Global meat production, drivers and challenges

Global Forum *agri benchmark* Beef and Sheep Conference 2013

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York
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Contents

The project behind

agri benchmark – understanding agriculture worldwide

- Our core competence:
  Production systems and their economics
- An expert network which started in 2002 >>> more than just data
- Global, non-profit, independent >>> credibility
- Standardised methods >>> global comparability
- Reflecting framework conditions and drivers >>> comprehensiveness

Why global farm-level benchmarking?

- We are all directly or indirectly linked via markets and product flows
- Decision making is done by millions of producers every day
- It needs an approach in close cooperation with producers
- On global scale there is a lack of comparable farm data
- Collecting and comparing this data and information assists in

  Understanding agriculture worldwide

  – Know **where** you are

  – Learn **why** you are where you are

  – Conclude **what** can be changed to develop

agri benchmark – at a glance

Main supporting partner

JOHN DEERE

Clients

ACIAR

DLG

INTERNATIONAL Oficina Permanente MEAT Office International Internacional SECRETARIAT de la Viande de la Carne

FAO FIAT PANIS

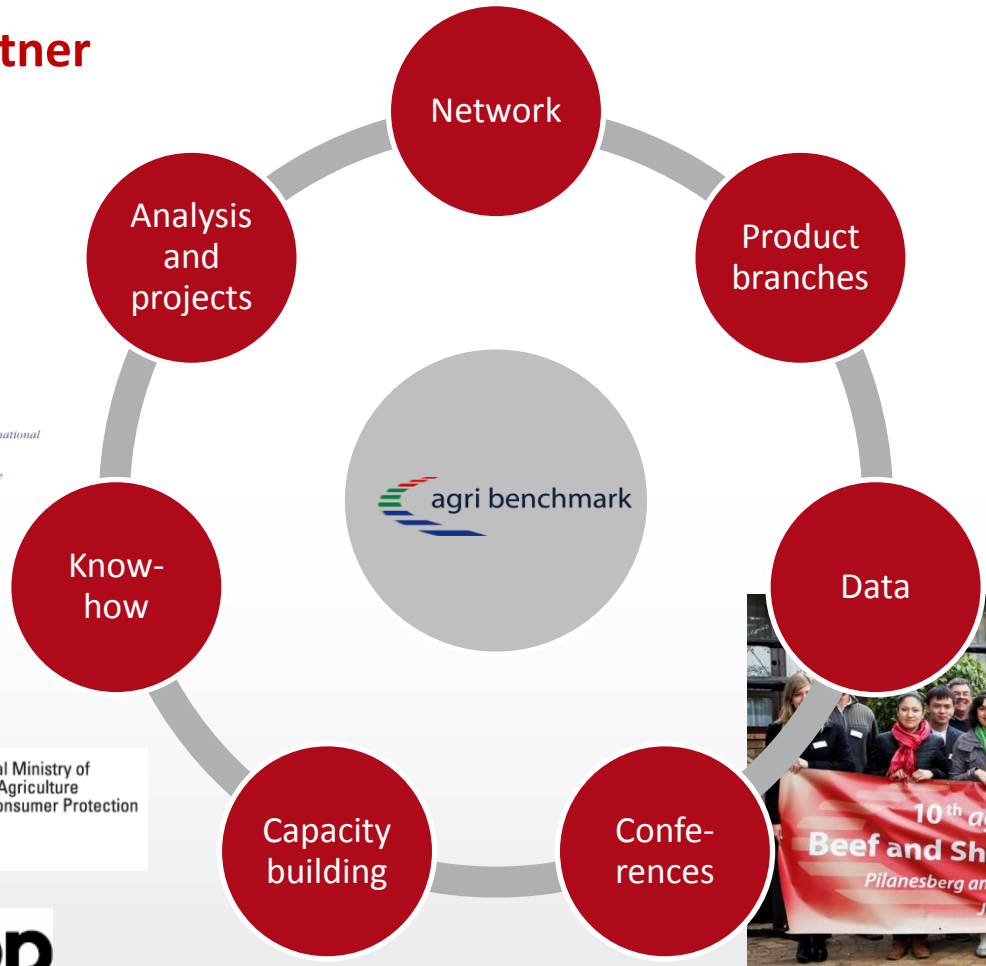
European Commission

mla MEAT & LIVESTOCK AUSTRALIA

Federal Ministry of Food, Agriculture and Consumer Protection

OECD BETTER POLICIES FOR BETTER LIVES

ufop



Coordination

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Branches in the *agri benchmark* Network

Cash Crop

- Cereals
- Oilseeds
- Sugar
- Other

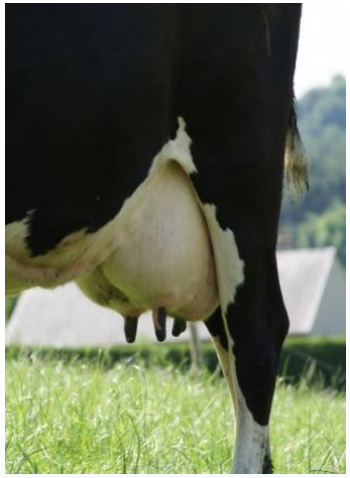
Beef and Sheep

- Cow-calf
- Finishing
- Ewes
- Finishing

Pig and Poultry

- Under construction
  - Sows
  - Finishing

Dairy (EDF)



- Under construction

Horticulture

- Under construction
  - Apple
  - Grapes

Organic

- Under construction
  - Wheat
  - Potatoes
  - Milk
  - Cow-calf
  - Coffee
  - Bananas

Countries in the *agri benchmark* Network

2013	Countries	Farms
Cow-calf	23	55
Beef finishing	29	70
Sheep	14	25

New countries 2013
Ireland (beef/sheep)
Uruguay (beef/sheep)
China (sheep)

Participating countries 2013

Contacts for further growth

Research partners of the Beef and Sheep Network

Charles Sturt University

mla MEAT & LIVESTOCK AUSTRALIA

Meat Board of Namibia

National Agricultural Marketing Council
Strategic positioning of South African Agriculture in dynamic global markets

UNIVERSITY OF THE FREE STATE
UNIVERSITEIT VAN DIE VRYSTAAT
YUNIVESITHI YA FREISTATA
UFS UV

DLG

HOMINEM ET AGRUM

CANFAX

cca

FAUBA

EBLEX
THE BEEF & LAMB SECTOR COMPANY

Tragsatec
Grupo Tragsa

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SECRETARÍA GENERAL DE AGRICULTURA Y ALIMENTACIÓN
DIRECCIÓN GENERAL DE PRODUCCIONES Y MERCADOS AGRARIOS

KANSAS STATE UNIVERSITY
DEPARTMENT OF AGRICULTURAL ECONOMICS
www.AgManager.info

CNA Brasil

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meat services

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acepas

IAED

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ÚZEI

C.R.P.A.

المعهد الوطني للبحث الزراعي
Institut National de la Recherche Agronomique

ROYAUME DU MAROC
Ministère de l'Agriculture et de la Pêche Maritime

UNIVERSIDAD AUTONOMA DE CHIHUAHUA
LUCHAR PARA LOGRAR
LOGRAR PARA DAR

IKAR

EKONIVA
ЭКОНИВА

Typical farms – the principle

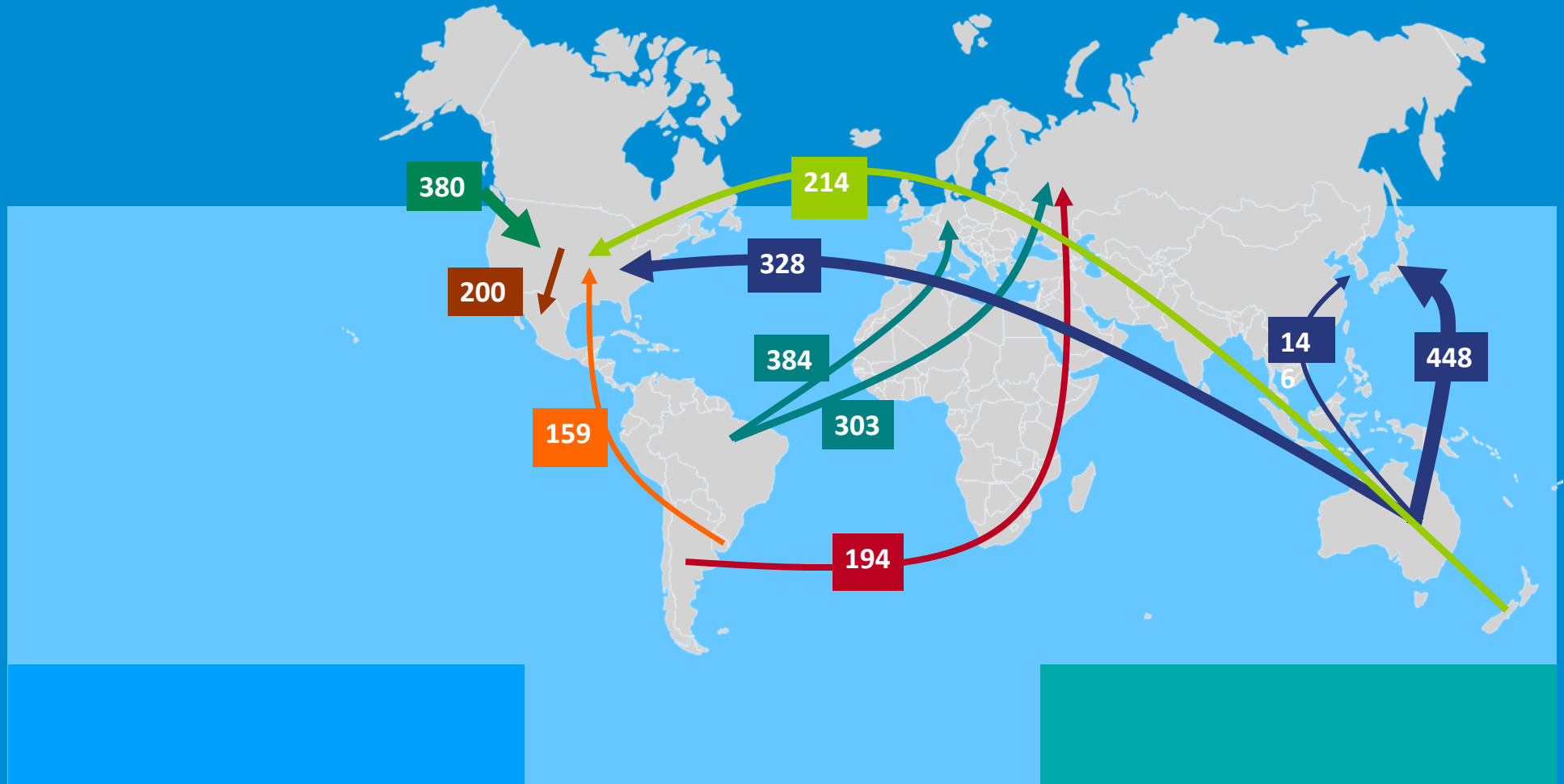
Imagine you have a guest from a foreign country who is interested to see how **sheep** farming is done in your country.

You would want to show your guest a farm that is

- … located in an **important** sheep producing **region**,
- … using the **common technology** for sheep production,
- … running the **prevailing** production **system**,
- … having a not too small and not too big **size**,
- … using the prevailing combination of **labour**, **land** and **capital**.

In other words, you want to show your guest a typical farm!

