# Risk Management
## Smart hedging

**Cooperative initiative by pig farmers**


DLV Market Advisory Services

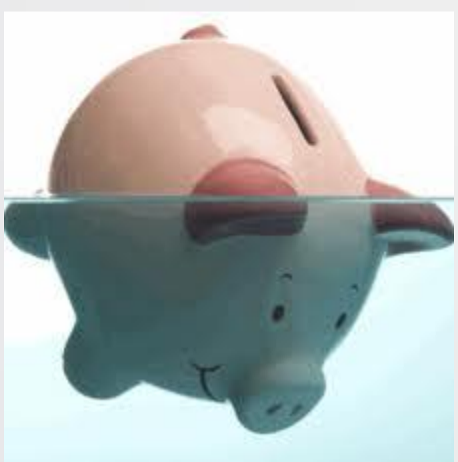
Dirk Coucke


**October 2013**

# Problem meat production

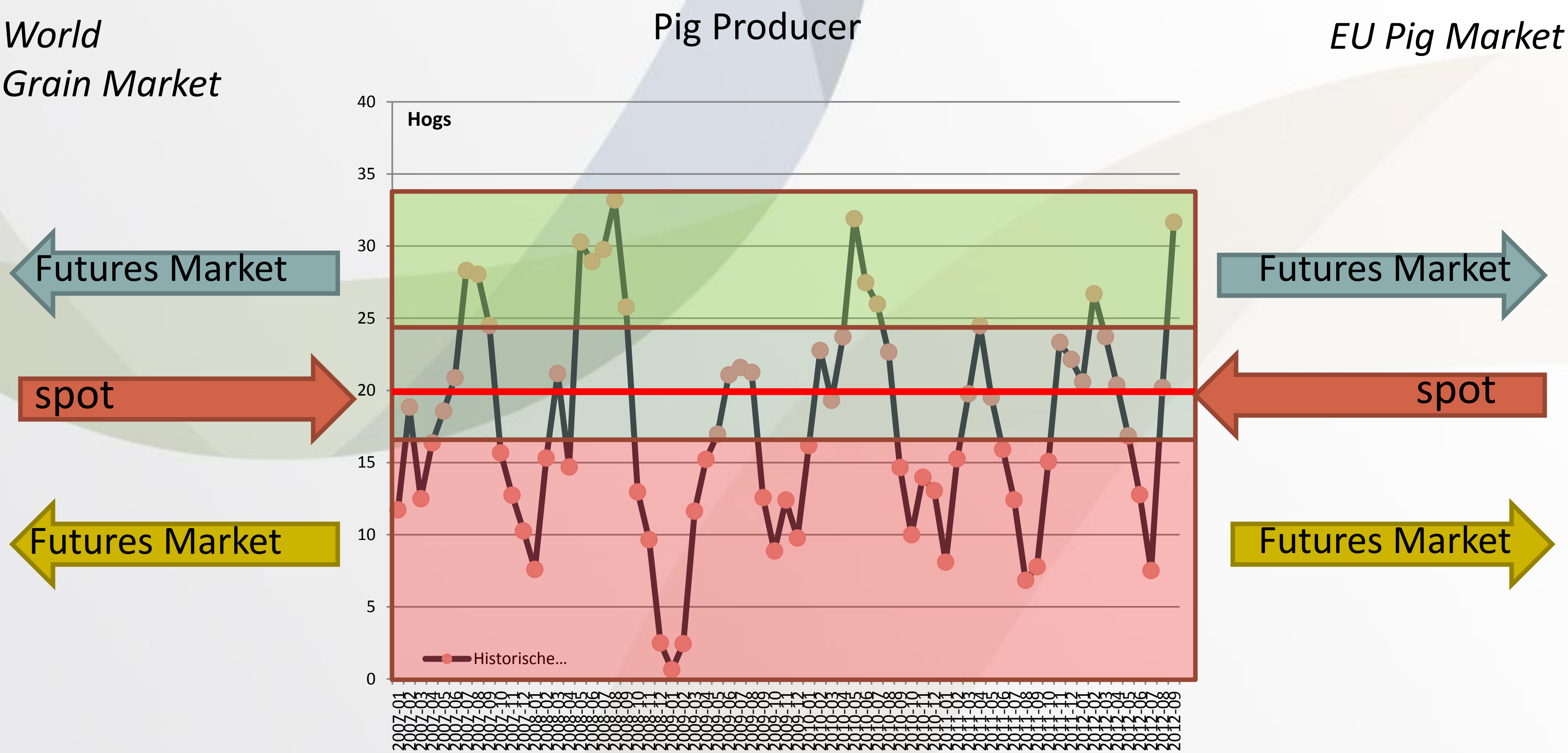
- Increasing Price-volatility of Agricultural Commodities
- Decreasing correlation between feed prices and meat prices
- Increasing specialisation in livestock farming
- Increasing external financing

- → Price risks becomes financial risks (fundamental !)



