Investment outlook for the global animal protein industry

Global Political/Economic playing field and influences

Nan-Dirk Mulder, 1 March 2016
1. *Short term economic outlook for the industry*
2. *Investing in global animal protein: a long term view*
3. *Outlook for the African feed to meat industry*
Rabobank: The world’s leading global F&A bank
Animal protein is our sweet spot

14 out of top 20 meat companies are client of Rabobank
Exposure in Animal Protein: EUR 19 billion
Worsening of economic conditions has impact on world meat market

**IMF Economic outlook: GDP Growth 2014-2016f**

<table>
<thead>
<tr>
<th>Country</th>
<th>2015 (e)</th>
<th>2016</th>
<th>GDP Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>2.4%</td>
<td>1.2%</td>
<td>1.7%</td>
</tr>
<tr>
<td>United States</td>
<td>2.5%</td>
<td>2.6%</td>
<td>2.6%</td>
</tr>
<tr>
<td>Mexico</td>
<td>2.1%</td>
<td>2.5%</td>
<td>2.6%</td>
</tr>
<tr>
<td>Brazil</td>
<td>0.1%</td>
<td>-</td>
<td>-3.8%</td>
</tr>
<tr>
<td>South Africa</td>
<td>-0.7%</td>
<td>0.5%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Argentina</td>
<td>0.5%</td>
<td>0.4%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Russia</td>
<td>0.9%</td>
<td>1.5%</td>
<td>1.7%</td>
</tr>
<tr>
<td>Euro zone</td>
<td>5.0%</td>
<td>3.5%</td>
<td>4.0%</td>
</tr>
<tr>
<td>Sub Saharan Africa</td>
<td>1.3%</td>
<td>0.7%</td>
<td>0.6%</td>
</tr>
<tr>
<td>Brazil</td>
<td>-3.8%</td>
<td>-3.5%</td>
<td>-0.7%</td>
</tr>
<tr>
<td>South Africa</td>
<td>-0.7%</td>
<td>0.5%</td>
<td>0.4%</td>
</tr>
<tr>
<td>China</td>
<td>7.3%</td>
<td>6.6%</td>
<td>6.3%</td>
</tr>
<tr>
<td>India</td>
<td>7.3%</td>
<td>7.5%</td>
<td>7.3%</td>
</tr>
<tr>
<td>Japan</td>
<td>0.0%</td>
<td>0.6%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Australia</td>
<td>2.7%</td>
<td>2.4%</td>
<td>2.9%</td>
</tr>
<tr>
<td>Argentina</td>
<td>0.5%</td>
<td>0.4%</td>
<td>0.1%</td>
</tr>
</tbody>
</table>

Source: Rabobank, IMF Economic Outlook, January 2016
Economic volatility: Strong impact on global exchange rates

Exchange rate volatility 2007-2016

Source: Rabobank analysis, 2016
Oil versus grain prices: towards structural lower levels?

*Oil prices versus corn and soybean prices*

Source: Rabobank analysis 2016
Global grain and oilseed prices: A roller coaster

*Grains and oilseed price monitor 2000-2016*

Source: Rabobank analysis 2016
High grains and oilseed prices has triggered more investments in new agricultural land.

Global grains and oilseed area for 2015

The 1960s and 1970s: +115 million hectares
The oversupply years: +10 million hectares
The booming years: +70 million hectares

New record: 515 million hectare

Source: Rabobank, USDA 2016
Slowdown in biofuel demand

Global demand for biofuels

Biofuel impact on agriculture

Source: Rabobank analysis, BP, 2016
Ample stocks in the world grains markets

**Stock to use ratio G&O**

Source: Rabobank analysis 2016

**Rabobank price outlook G&O**

Source: Rabobank analysis 2016
Global animal protein industry has benefited from lower feed prices until recent oversupply.

Source: Rabobank analysis based on Bloomberg, FAO, USDA, local statistics, 2016
Meat market keeps growing but at slower pace, China remains different

**Global market excl. China**

<table>
<thead>
<tr>
<th>Year</th>
<th>Chicken</th>
<th>Eggs</th>
<th>Pork</th>
<th>Beef</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>50,000</td>
<td>20,000</td>
<td>30,000</td>
<td>10,000</td>
</tr>
<tr>
<td>2013</td>
<td>55,000</td>
<td>25,000</td>
<td>35,000</td>
<td>15,000</td>
</tr>
<tr>
<td>2014</td>
<td>60,000</td>
<td>30,000</td>
<td>40,000</td>
<td>20,000</td>
</tr>
<tr>
<td>2015</td>
<td>65,000</td>
<td>35,000</td>
<td>45,000</td>
<td>25,000</td>
</tr>
<tr>
<td>2016f</td>
<td>70,000</td>
<td>40,000</td>
<td>50,000</td>
<td>30,000</td>
</tr>
</tbody>
</table>