Global figures

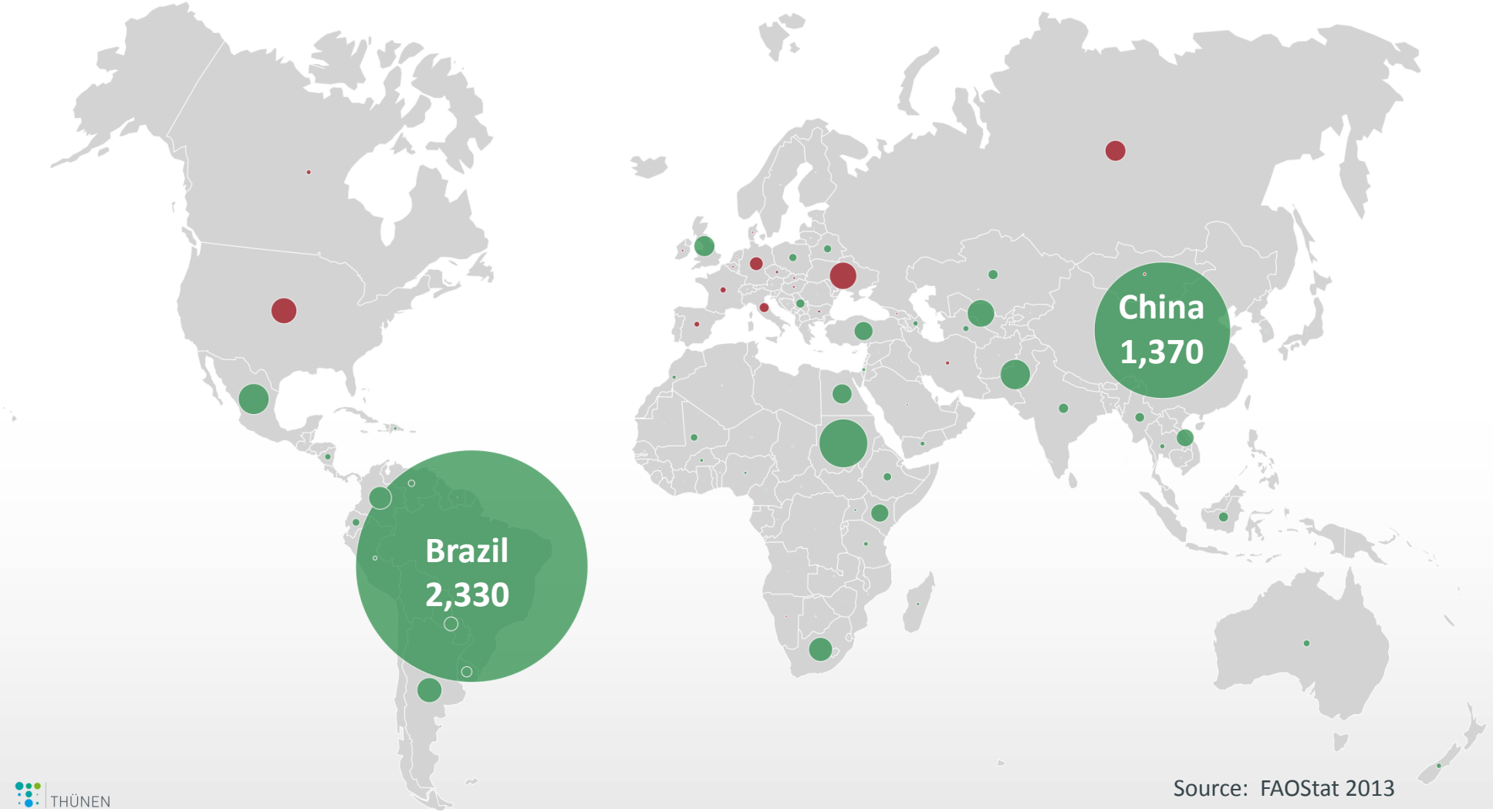


The world’s top beef producers 2011 ('000 tons)

Source: FAOStat 2013

Brazil and China were the ‚growth promotors' for beef

Average 2009-2011 vs. 2000-2002 ('000 tons)



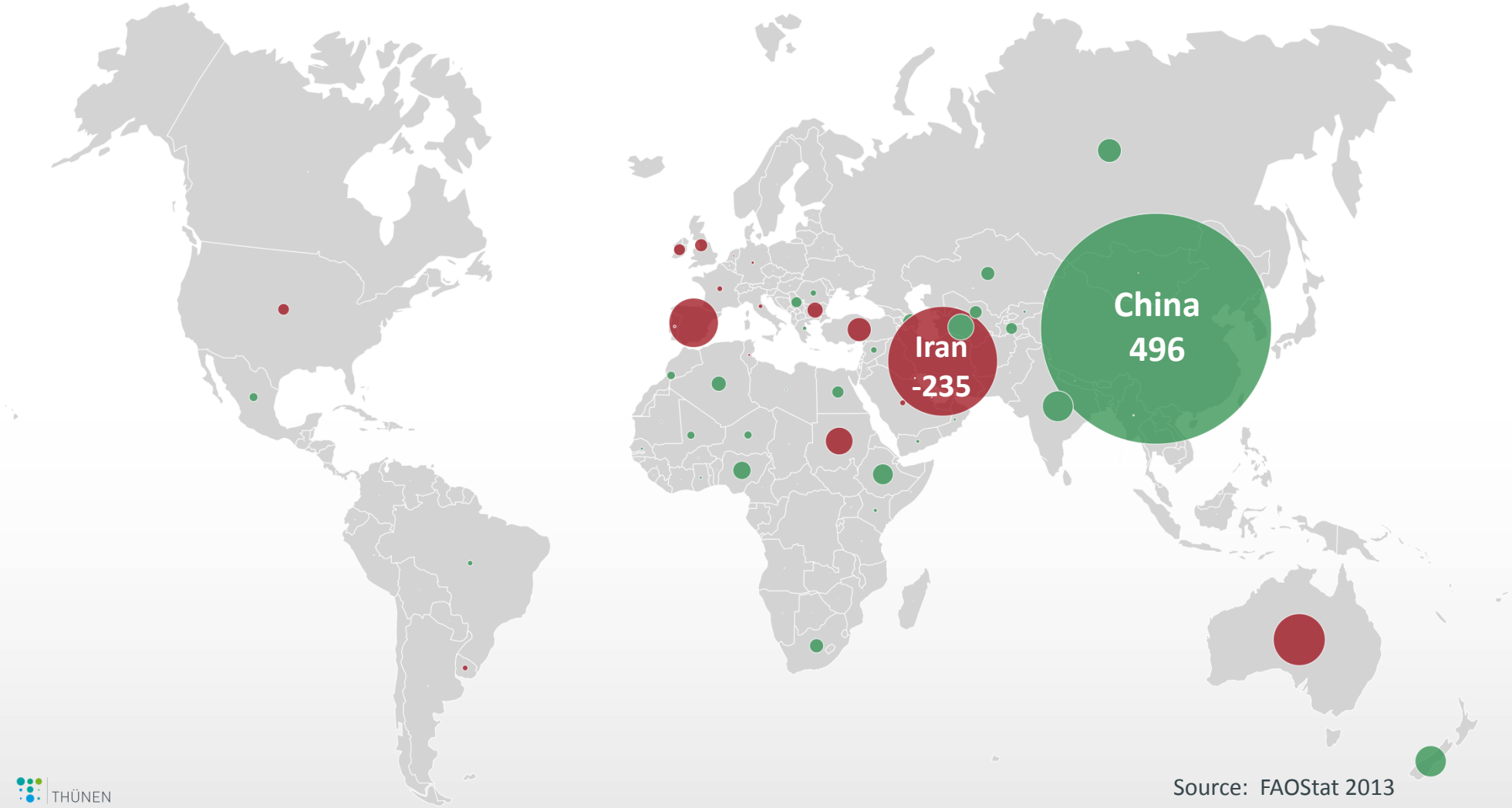
Source: FAOStat 2013

China dominates sheep production 2011 ('000 tons)

Source: FAOStat 2013

Sheep production developments diverse

Average 2009-2011 vs. 2000-2002 ('000 tons)



Source: FAOStat 2013

China dominates (!) pig production 2011 ('000 tons)

Source: FAOStat 2013

China, USA and Vietnam with biggest growth in pig

Average 2009-2011 vs. 2000-2002 ('000 tons)

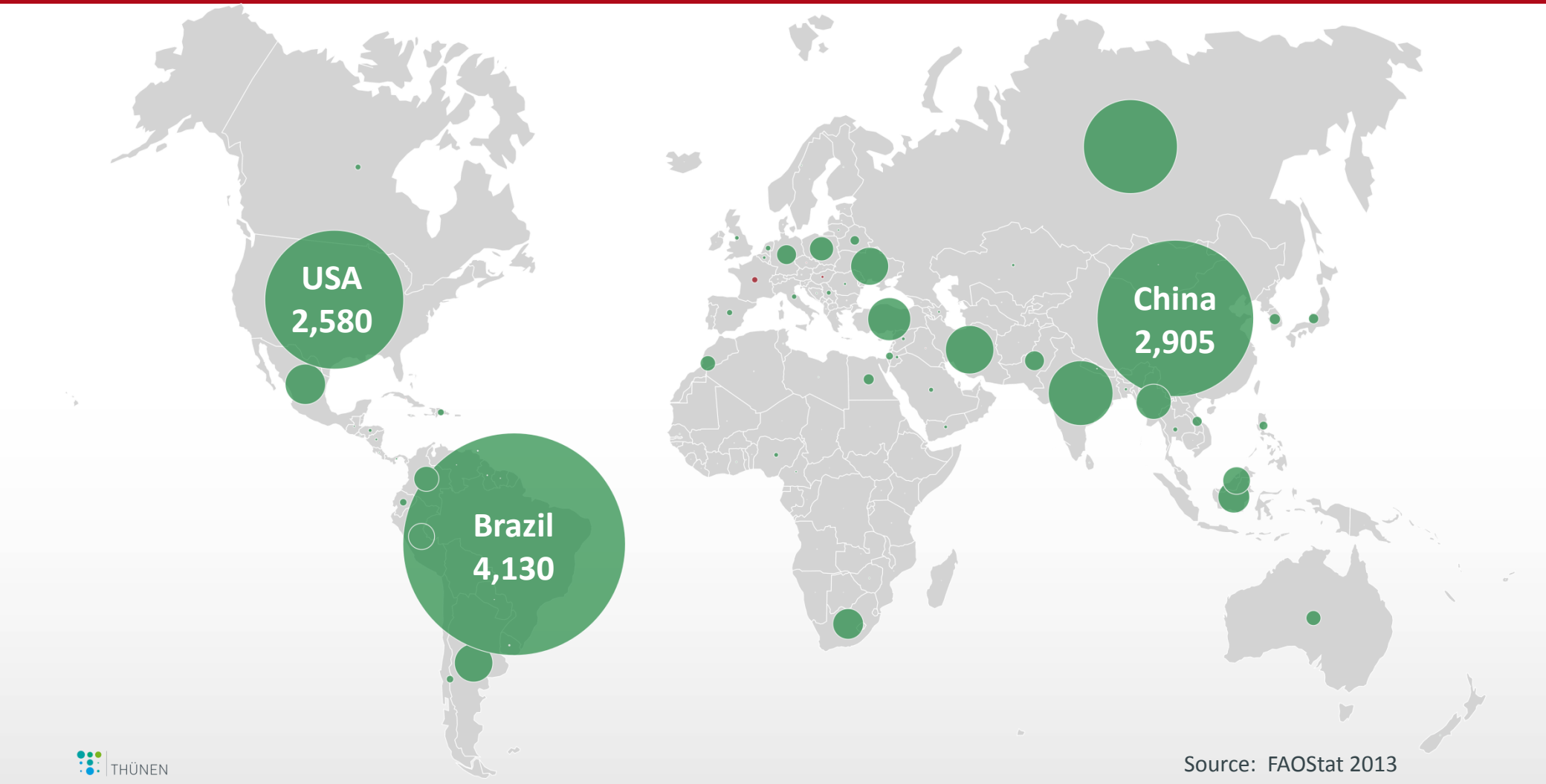
Source: FAOStat 2013

USA, China, Brazil lead chicken production 2011 … ('000 tons)