DLV MAS
market advisory services

# Decreasing Price Risks ?



# Price Stability Possibilities

- Physical long term contracts
  - Negotiation and calculation is possible
- Futures market
  - Smart hedging
- Combination of both : AA or EFP-contracts

# Smart Hedging

- Calculation of needed gross margin
- Calculation of possible hedging effectivity, hedging ratio and correlation of physical price and future price
- Hedging of revenue AND cost prices
- Single product or multi-product hedging
- Monitoring gross margins
- Using all Market information available

DLV MAS market advisory services

# Pig Trading Companies (PTC)

- **PTC-West** cvba (18-07-12)
- **PTC-Oost** cvba (04-09-12)

  → Cooperatives of pig farmers !!

  → 68 Hog & Piglet Producers

  → 12% of the Belgian Pig Meat Market Share

PIG TRADING COMPANY WEST

PIG TRADING COMPANY OOST

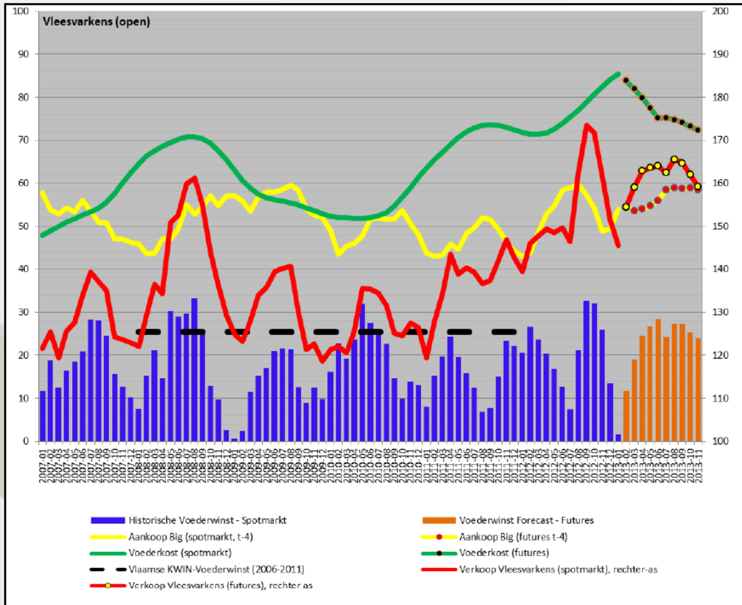
DLV MAS market advisory services

# 3 targets

- Delivering usefull Market-information
- Increasing liquidity FHOG- & FPIG-future
- Risk Management by hedging crush margins

