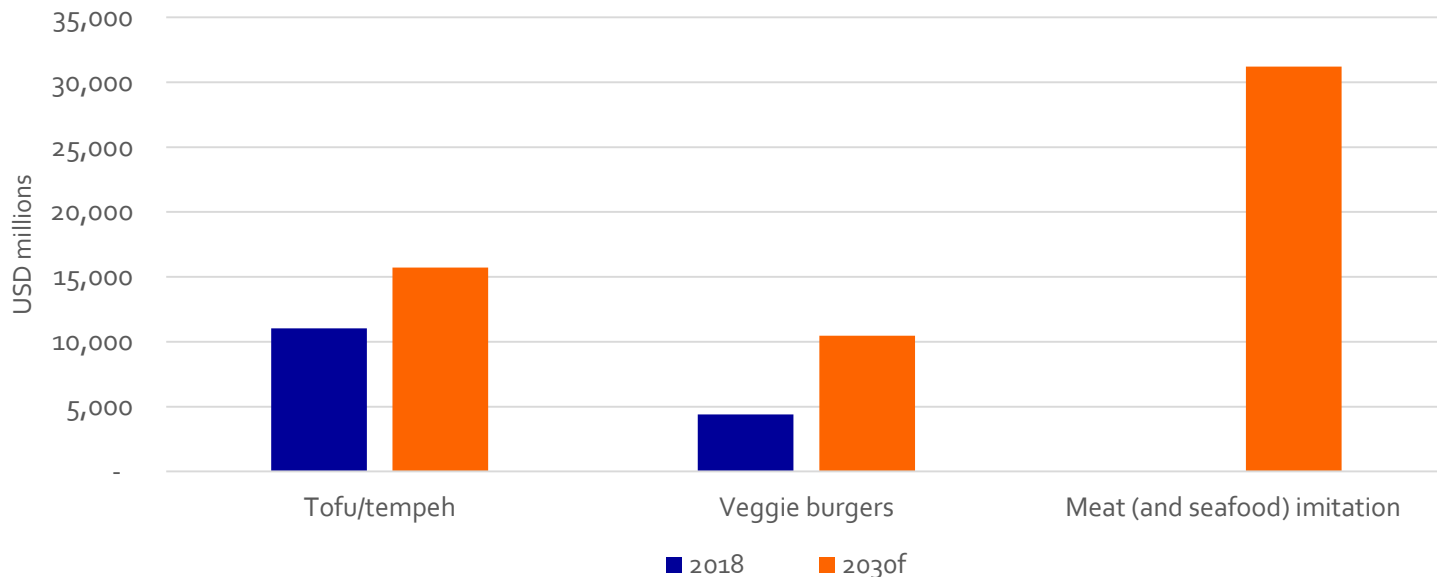
Retail sales of proteins in the Netherlands



Global sales of alternative proteins is roughly equal to USD 15 bn, our forecast is to exceed USD 55 bn



Meat imitation-type products will be responsible for most of this growth



Seafood is generally a well-known substitute to meat – now the seafood sector is facing competition





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