Source: FAOStat 2013

.. and they also lead chicken expansion

Average 2009-2011 vs. 2000-2002 ('000 tons)



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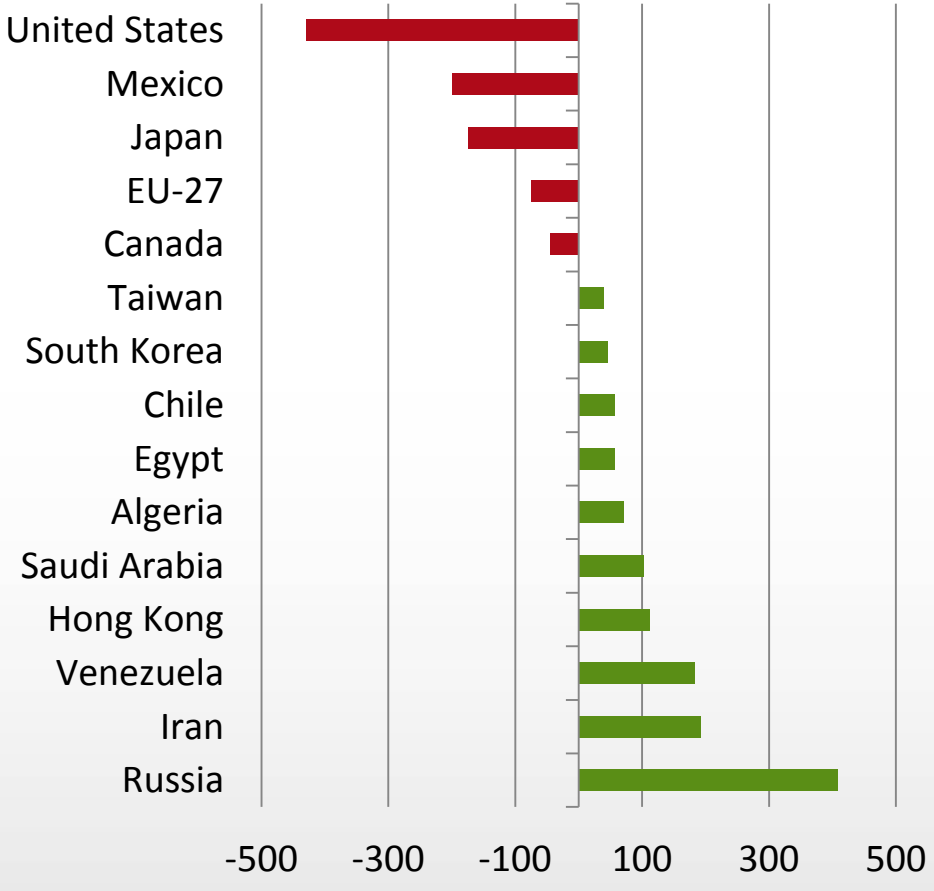
Source: FAOStat 2013

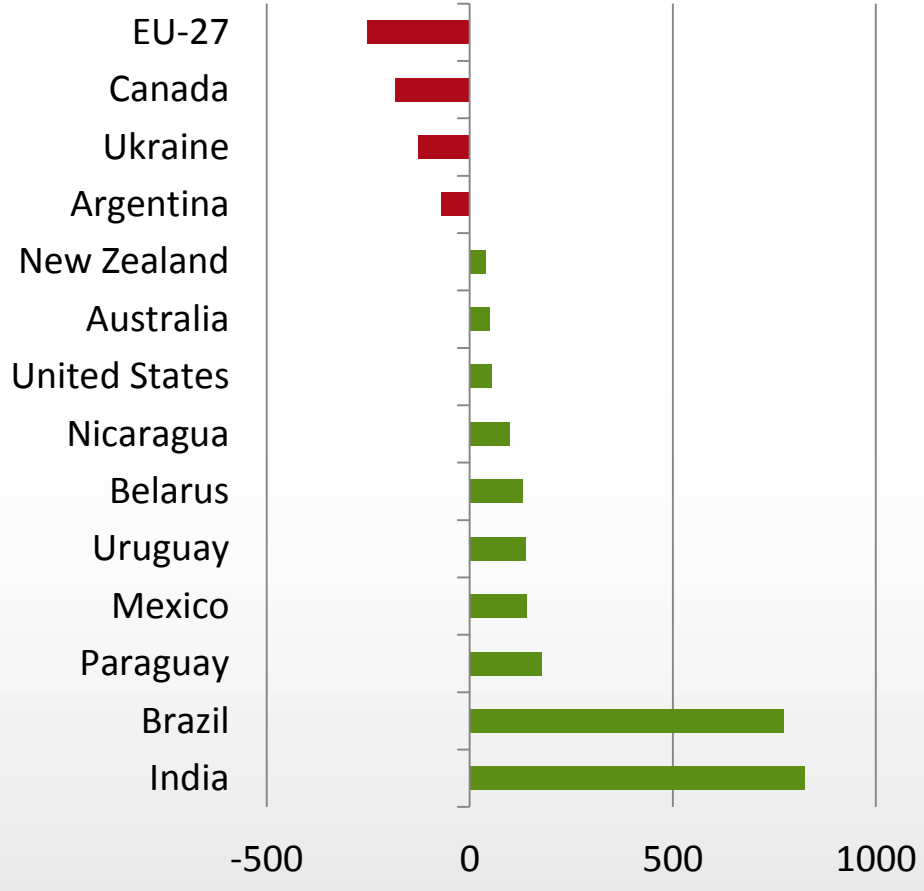
Winners and losers in beef trade
Average 2010-2012 vs. average 2000-2002

Beef imports ('000 tons)



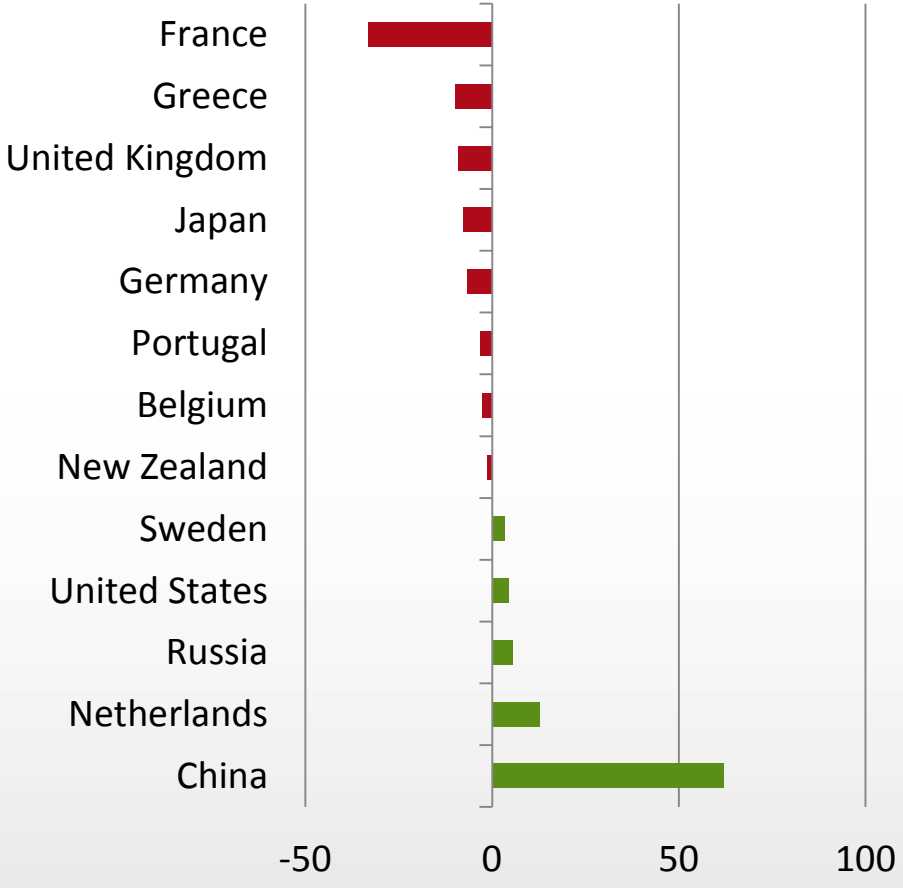
Beef exports ('000 tons)

Source: FPD/FAS/USDA



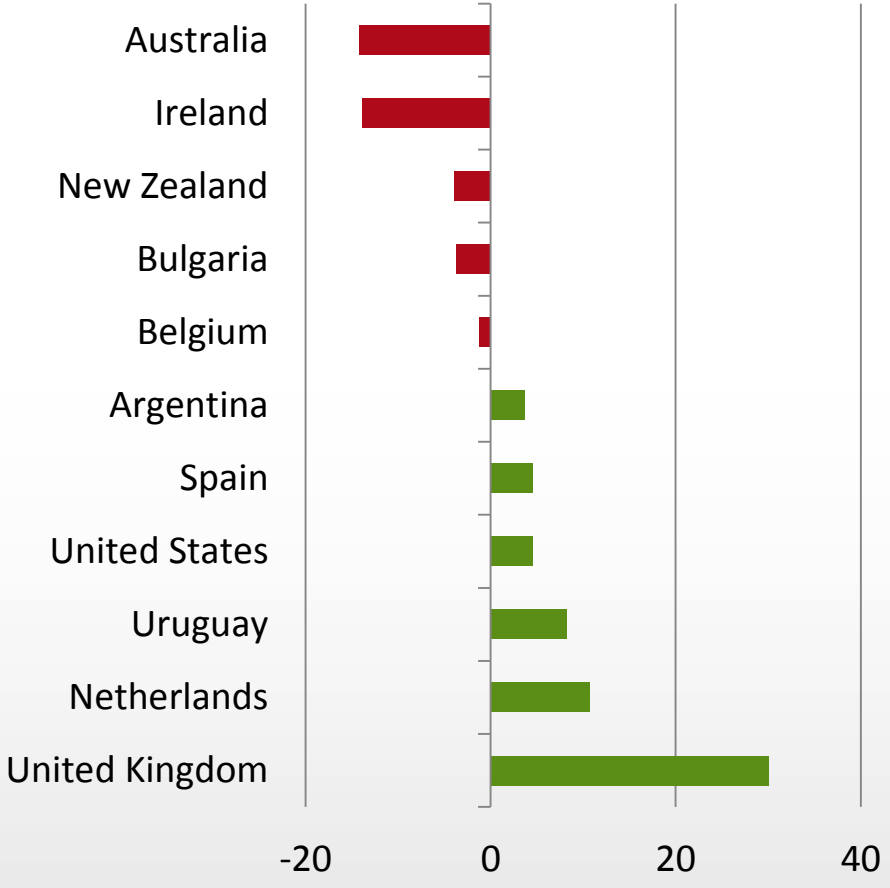
Winners and losers in sheep trade
Average 2010-2012 vs. average 2000-2002

Sheep imports ('000 tons)