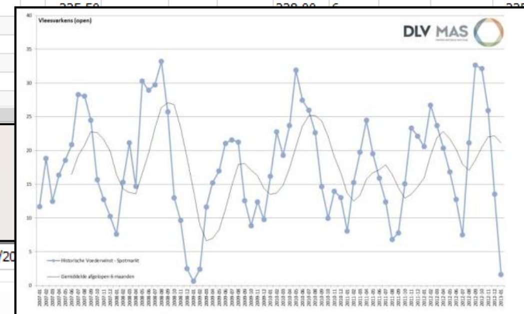
DLV MAS
market advisory services

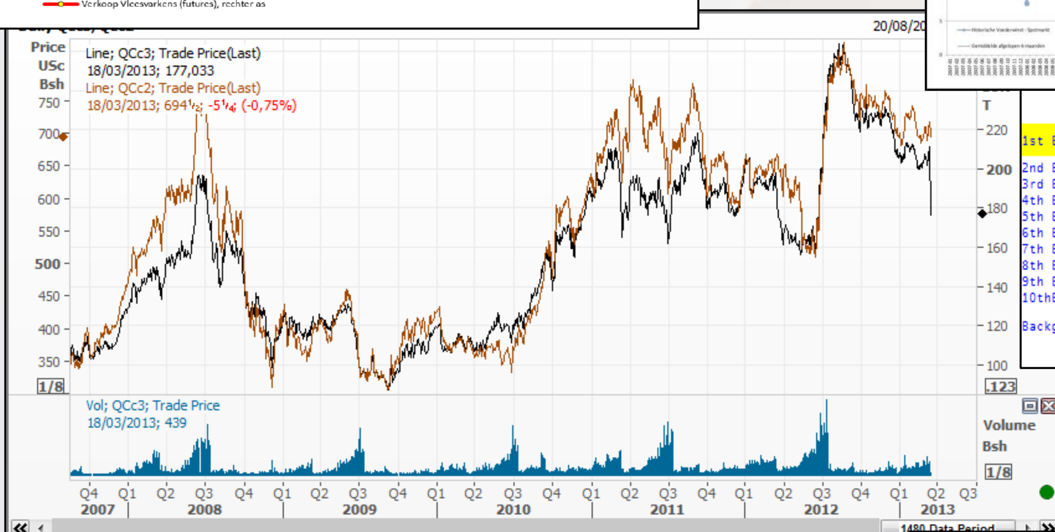
# Market Information




| | Name | | Last | Pct.Chng | B Size | Bid | Ask | A Size | Net Chng | Pct.Chng | Close | Volume | Open.Int |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cc1 | CORN MAY3 | ↑ | 711 | -0.84 % | 9 | 710¾ | 711¼ | 17 | -6 | -0.84 % | 717 | 9727 | 533883 |
| Cc2 | CORN JUL3 | ↑ | 695 | -0.75 % | 16 | 694 | 694½ | 5 | -5¼ | -0.75 % | 700¼ | 4963 | 244987 |
| Cc3 | CORN SEP3 | ↓ | 582¼ | -0.77 % | 2 | 582¼ | 583¼ | 16 | -4½ | -0.77 % | 586¾ | 439 | 106698 |
| Cc4 | CORN DEC3 | ↑ | 558½ | -0.58 % | 3 | 557¾ | 558½ | 13 | -3¼ | -0.58 % | 561¾ | 2090 | 316712 |
| Cc5 | CORN MAR4 | ↓ | 567½ | -0.61 % | 3 | 567 | 568 | 14 | -3½ | -0.61 % | 571 | 34 | 22674 |
| Cc6 | CORN MAY4 | | 578 | | 4 | 573¾ | 575 | 14 | | | 578 | 3 | 7604 |
| Cc7 | CORN JUL4 | ↑ | 579¾ | -0.34 % | 3 | 577¾ | 579 | 7 | -2 | -0.34 % | 581¾ | 15 | 4703 |
| Cc8 | CORN SEP4 | | 550¾ | | 1 | 544¾ | 549¾ | 1 | | | 550¾ | | 495 |
| Cc9 | CORN DEC4 | ↑ | 547½ | -0.45 % | 3 | 546 | 547¼ | 1 | -2½ | -0.45 % | 550 | 14 | 19062 |
| Cc10 | CORN MAR5 | | 554½ | | 1 | 548 | 553¼ | 1 | | | 554½ | | 82 |
| Cc11 | CORN MAY5 | | 559¼ | | 1 | 547¾ | 560 | 1 | | | 559¼ | | 10 |
| Cc12 | CORN JUL5 | | 561¼ | | 1 | 553¾ | 560¾ | 1 | | | 561¼ | | 138 |
| Cc13 | CORN SEP5 | | 548¾ | | 1 | 527½ | 550 | 5 | | | 548¾ | | |
| Cc14 | CORN DEC5 | | 544¼ | | 1 | 539½ | 545 | 8 | | | 544¼ | 1 | 1779 |
| Cc15 | CORN JUL6 | | 562 | | 1 | 544¼ | 564¾ | 1 | | | 562 | | 200 |
| EMAc1 | MAIZE EUR JUN3 | | 225.25 | | 80 | 220.00 | 227.00 | 7 | | | 225.25 | | 13259 |
| EMAc2 | MAIZE EUR AUG3 | | [illegible] | | | | [illegible] | [illegible] | | | [illegible] | | 2629 |
| EMAc3 | MAIZE EUR NOV3 | | | | | | | | | | [illegible] | | 6293 |
| EMAc4 | MAIZE EUR JAN4 | | | | | | | | | | [illegible] | | 807 |
| EMAc5 | MAIZE EUR MAR4 | | | | | | | | | | [illegible] | | 100 |
| EMAc6 | MAIZE EUR JUN4 | | | | | | | | | | [illegible] | | 7 |
| EMAc7 | MAIZE EUR AUG4 | | | | | | | | | | [illegible] | | |

18/03/2013 9:39:43 (GMT+1)




09:40

News

| | Order | Bid Size | Bid / Ask | Ask Size | Order |
|---|---|---|---|---|---|
| 1st Best | 1 | 1 | 1289½/1291¾ | 5 | 1 |
| 2nd Best | 1 | 2 | 1289¼/1292¼ | 1 | 1 |
| 3rd Best | 1 | 1 | 1288¼/1292½ | 1 | 1 |
| 4th Best | 2 | 2 | 1288/1292¾ | 2 | 2 |
| 5th Best | 1 | 1 | 1287¾/1293 | 1 | 1 |
| 6th Best | 1 | 1 | 1287½/1293½ | 1 | 1 |
| 7th Best | 1 | 1 | 1287¼/1301 | 3 | 2 |
| 8th Best | 1 | 1 | 1287/1303 | 2 | 2 |
| 9th Best | 1 | 5 | 1285/1304 | 1 | 1 |
| 10thBest | 1 | 1 | 1282¼/1304¼ | 1 | 1 |

Background : Chaining :

18/03/2013 9:40:57 (GMT+1)

