

# Economic Consequences of different scenarios of animal production in Europe

27 August, Roel Jongeneel



# Introduction

- **EU diet** characterized by a high intake of meat, dairy and eggs products
- Leads to a high intake of saturated fats and red meat that **exceeds health recommendation level** (RMDI =43gr/day)
- EU livestock production is the **driver of 80% EU Nitrogen losses**
- N loss/protein produced (relative to cereals) differ over products. N losses from beef are more than 25 times and pigs, poultry meat, eggs and dairy are 3.5 to 8 times higher (**efficiency-differentials**)

# Set-up

- Introduction
- Assessing economic consequences
- A Meat market outlook
- Scenarios
- Concluding remarks

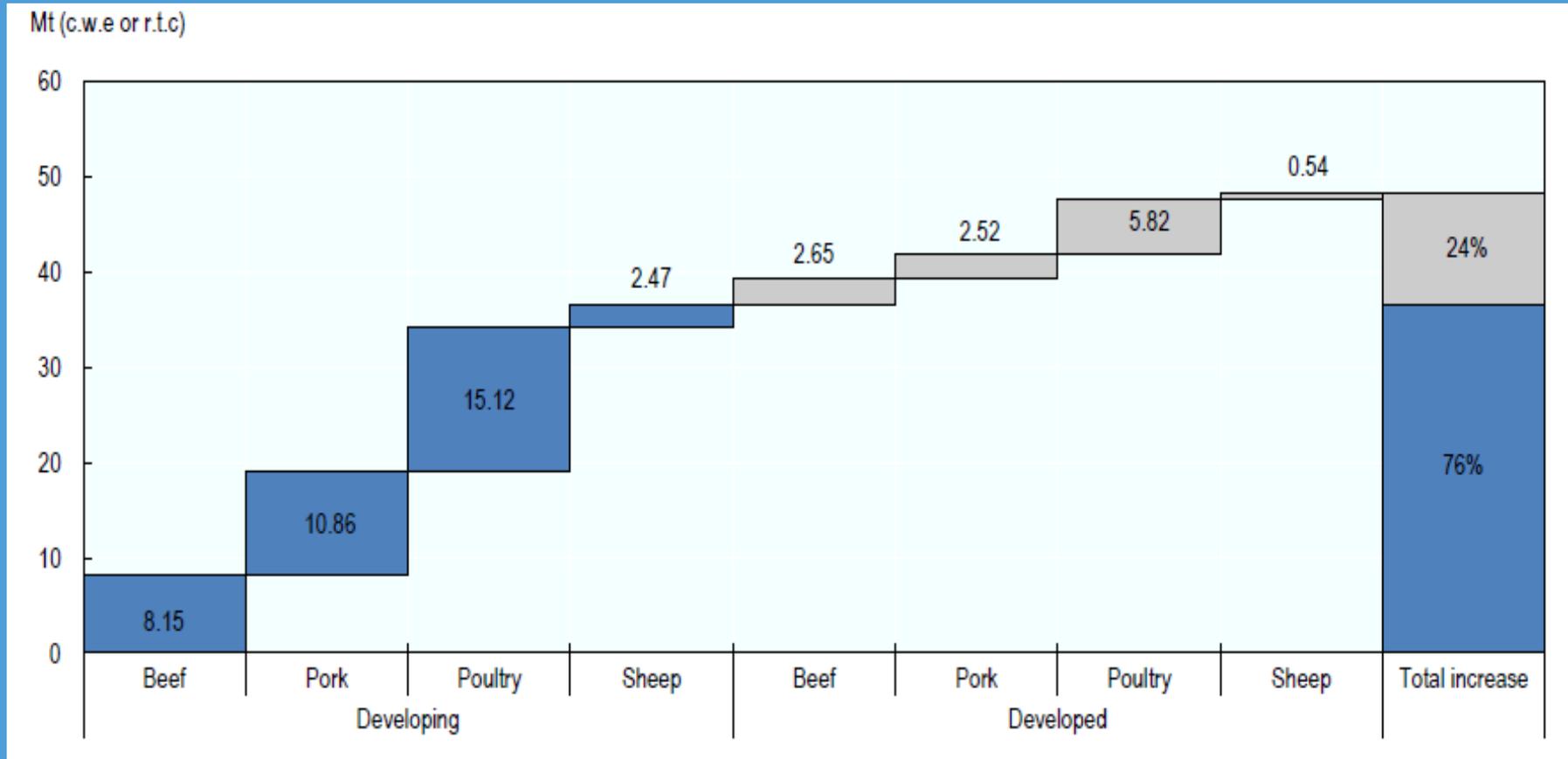