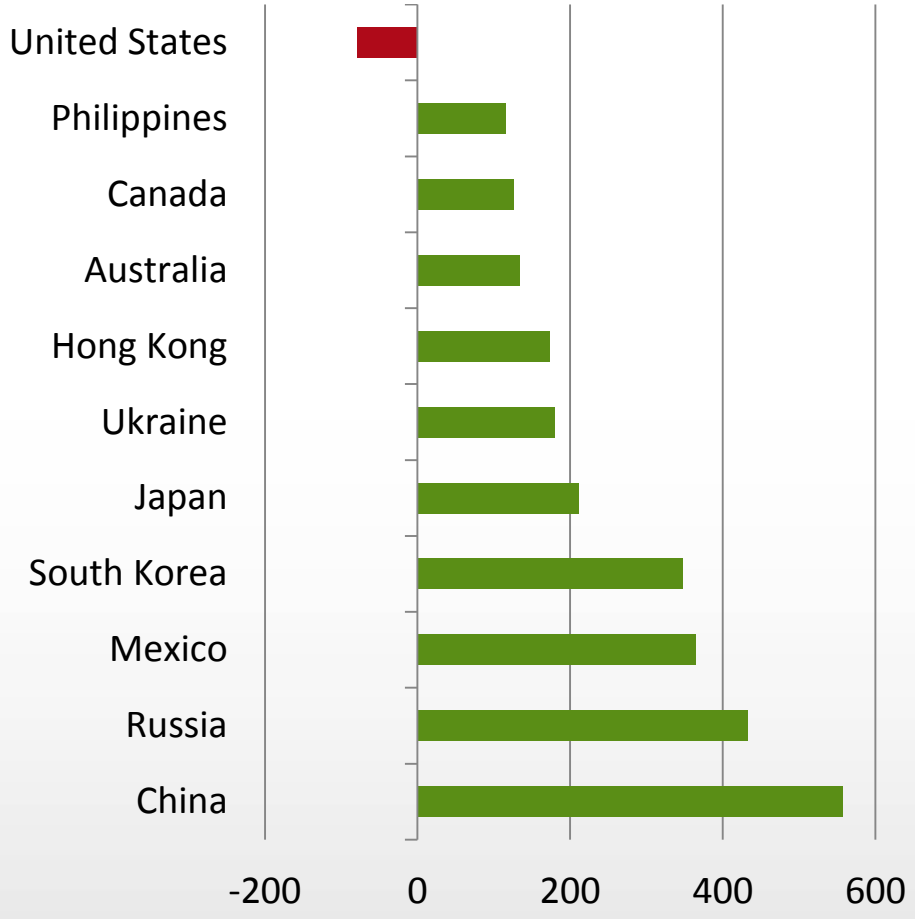
Sheep exports ('000 tons)

Source:: GTIS



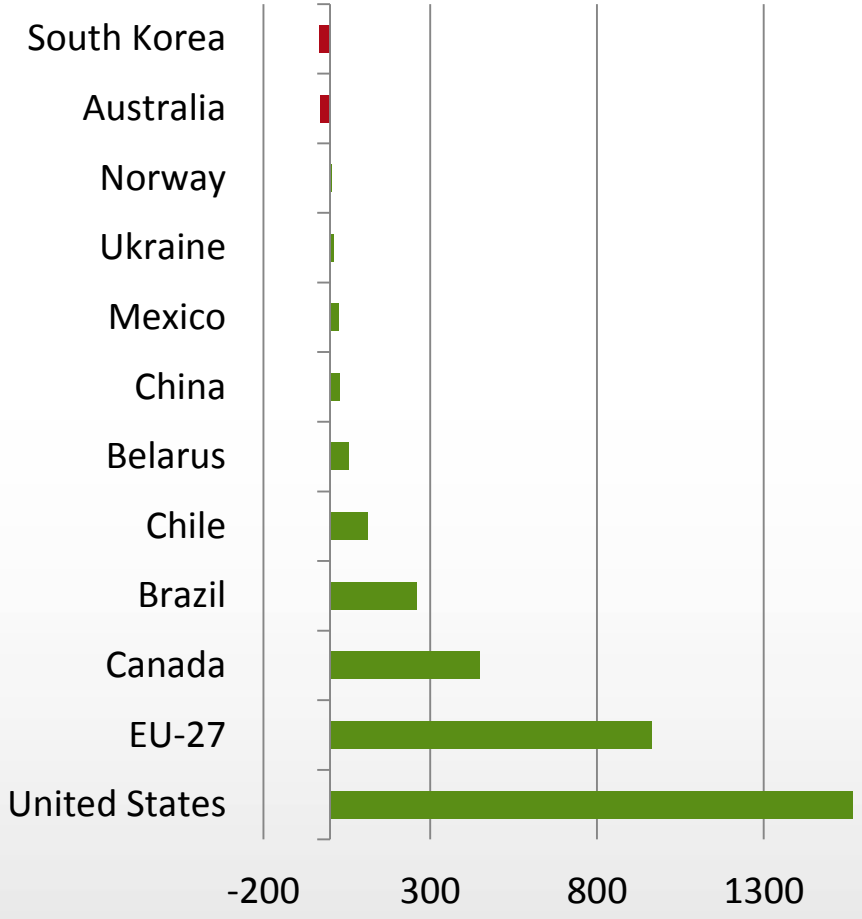
Winners and losers in pig trade
Average 2010-2012 vs. average 2000-2002

Pig imports ('000 tons)



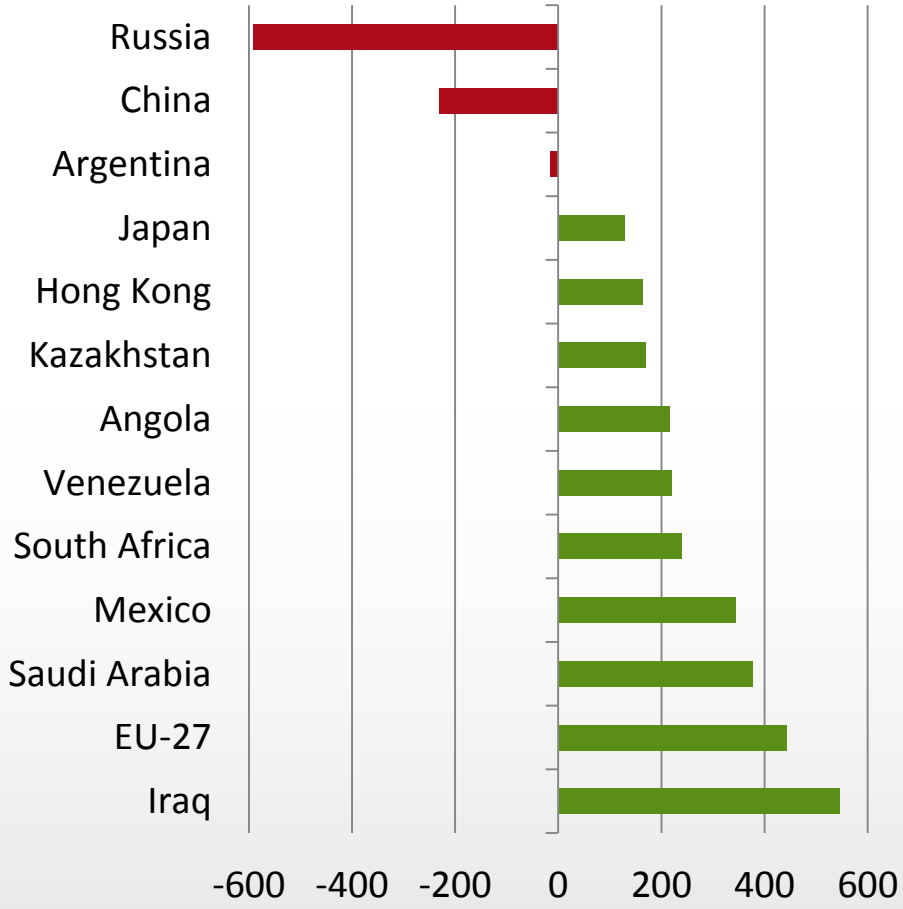
Pig exports ('000 tons)

Source: FPD/FAS/USDA



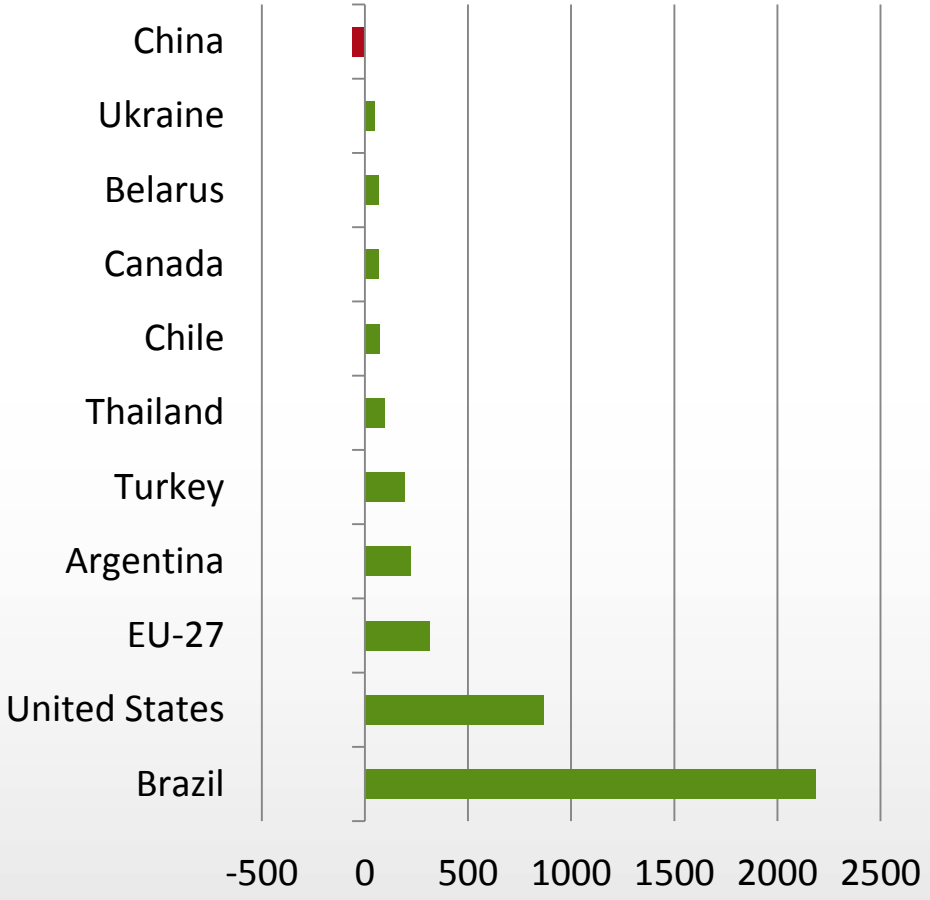
Winners and losers in chicken trade
Average 2010-2012 vs. average 2000-2002

Chicken imports ('000 tons)



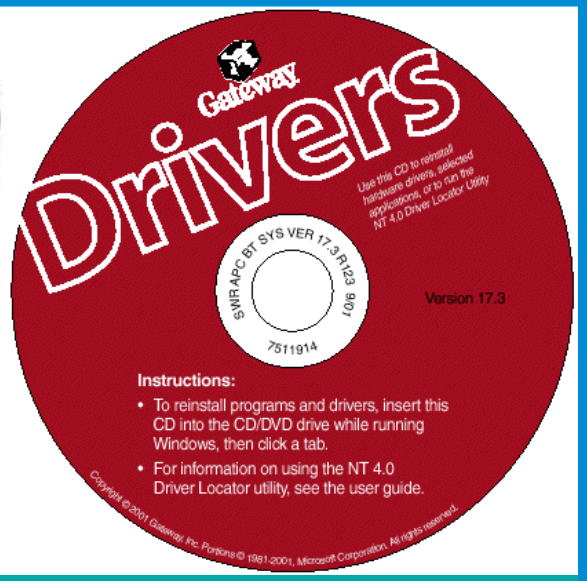
Chicken exports ('000 tons)

Source: FPD/FAS/USDA



Drivers


TaylorMade
R9


Gateway
Drivers
Use this CD to reinstall hardware drivers, selected applications, or to run the NT 4.0 Driver Locator Utility
SWRAPC BT SYS VER 17.3 R123 9/01
7511914
Version 17.3
Instructions:
• To reinstall programs and drivers, insert this CD into the CD/DVD drive while running Windows, then click a tab.
• For information on using the NT 4.0 Driver Locator utility, see the user guide.
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Fundamentals basically unchanged