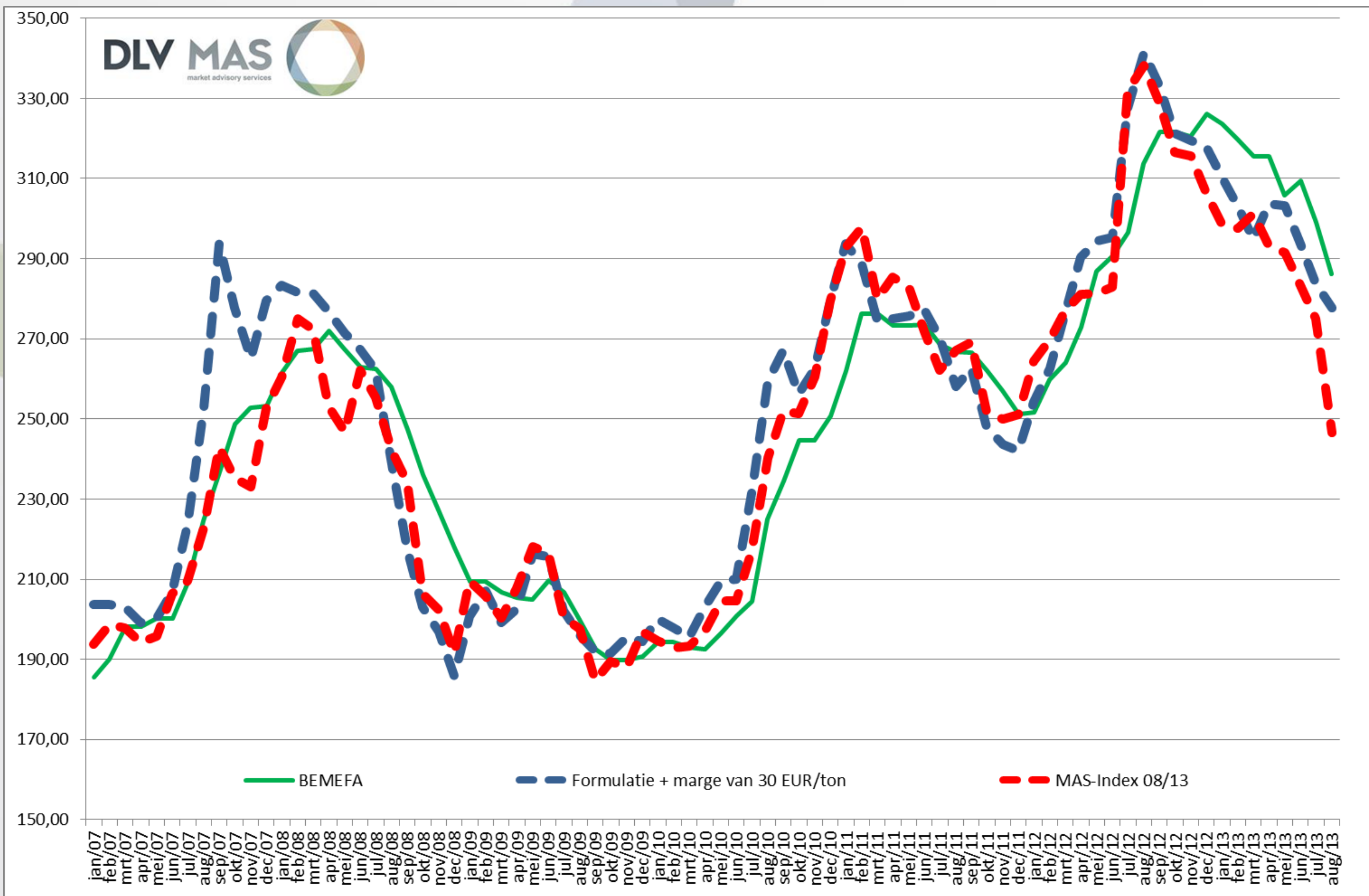
DLV MAS market advisory services

# Cross hedge

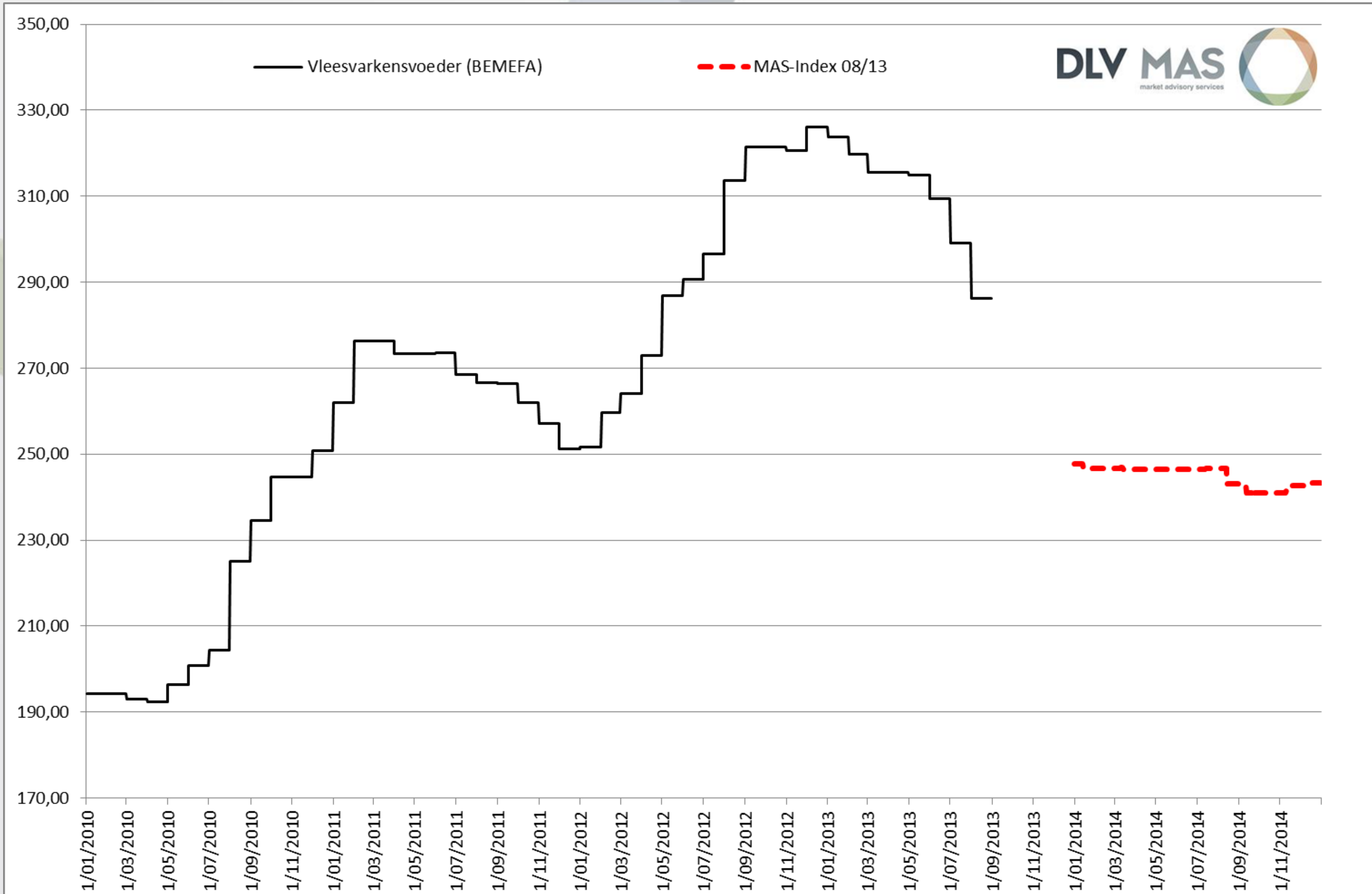
- Cross-hedging feed-prices
- “translating“ grain and oilseed-futures into future feed-prices