CAGR: 2.2%, 2.1%, 0.7%, -0.4%

**China meat and egg market**

<table>
<thead>
<tr>
<th>Year</th>
<th>Chicken</th>
<th>Eggs</th>
<th>Pork</th>
<th>Beef</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>5,000</td>
<td>2,000</td>
<td>3,000</td>
<td>1,000</td>
</tr>
<tr>
<td>2013</td>
<td>5,000</td>
<td>2,000</td>
<td>3,000</td>
<td>1,000</td>
</tr>
<tr>
<td>2014</td>
<td>5,000</td>
<td>2,000</td>
<td>3,000</td>
<td>1,000</td>
</tr>
<tr>
<td>2015</td>
<td>5,500</td>
<td>2,200</td>
<td>3,300</td>
<td>1,100</td>
</tr>
<tr>
<td>2016f</td>
<td>6,000</td>
<td>2,400</td>
<td>3,600</td>
<td>1,300</td>
</tr>
</tbody>
</table>

CAGR: -1.6%, 0.4%, 1.5%, 2.8%

Source: Rabobank analysis based on USDA, FAO and local statistics, 2016
Fastest growing poultry markets are in Middle East and Africa

Global poultry consumption growth in 2015

Source: Rabobank analysis based on USDA, FAO and local statistics, 2016
Slowdown in expansion global meat trade

Global meat trade by major exporters

- Economic slowdown
- Animal diseases: AI and ASF
- Russia sanctions
- Exchange rate volatility

Brazil United States EU India Canada Australia Other
Poultry growth everywhere, pork growth mainly in America and Russia

*Global meat and poultry production growth in 2015*

Source: Rabobank analysis based on USDA and regional data, 2016
Content

1. Short term economic outlook for the industry
2. Investing in global animal protein: a long term view
3. Outlook for the African feed to meat industry
Fast growth in animal protein: 35% more in next 20 years

Global demand for animal protein

Source: Rabobank analysis, FAO, OECD, FAPRI, 2016

Change: 15/35
Seafood: +30%
Eggs: +50%
Poultry: +65%
Pork: +35%
Beef: +20%

Source: Rabobank analysis, FAO, OECD, FAPRI, 2016
70% of global meat and egg demand growth is in Asia

Global market volume change 2014-2024

First tier: 59%
Second tier: 20%
Rest: 21%

Source: Rabobank forecast based on FAO, FAPRI, OECD. 2016
Asia lacks adequate resources

**Global land and water availability per capita**

[Bar chart showing land and water availability per capita for various countries, with Sub-Saharan Africa having the highest availability at 45%, followed by Brazil and Argentina at 10% and 7% respectively.]

**Available new agricultural land**

[Pie chart showing the distribution of available new agricultural land, with Sub-Saharan Africa having the largest share at 45%, followed by Brazil at 10%, Argentina at 7%, Other South America at 11%, Russia at 9%, Other Eastern Europe/Central Asia at 3%, and Rest of the World at 15%.]

Source: Rabobank, FAO 2015

Source: FAO/Rabobank analysis 2015
Need for a fast modernizing of Asian animal protein industry

- Higher incomes and welfare
- Modern distribution
- Food safety
- Animal disease threat
- High feed prices/limited resources

- Modern value chain
- Larger companies
- Vertical integration
- Efficiency
- Yield
- Value chain management
- Sustainability

More modern compound feed demand
The rising importance of Asia for global soybean and meat trade

China’s rising share in global soybean trade

Asia’s rising share in global meat trade

Source: Rabobank analysis, Bloomberg, USDA, 2016
Securing supply: Japan, China and Middle East to invest overseas

Globalization in the animal protein industry

Source: Rabobank, 2016
Globalisation of the industry: Companies from emerging markets take the lead

Top 20 Global meat companies 2016

Source: Rabobank
Global feed industry landscape already dominated by Asian players

Top 20 Global compound feed companies

Source: Rabobank analysis 2016
Content

1. Short term animal protein market outlook
2. Investing in global animal protein: a long term view
3. Outlook for the African feed to meat industry
Sub Saharan Africa: The new frontier in global poultry investments