Growing demand …

Population growth

Income growth

Changing eating habits

… meets supply …

Natural conditions, natural disasters, climate change

Framework conditions: policy, economic, technology

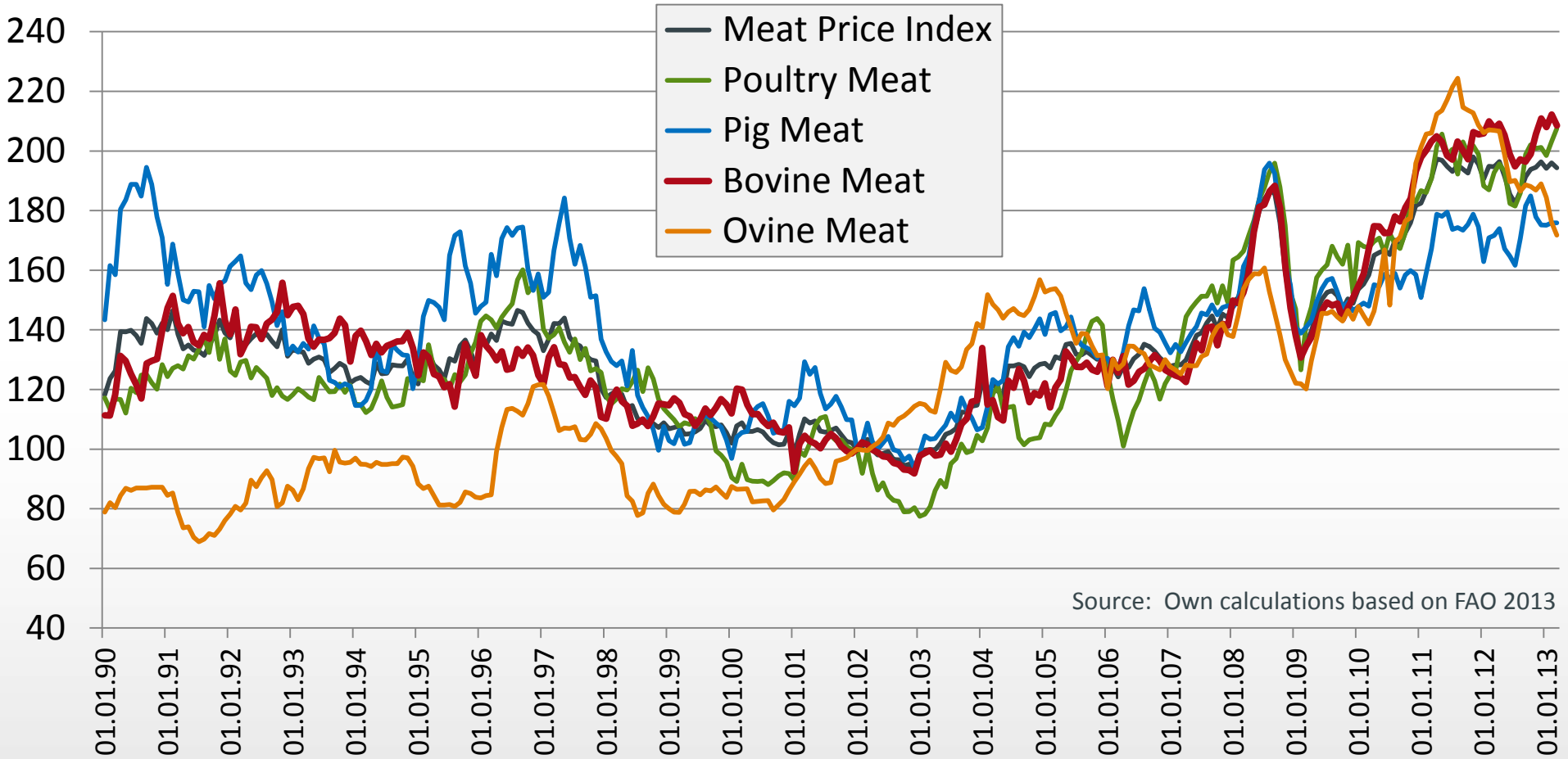
Production, productivity

… and results in price developments

basically pointing upwards

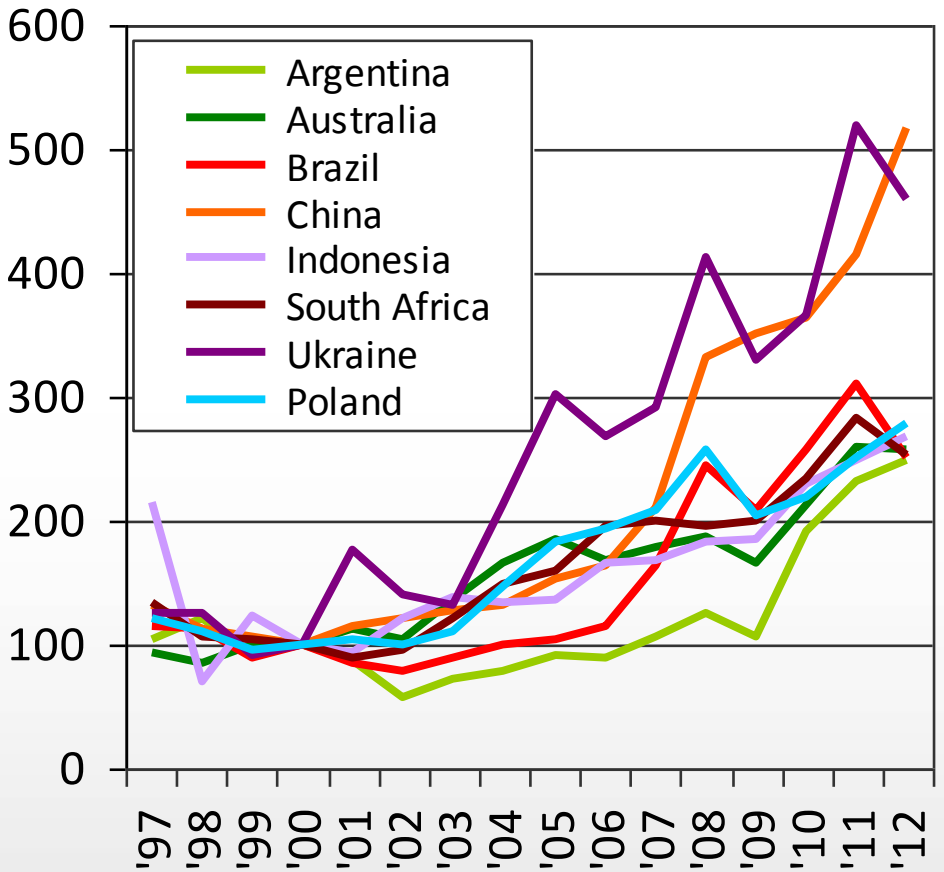
Source: www.globalmeat news.com

After years of decline meat prices point upwards (Index 2002 = 100)

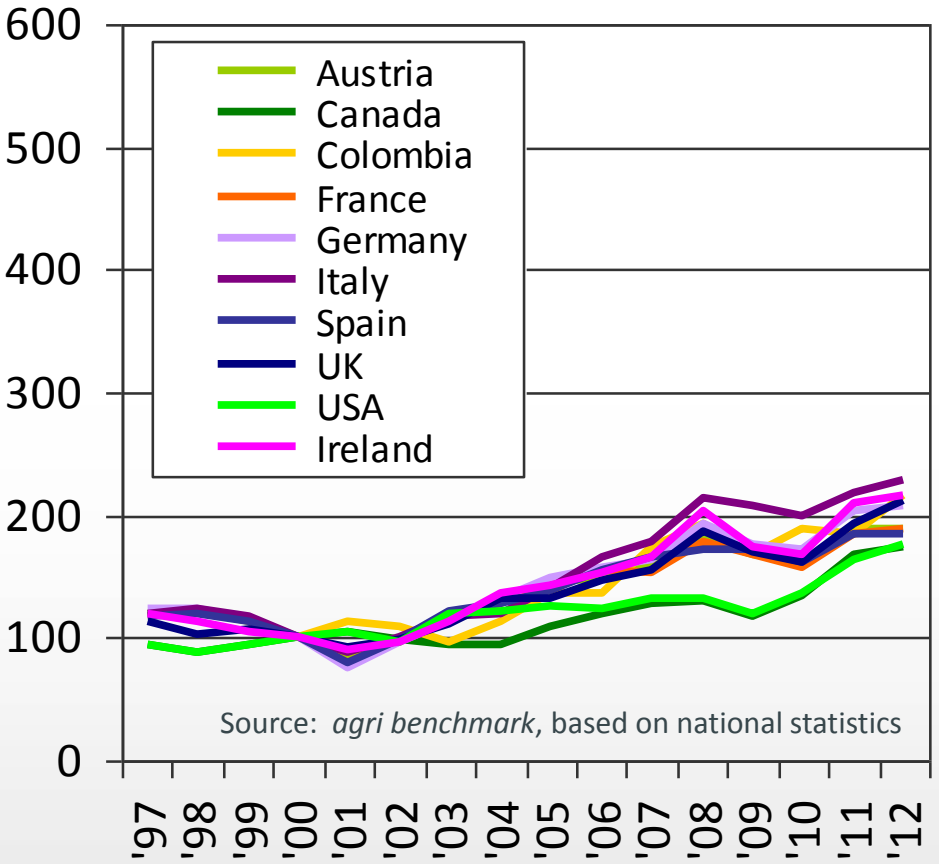


Beef prices upwards 1997-2012 (Index 2000 = 100) …

Index well above 200 in 2012 (USD)

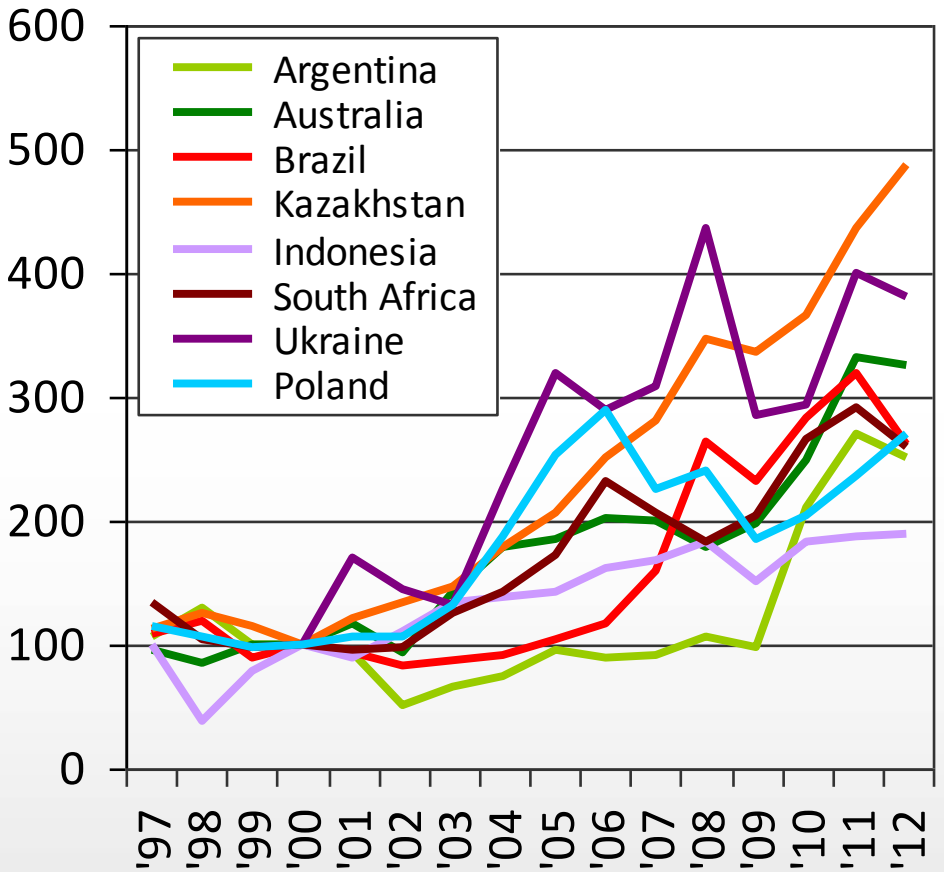


Index around/less than 200 in 2012 (USD)