# Assessing economic consequences

- **Merit/significance of economics**: assess optimal goods & services provision, satisfying **consumer preferences** ranked to the order of importance and economizing on the use of resources (**efficient** with respect to use of scarce resources, **least cost** production)
- **Balance**: as well-embedded S-D equilibrium
- Partial (PE) and general **equilibrium** (GE) assessments
- Treatment of **externalities of production and consumption** (Pigovian taxes; polluter pays-principle, provider gets-principle) => examples: **sin tax** & true pricing, quota and buy-out scheme

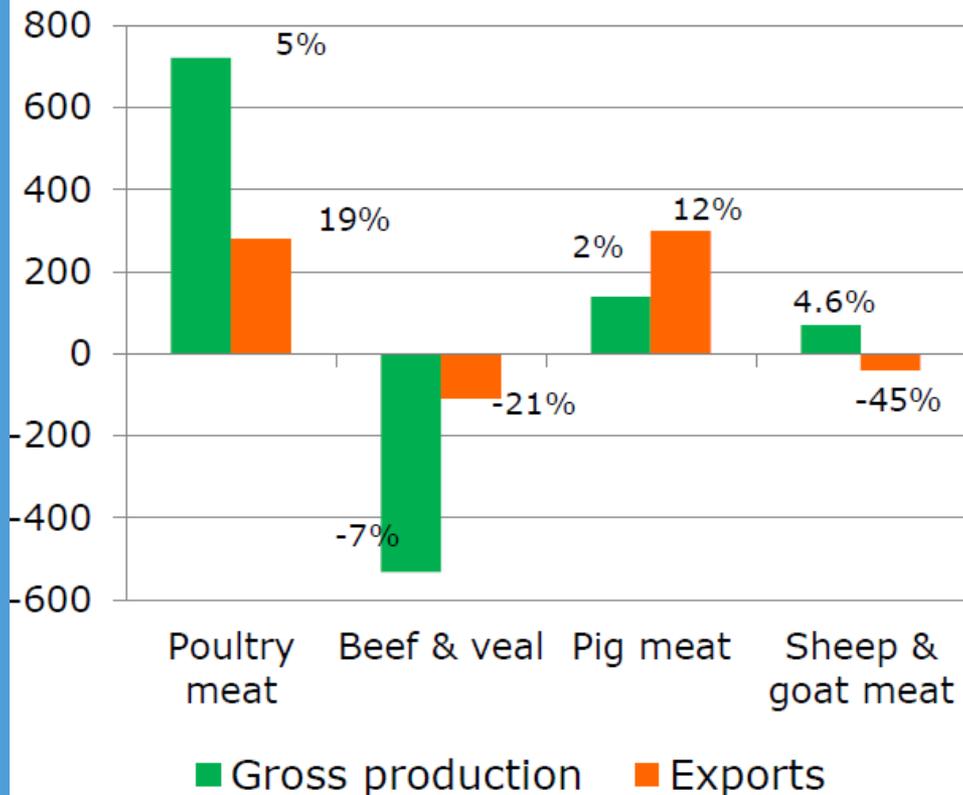
# A meat market outlook: world

- Expected growth of world meat production needed to satisfy growing meat demand in coming decade



# A meat market outlook: EU

## Changes in EU production and exports (2030 vs 2017, '000 t)



Note: the production of beef&veal and sheep&goat includes the net trade of live animals.