DLV MAS
market advisory services

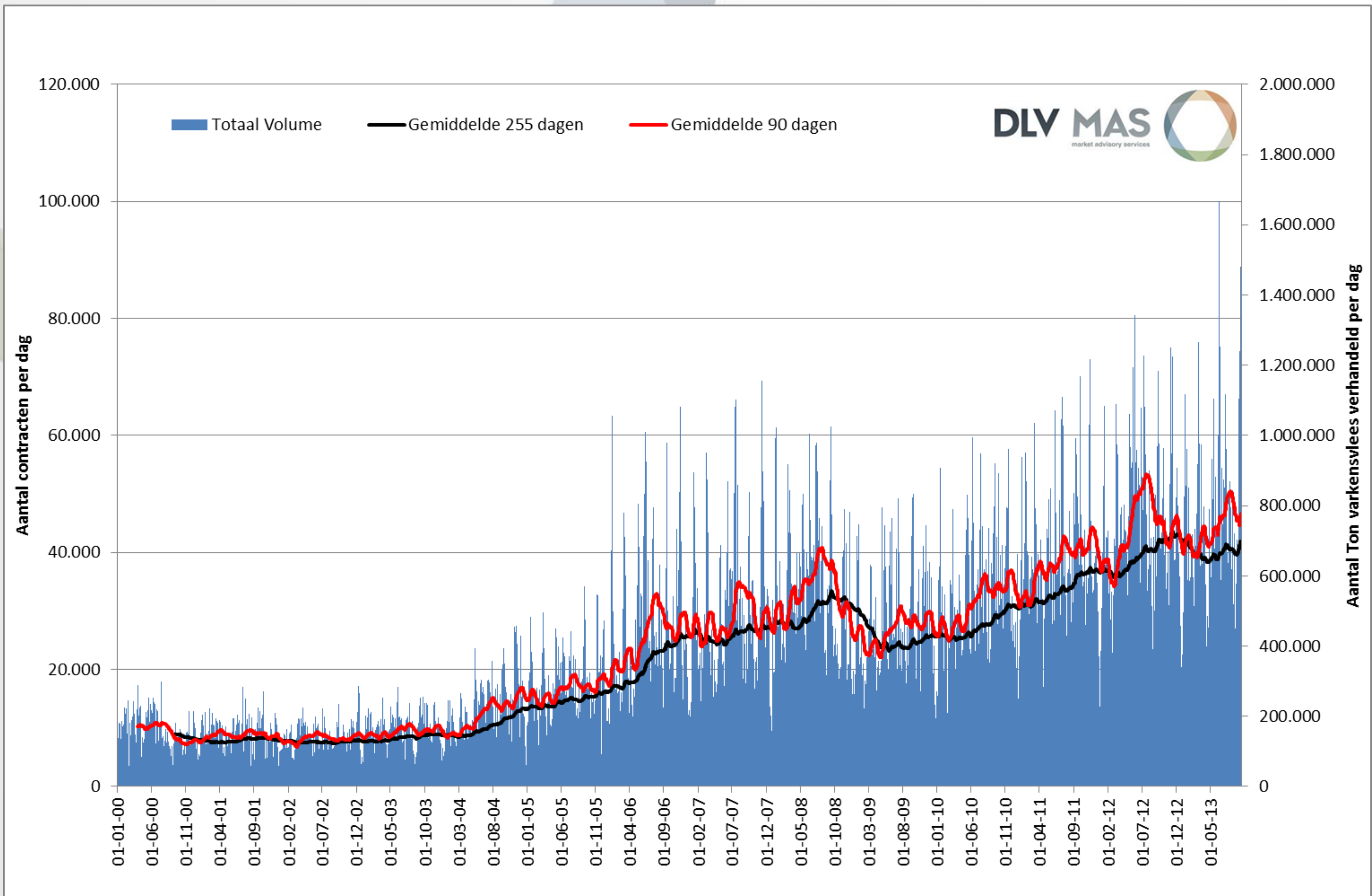
# Feed: Multi Product Hedge