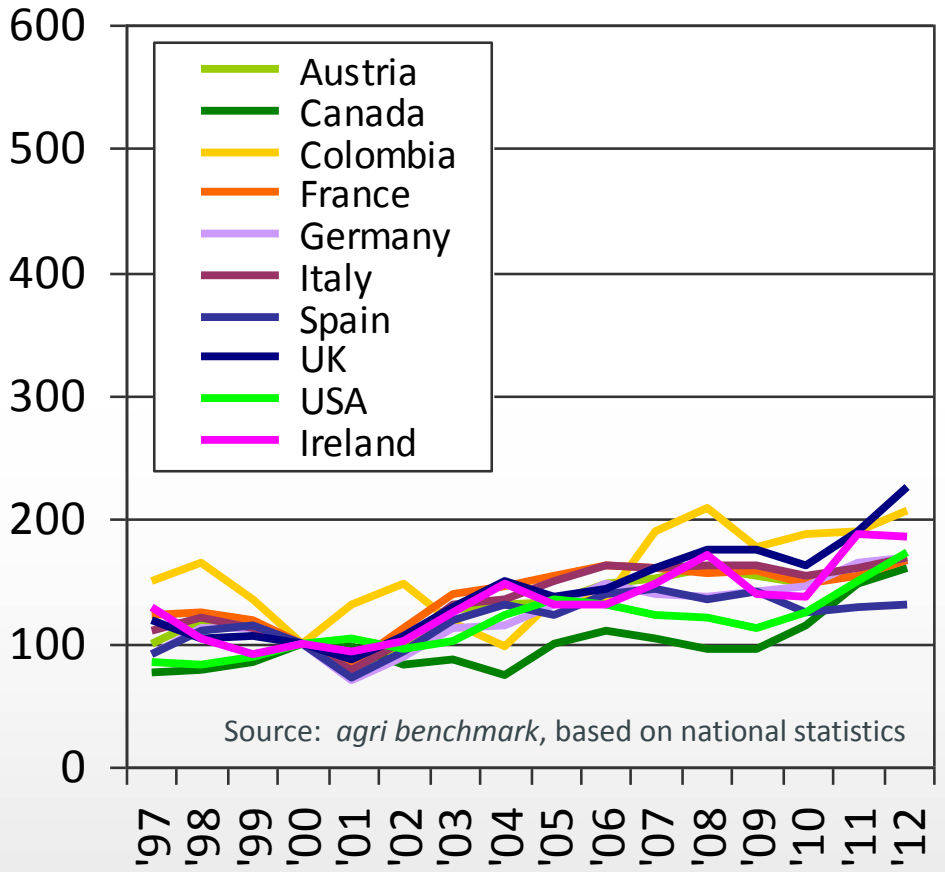


… and livestock prices too (Index 2000 = 100)

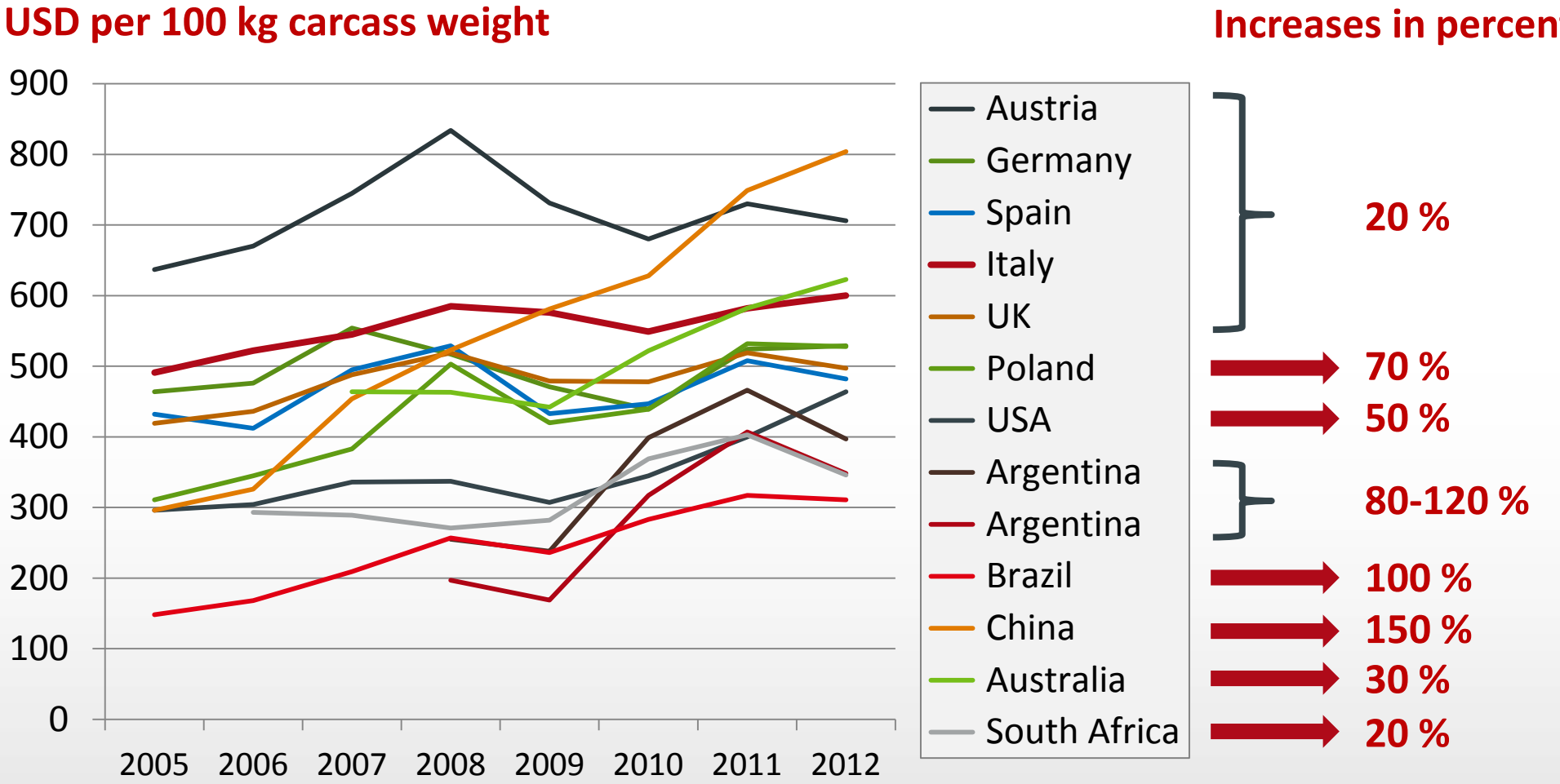
Index well above/around 200 in 2012 (USD)



Index around/less than 200 in 2012 (USD)

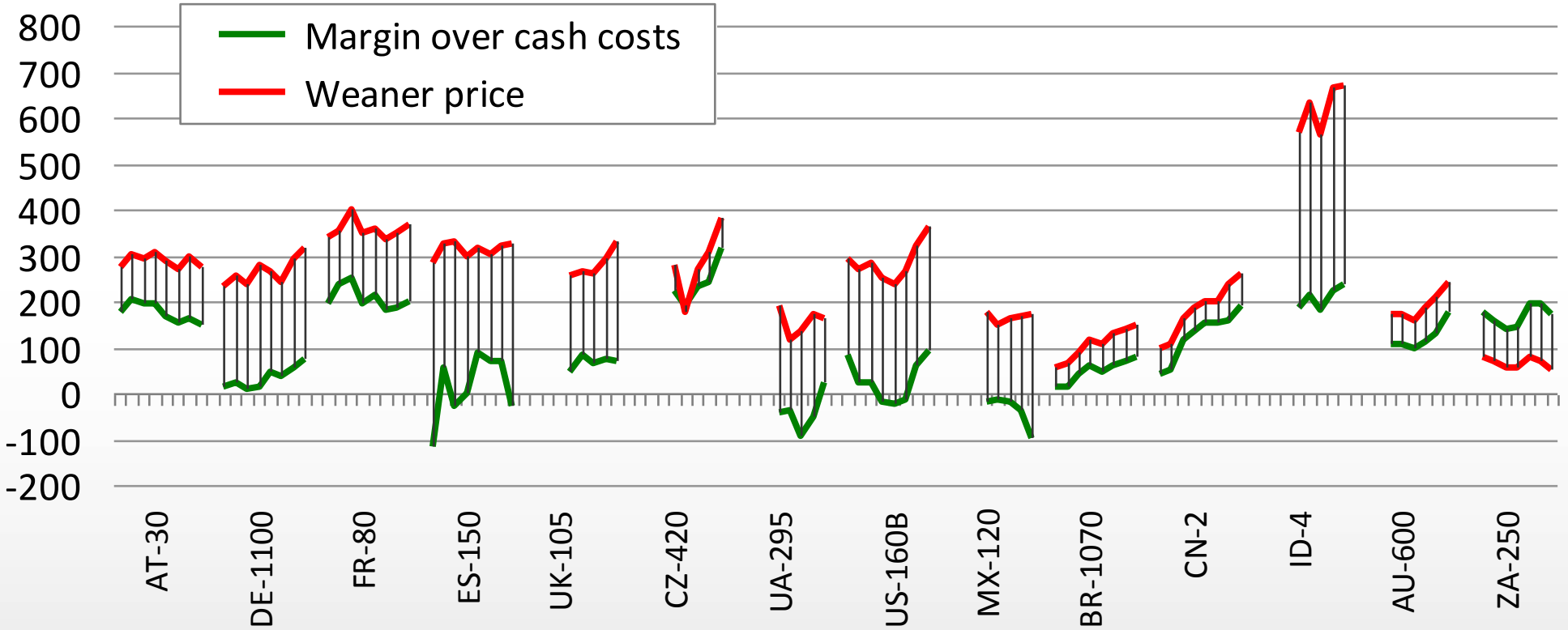


Cost developments 2005-2012 (USD and %)