Growing EU demand  
Exports of wings, legs and offal; competing world market



Decline in EU demand  
Decrease in cow herd  
Decline in demand from Mediterranean region  
Niche export markets



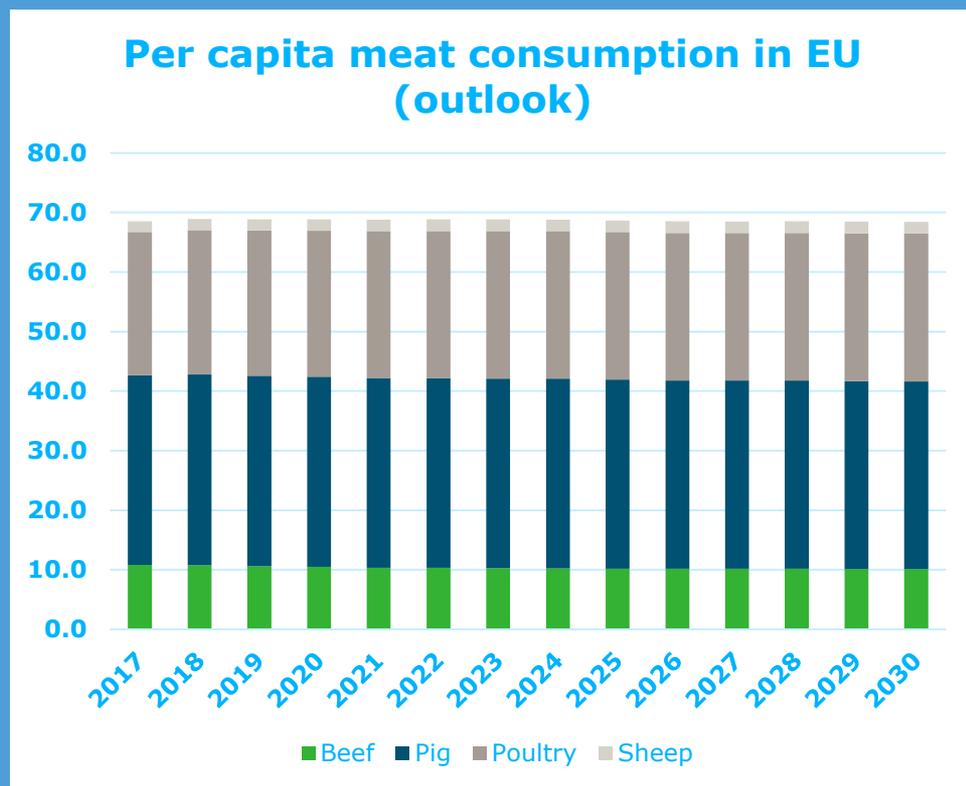
Slight increase in EU demand  
Environmental concerns  
China effect will disappear



Slight increase in EU demand  
Lack of competitiveness

# A meat market outlook: EU

- Expected evolution of EU meat consumption (EU MT-Outlook (apparent consumption!, r.w.e.)