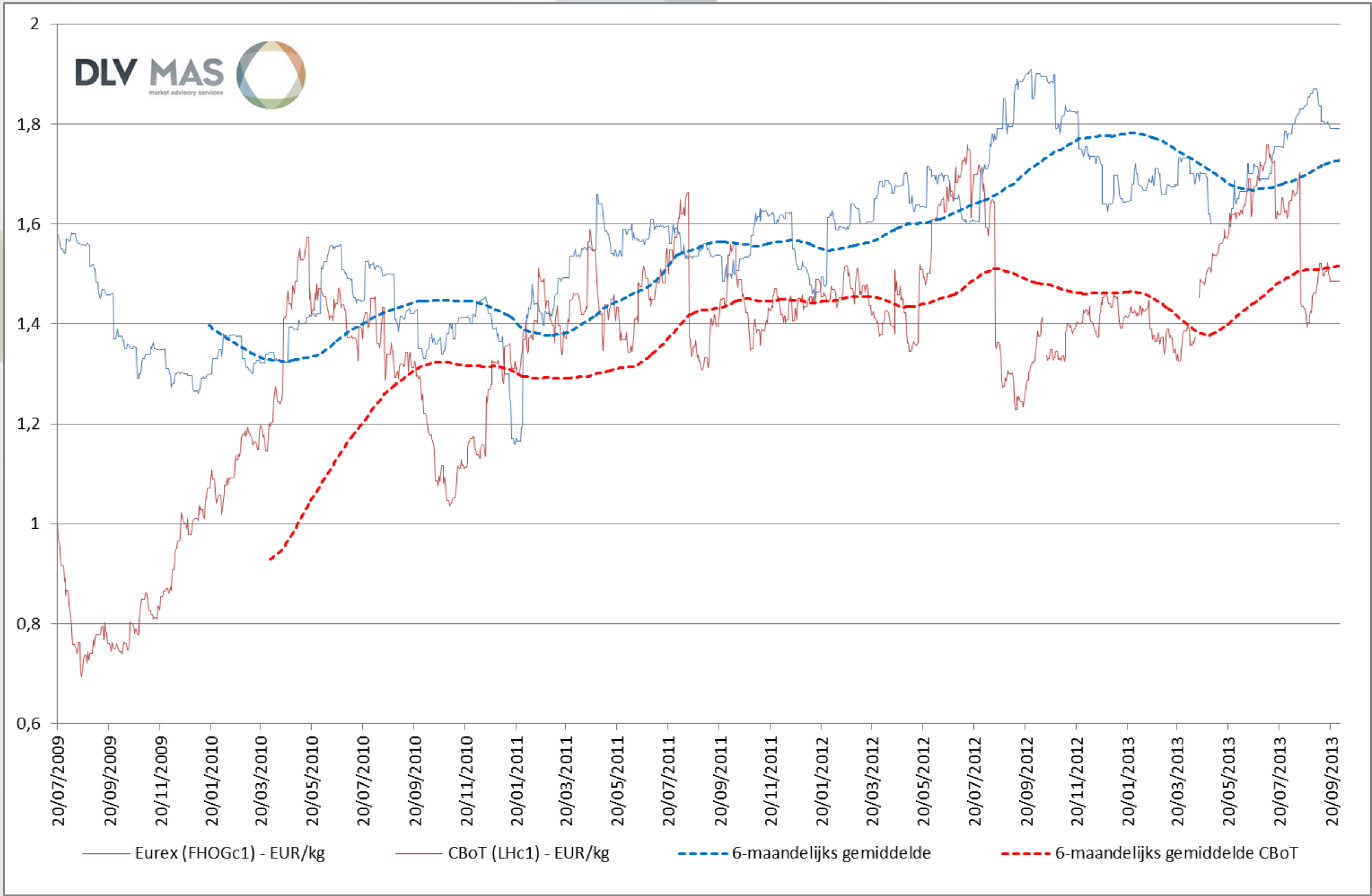
# Knowledge = Power



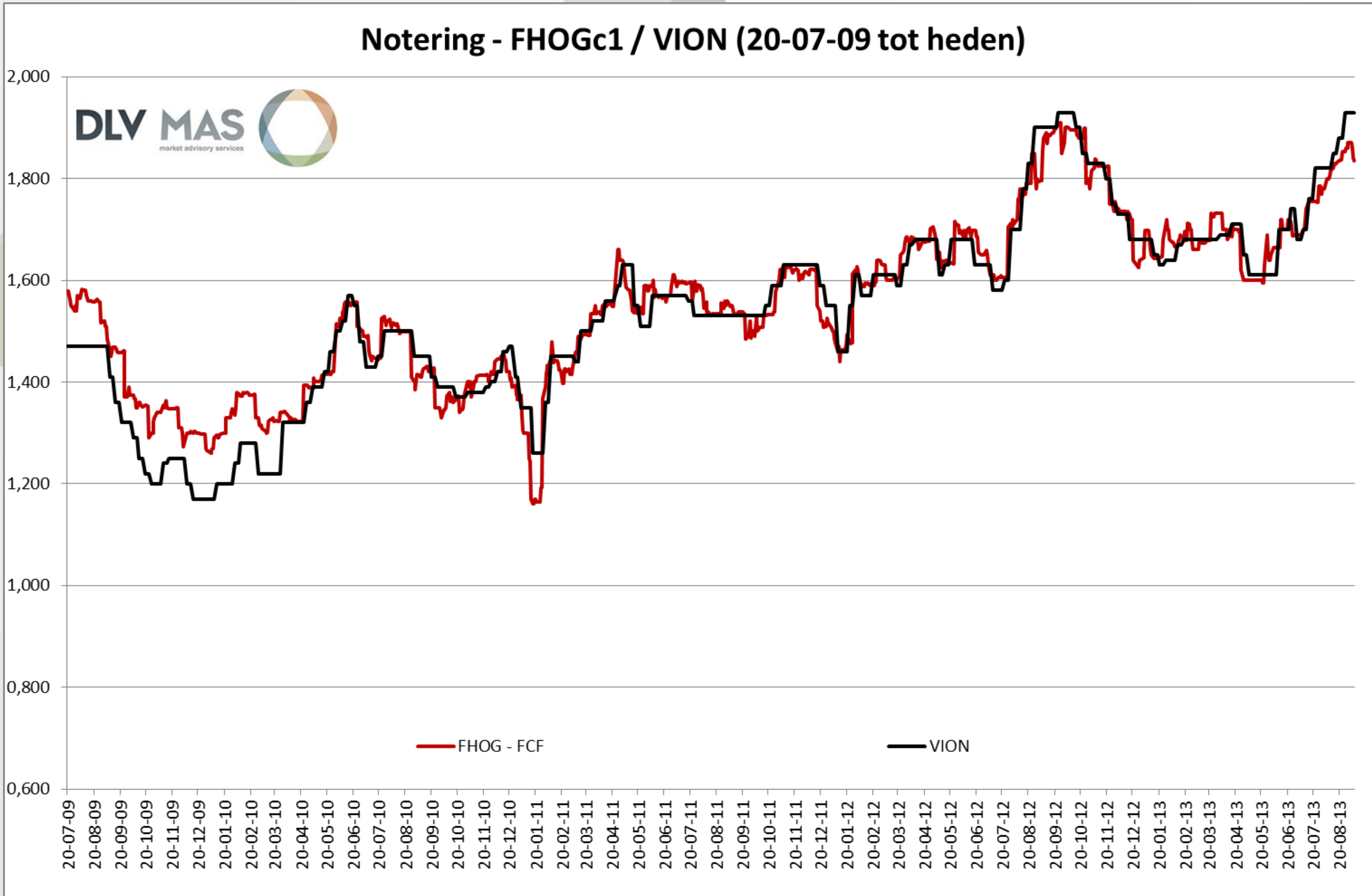
# Liquidity Lean Hog (CBoT, °1966)