Cow-calf: margins mainly driven by weaner prices

USD per 100 kg live weight

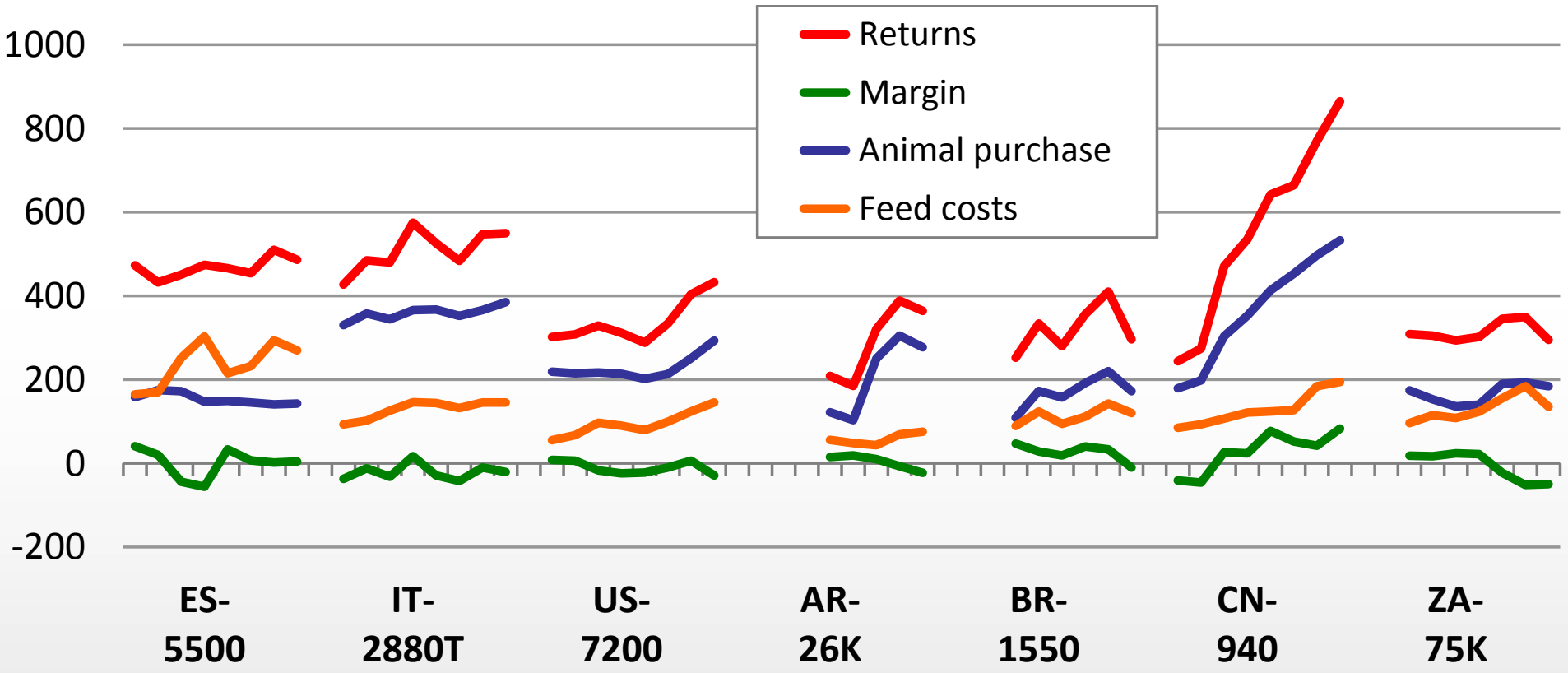


4 beef production systems

	Feed % in dry matter	Management/ Housing	Extent of purchase feed
 **Pasture**	> 30% pasture	Outdoor year round or part of the year	Low
 **Silage**	> 30% silage and other forages	Closed or semi-open barns with slatted floors and/or straw bedding	Medium
 **Feedlot**	> 50% grains and other energy feed	Confined, large, open pens, partially with sun-covers	High
 **Cut & Carry**	> 30% freshly cut grass & other vegetation	Mix of pens and grazing of paths and paddies	Low

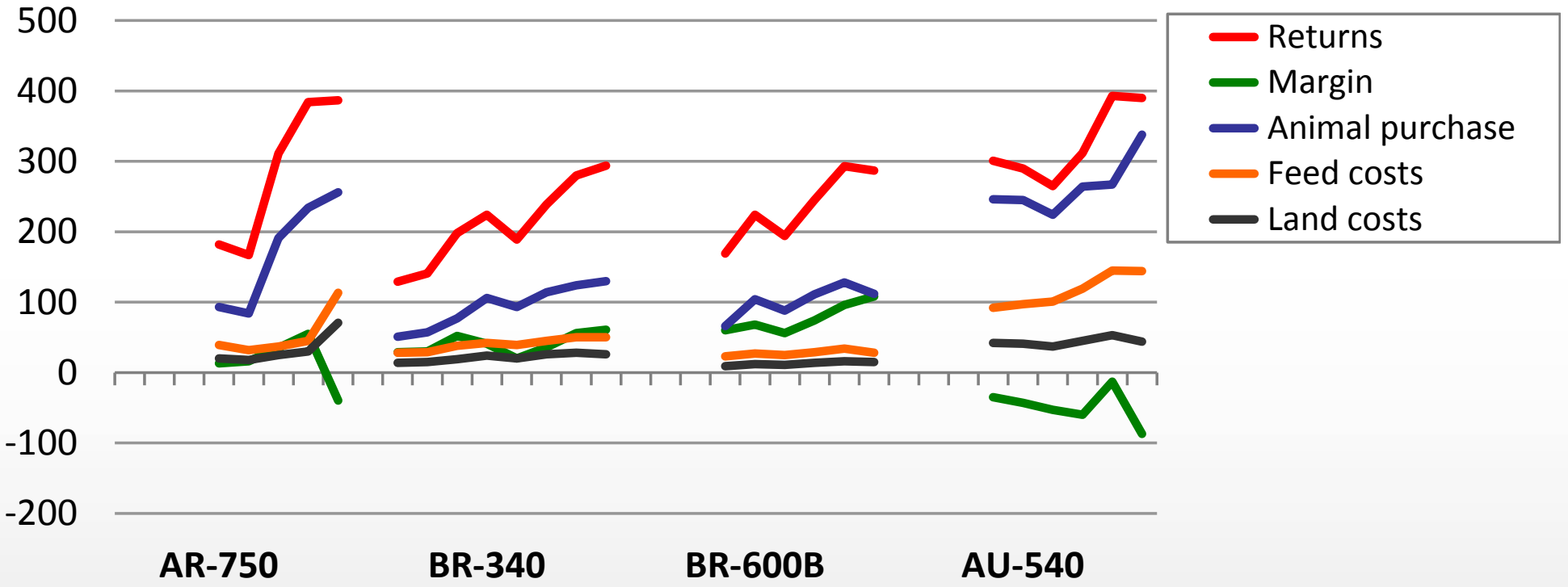
Feedlots: low margins depend heavily on animal purchase and feed costs (2005-2012)

USD per 100 kg carcass weight

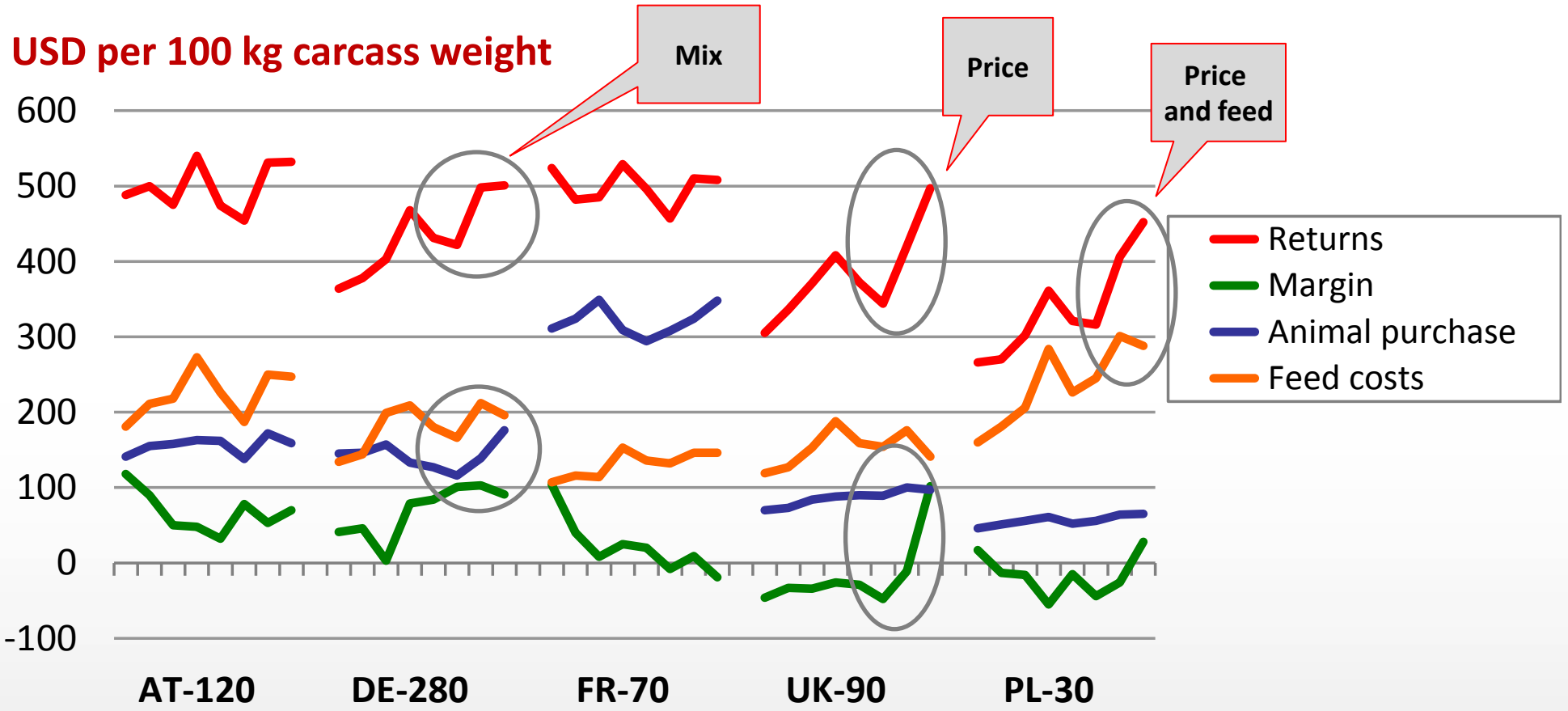


Pasture farms (2005-2012): Margin depends mainly on beef price, animal purchase and land