Source: EU medium term Outlook 2017-2026

## Table Aggregate consumption

Meat	Share	% change 17-30
Beef	18	-6.2
Pig	48	-1.2
Poultry	32	3.3
Sheep	2	10.0

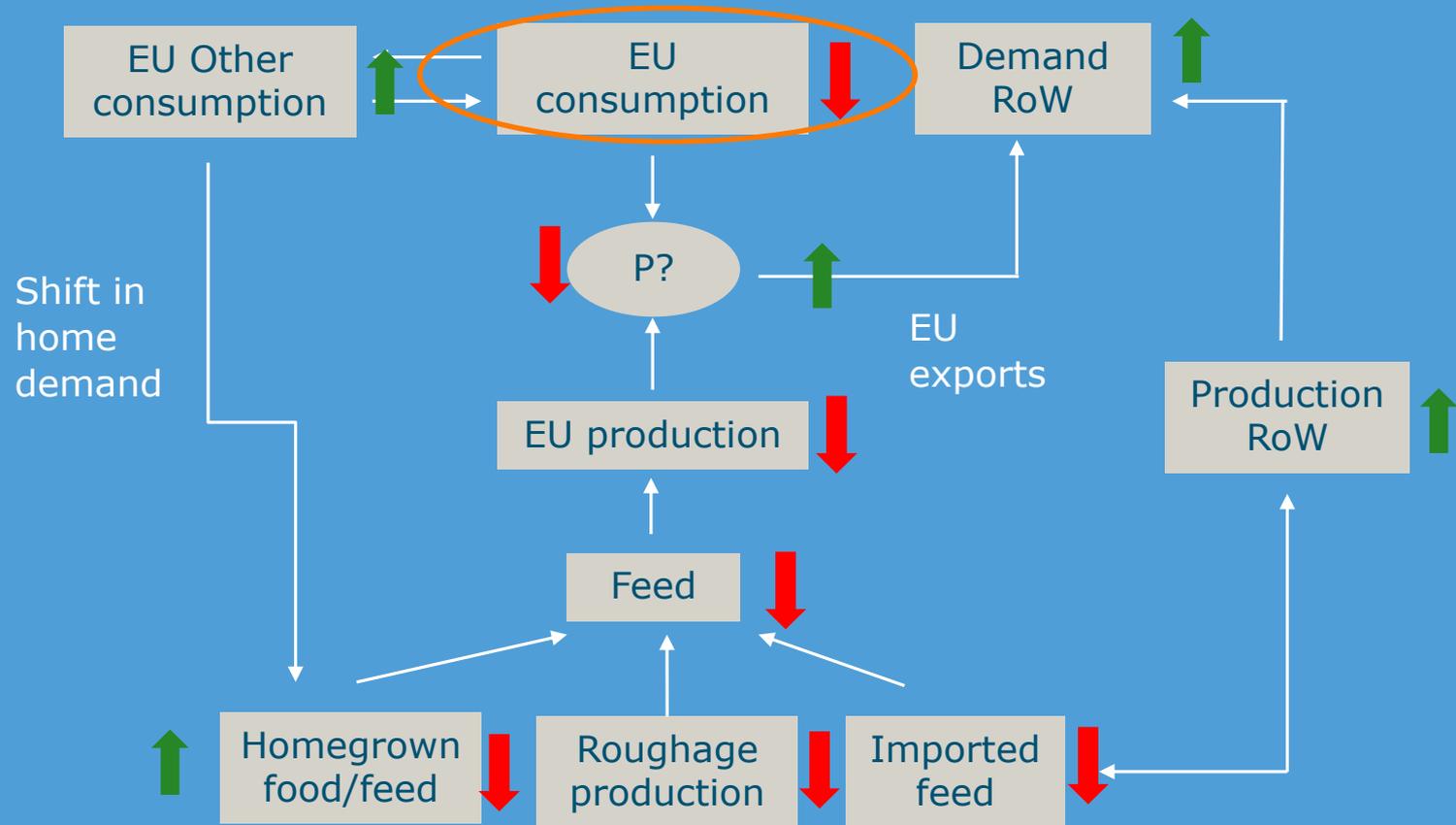
## EU meat in a world context

- ✓ EU is **net importer** of beef and sheep
- ✓ EU is **net exporter** of pig and poultry
- ✓ **Share** of EU in world production and trade is limited (about 10%)