Africa meat and egg market 2025f

Africa Poultry Growth by Market

Source: Rabobank projections based on USDA, FAO and local statistics, 2016
SSA economy keeps growing especially in Eastern Africa with an increasing middle class

Source: IMF Economic Outlook, 2016

Real GDP change 2014, 2015 and 2016

Africa’s Rising Middle Class

Share in income distribution

Source: IMF Economic Outlook, 2016
Economic development drives food market change

ECONOMIC TAKE-OFF
Food as a need
Income: < $5,000

Time free

Location Bound

ECONOMIC DEVELOPMENT
Food as a social occasion
Income: $5,000 - $15,000

Source: Rabobank analysis, 2015

ECONOMIC CONSOLIDATION
Food as nutrition/well-being
Income: $15,000 - $40,000

Location free

ECONOMIC REINVENTION
Food as stimulation
Income: > $40,000

Time bound
Larger middle class leads to fast expansion of modern distribution

Supermarket chains in South Africa

KFC Expansion in Africa

Source: Rabobank analysis, 2016

Source: Rabobank Analysis
Capturing the African investment opportunity

Assessment model for successful investments in Africa

Investment climate and stability
- Business Climate
- Political Stability
- Governmental Support including imports

Market potential
- Sales market growth
- Modern distribution growth

Resources and infrastructure
- Infrastructure
- Local skills and productivity
- Local finance

Availabilty of inputs: Competitive power
- Livestock supply and competitive power
- Grain and oilseed and farm input supply

Source: Rabobank analysis, 2016
The high potential markets for investments in poultry and eggs

Identifying the high potential markets in Sub Saharan Africa

**Nigeria:**
- Large and growing poultry industry
- Population 174 million, GDP/Capita USD 3,006
- Import restrictions
- Oil dependency

**Angola:**
- Undeveloped poultry industry and resources
- Import substitution
- Population 21 million, USD GDP Capita 5,900
- High opportunity, high risk

**Zambia:**
- Most modern poultry industry in SSA except South Africa with hub potential
- Population 16 million, GDP/capita USD 1,900
- Infrastructure issues and FX devaluation

**Ethiopia:**
- Small but fast growing poultry industry
- Population 94 million, GDP/capita USD 505
- Resources

**Uganda:**
- Fast growing poultry industry
- Population: 38 million, GDP/capita USD 656
- Hub potential

**Kenya:**
- Sizeable and growing poultry industry
- Population: 44 million, GDP/capita USD 1,246
- Resources

**Tanzania:**
- Poultry industry is taking off
- Population 49 million, GDP/capita USD 903
- High opportunity, high risk

**Zambia:**
- Most modern poultry industry in SSA except South Africa with hub potential
- Population 16 million, GDP/capita USD 1,900
- Infrastructure issues and FX devaluation

**Source:** Rabobank projections based on USDA, FAO and local statistics, 2016
Lessons for successful investors in Africa

- Secure your inputs: vertical integration
- Invest in meat processing if market allows
- Invest in management and training
- Mitigate your risks
- JVs with local player to deal with bureaucracy
- Feed and hatchery are base for investments

Source: Rabobank analysis 2016
Feed and breeding as base for value chain investments

Source: Rabobank analysis 2016

Limited available and low quality resources

Fast growing demand
Bigger middle class
Expanding retailers and QSRs
Wet market sales

Secure high quality, low priced feed ingredients

Enter high quality meat market

Secure quality
Improve efficiency
Early adapter margin potential

Governmental ambitions for food security and self sufficiency
Weak infrastructure
Access to finance

Local investors
South African investors
International investors

Source: Rabobank analysis 2016
Investing in Africa is a bumpy road, but with significant early adaptor benefits

**Risks involved as international investor**

- Local business climate
- Trade disruptions
- Economic stability
- Exchange rates
- Animal disease

**Exchange rate volatility**

Index Jan 2013=100

Source: Rabobank analysis 2016
Towards the Asian and African decades in animal protein development

Global investments in the animal protein industry

Source: Rabobank, 2016
More interest from international investors in Africa, South Africa has the lead

Why South Africa as leading investor?

- Supermarket/ Food service linkages
- Trade: feed ingredients and genetics
- Geographical advantage
- Cultural advantage
- Risk mitigation advantage

Source: Rabobank analysis 2016
Thanks for your attention

Questions?
nan-dirk.mulder@rabobank.com

Nan-Dirk Mulder, 1 March 2016