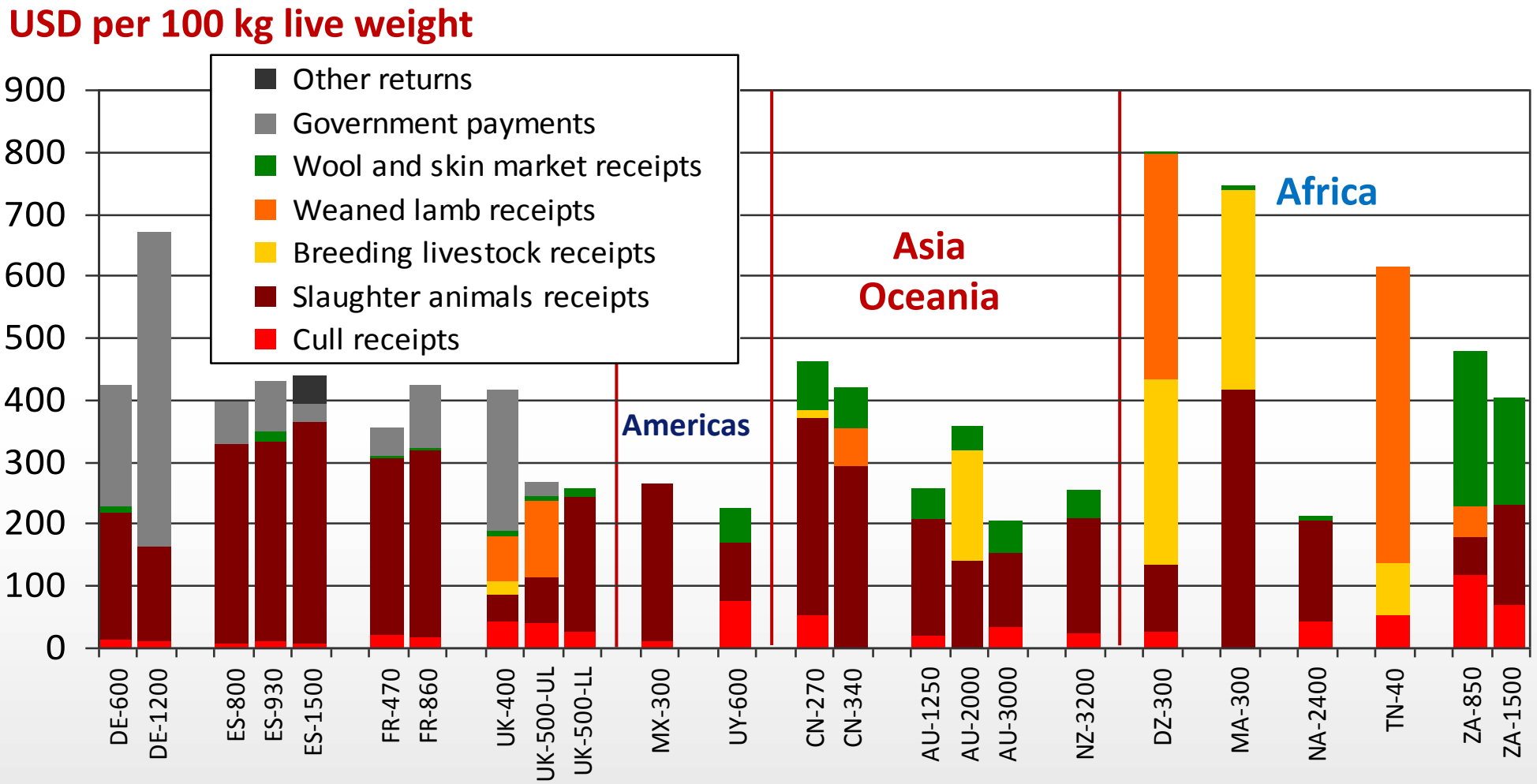
USD per 100 kg carcass weight



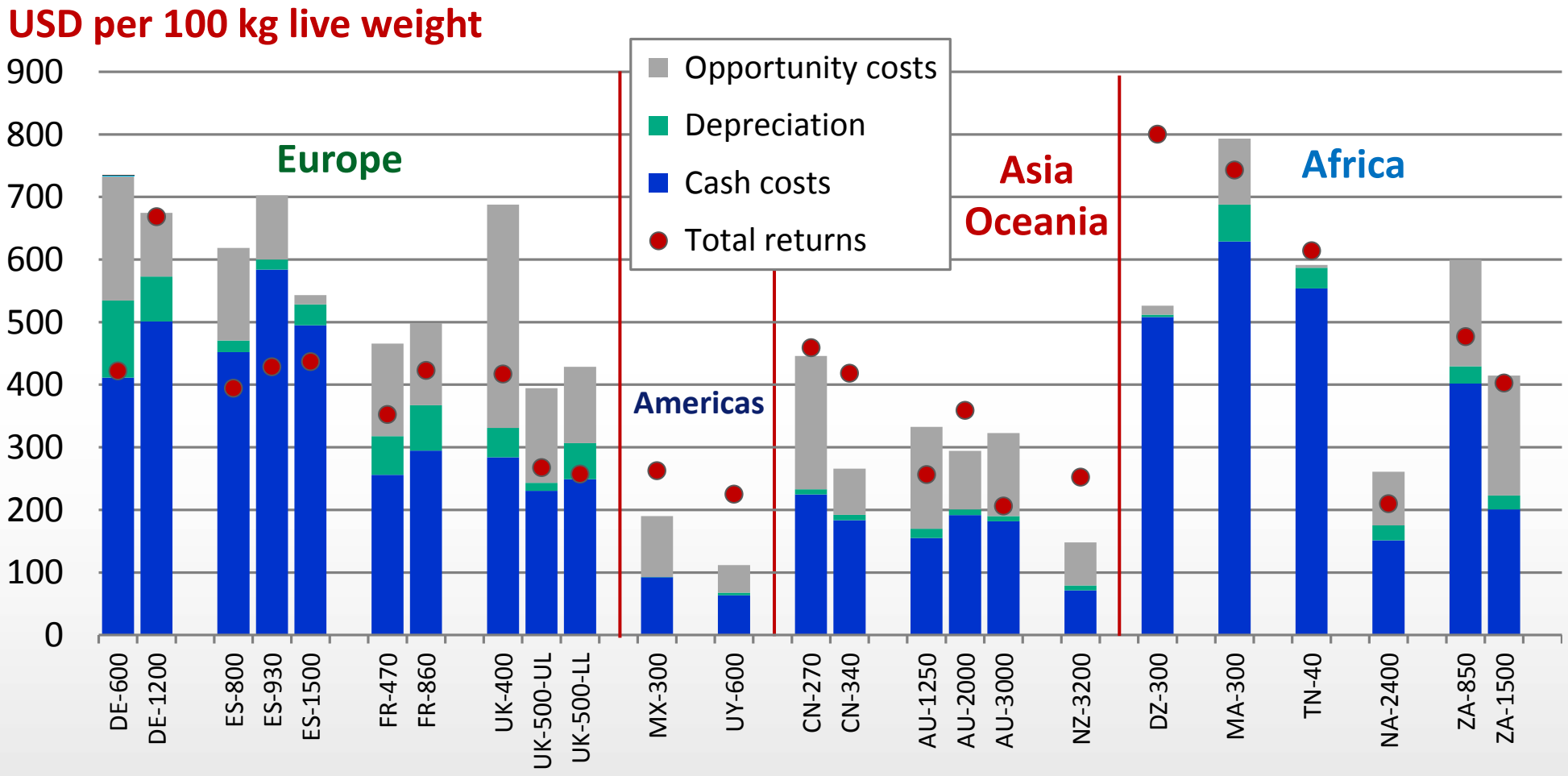
Silage farms (2005-2012): mixed drivers



Sheep receipts: a wide variation



Sheep profitability: not everywhere bad …



Challenges

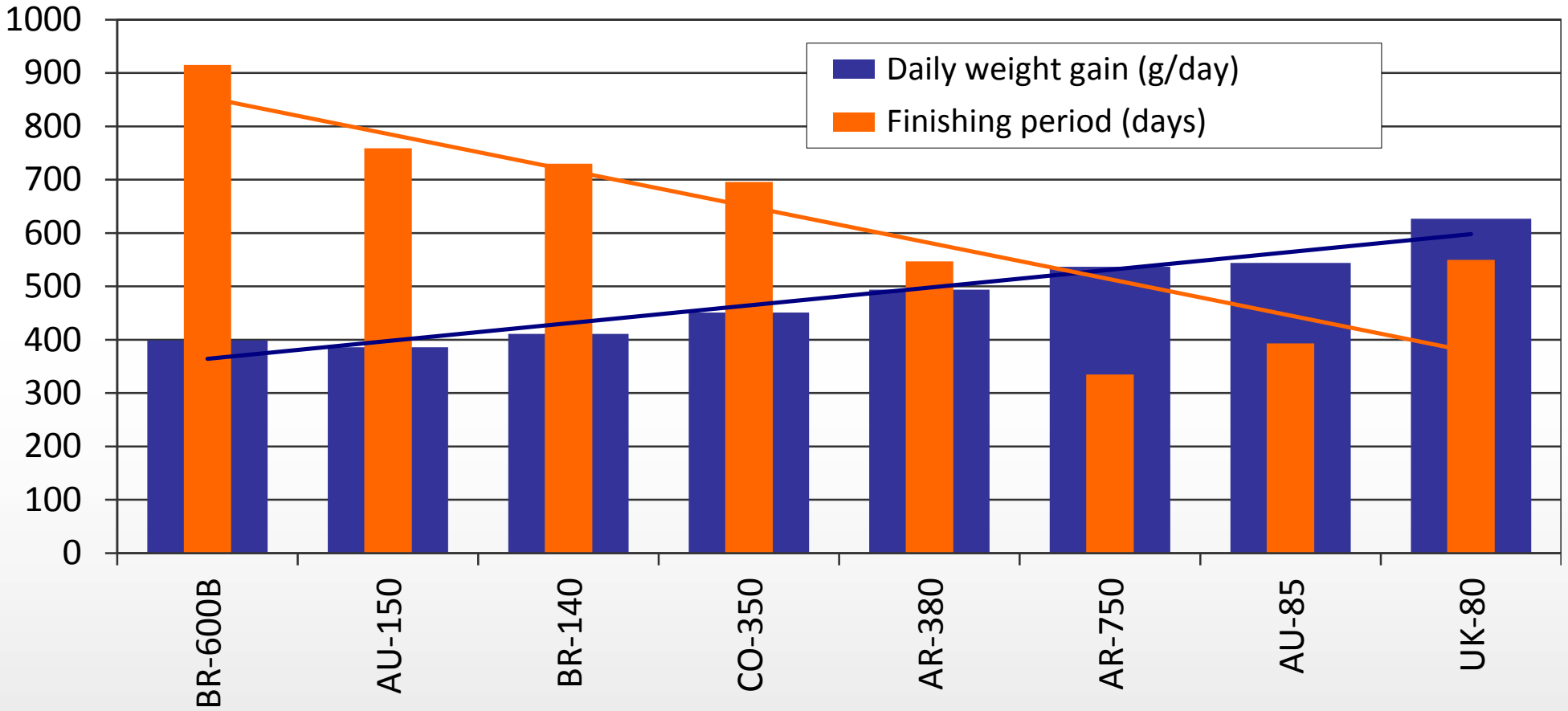
Challenges (or drivers?)

- Diseases (Bird Flu, FMD, Schmallenberg, Blue Tongue)
- Technical barriers (growth promoters, ractopamine)
- Food safety and scandals
  (horse meat, E-coli, antibiotics …)
- Animal welfare and related regulations
  (sow housing, castration of piglets, cage egg production …)
- Environmental restrictions on production
  (license to produce)
- Exchange rates
- Health issues attributed to meat consumption
- Increasing vegetarianism (coming from low level)

The particular challenge for beef

	Herbivores			Granivores	
	Beef		Sheep	Pig	Chicken
Land requirement	**Can use (marginal) grasslands**			Need grains	
Feed conversion	**6 - 8**			**2.5 - 3.1**	**1.7 - 2.3**
Cycles per year	**0.3**	(pasture)	1-1.5	**3**	**10 - 11**
	0.7-1	(silage)			
	2-3	(feedlot)			
Emissions					
animal	**high**		medium	low	low
manure	medium		low	**high**	**medium**
feed	low-medium		low-medium	**depends on N used for grains**	
sequestration	**not clear**		not clear	low	low
Convenience (prepare)	**low**		low-medium	**medium-high**	**high**

Increasing performance in the pasture system



Bridging the gap between top and bottom 25

GLOBAL AGENDA OF ACTION

IN SUPPORT OF SUSTAINABLE LIVESTOCK SECTOR DEVELOPMENT

- Multi-stakeholder approach coordinated by FAO/AGAL
- Gov’ts, NGOs, industry, research, FAO
- Three focus areas:
  1. Closing (“reducing”) the efficiency gap
     (*agri benchmark* / Ernesto Reyes chairs this Focus area)
  2. Restoring value to grassland (overgrazing, desertification …)
  3. From waste to worth (manure, water, nutrient, environment)

Increasing productivity in the pasture system

More calves per cow

- Genetics
- Reproduction management
- Reduction of mortality/disease

Improved pasture management

- Subdivision / fencing
- Rotational grazing
- Fertilisation
- New pasture varieties

>> more cows and calves per ha
>> higher weight gains
>> more weight per ha

Moving finishing from pasture to feedlot

Move cattle from pasture to feedlot

- Seasonal (Brazil), approx. 10 %
- Generally (Argentina), > 50 %
- 90-150 days

>> less land required for finishing

>> more cows/calves can be kept on remaining grassland

>> higher carcass weights

>> consistency of carcasses

>> improved beef quality?

>> environmental issues?

Ingredients

Incentives
- Prices rather than subsidies
- Integration of producers (where does my beef go?)

Technology
- Genetics
- Mechanisation
- Growth promoters

Analysis / benchmarking
- With others and over time
- Buy or share a weigher
- Participate in *agri benchmark*

Management
- Animals (health, performance)
- Feed (yield and quality)
- Marketing

(Further) education
- Research
- Extension and advisory

My personal conclusions

- High meat prices (and costs) in the world, not only in Europe
- Profitability low and driven by feed, land, energy and labour (mainly in emerging economies)
- (Decoupled) government payments and other enterprises important for whole farm profitability
- Sheep in 2012 slightly better off than beef
- Productivity increases will happen, mainly in pasture systems and through transition of finishing from pasture to feedlot
- Big potential from reducing the gap between bottom 25 and top 25
- Education, incentives and extension services are key

agri benchmark

– passionate about facts

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