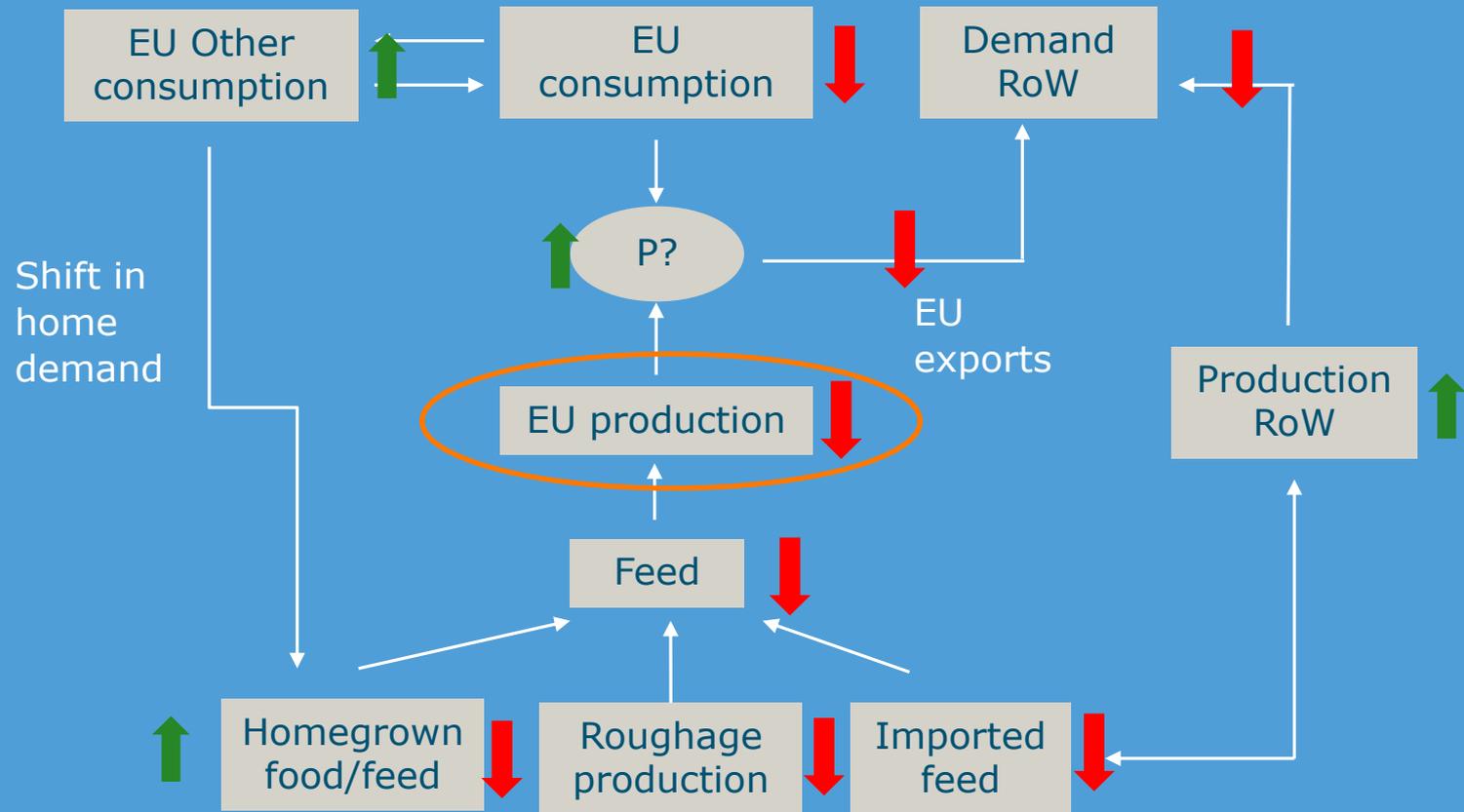
# Scenario analysis: insights from existing studies

- Based on two **recent existing studies**
  - Westhoek at all (2015) Nitrogen on the Table
  - Woltjer (2015) Meat consumption, production and land use
- Scenario's illustrating how food system could respond:
  - 20-25% reduction in animal products consumption
  - 50% reduction of all type of livestock products
- **Serious impacts expected** because...
  - **60%** of EU agriculture's value added (income) is related to livestock production
  - It is **crucial to know how** scenarios will impact the livestock sector (consumption, production, both?)

# Scenario analysis : demand shock



# Scenario analysis: supply shock



# Scenario analysis

## ■ Economic impacts

- Consumption => substitution/other products
- Animal production
  - Decline in domestic demand
  - Increase in meat, egg, dairy exports
  - Substitution/other products
  - Decline in feed demand/costs
  - Farm sector: income loss + farm exits
- Impact will depend on **specifics of scenario's** (diet, climate) but are likely to be **serious**
- What about the **role of policy** (CAP)...?



# Concluding remarks

- Climate change restrictions and shifting consumption patterns can have serious consequences for EU meat production and consumption
- There are a lot of uncertainties; be careful in drawing lessons from current scenario's
- There could be a double dividend (health & climate) but this is likely to be small (e.g. das Grüne Paradoxen, Sinn)
- In case livestock farmers would be rewarded by retailers, consumers, or society for higher environmental and animal welfare standards, the economic impact on the livestock sector could, to some extent, be mitigated
- The EU Common Agricultural Policy could help to transform the current agricultural system into one that has lower environmental impacts and contributes to healthier dietary choices (true pricing)

# Thanks

Questions....?



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