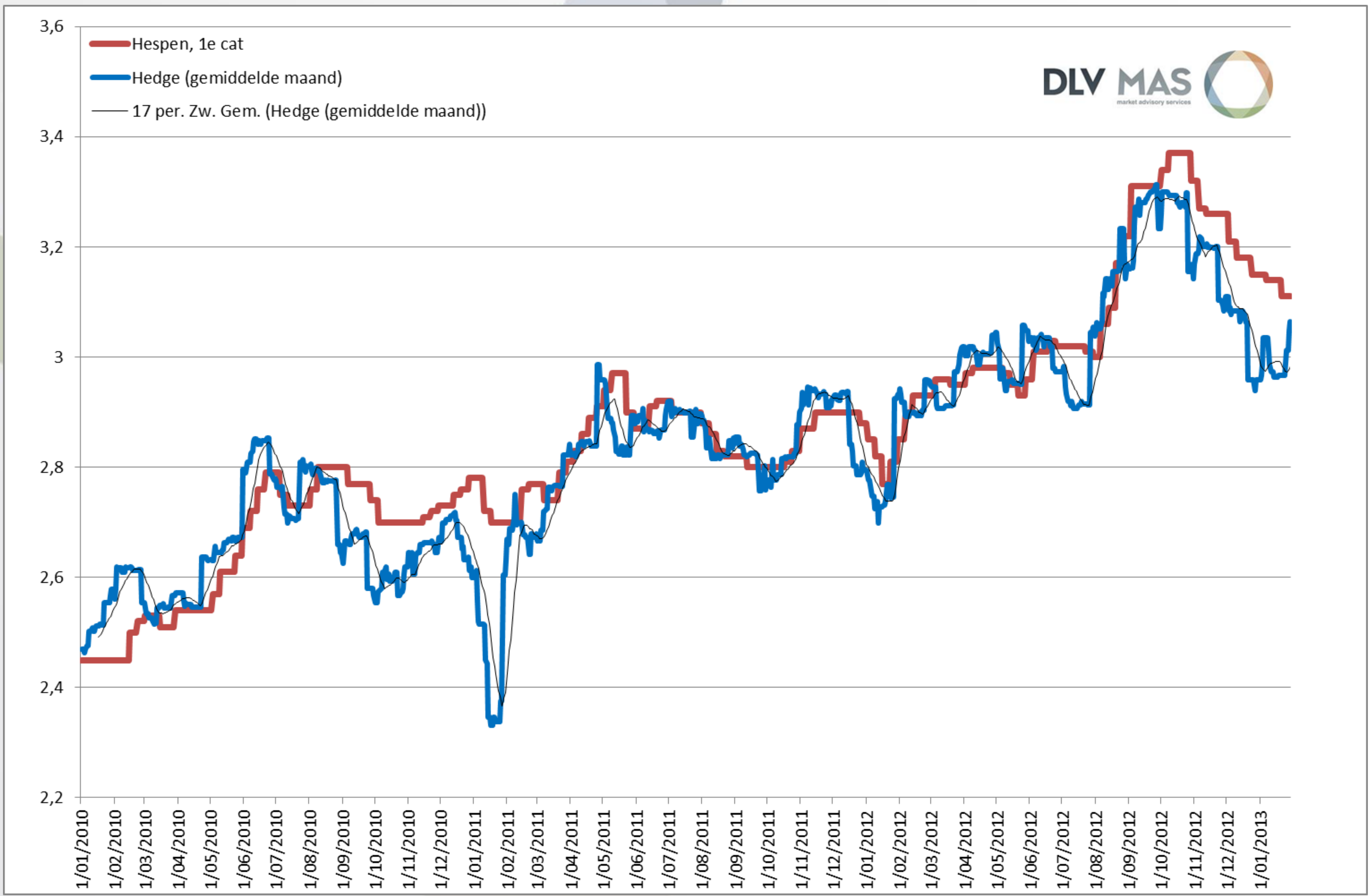
# Correlation FHOG and Lean Hog



# Correlation VION - FHOG

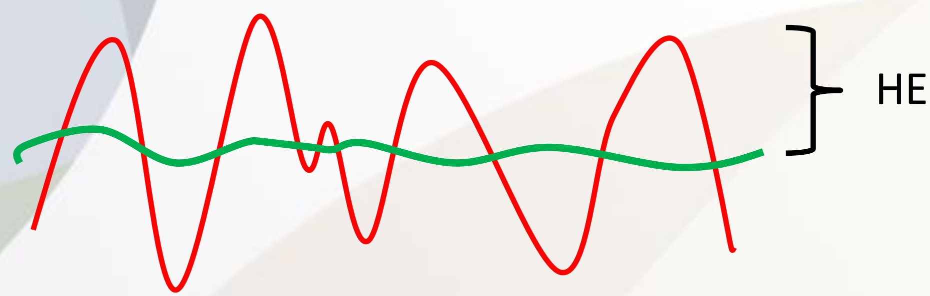


# Correlation meat-cut (ham)



# *Smart Hedging*

- **Hedging ≠ Speculation !!**
- **Hedge-Effectivity (HE):**
- **Hedge-Ratio (HR):**




- Covering 1 Ton Spot Commodity = 1 Ton Future Commodity

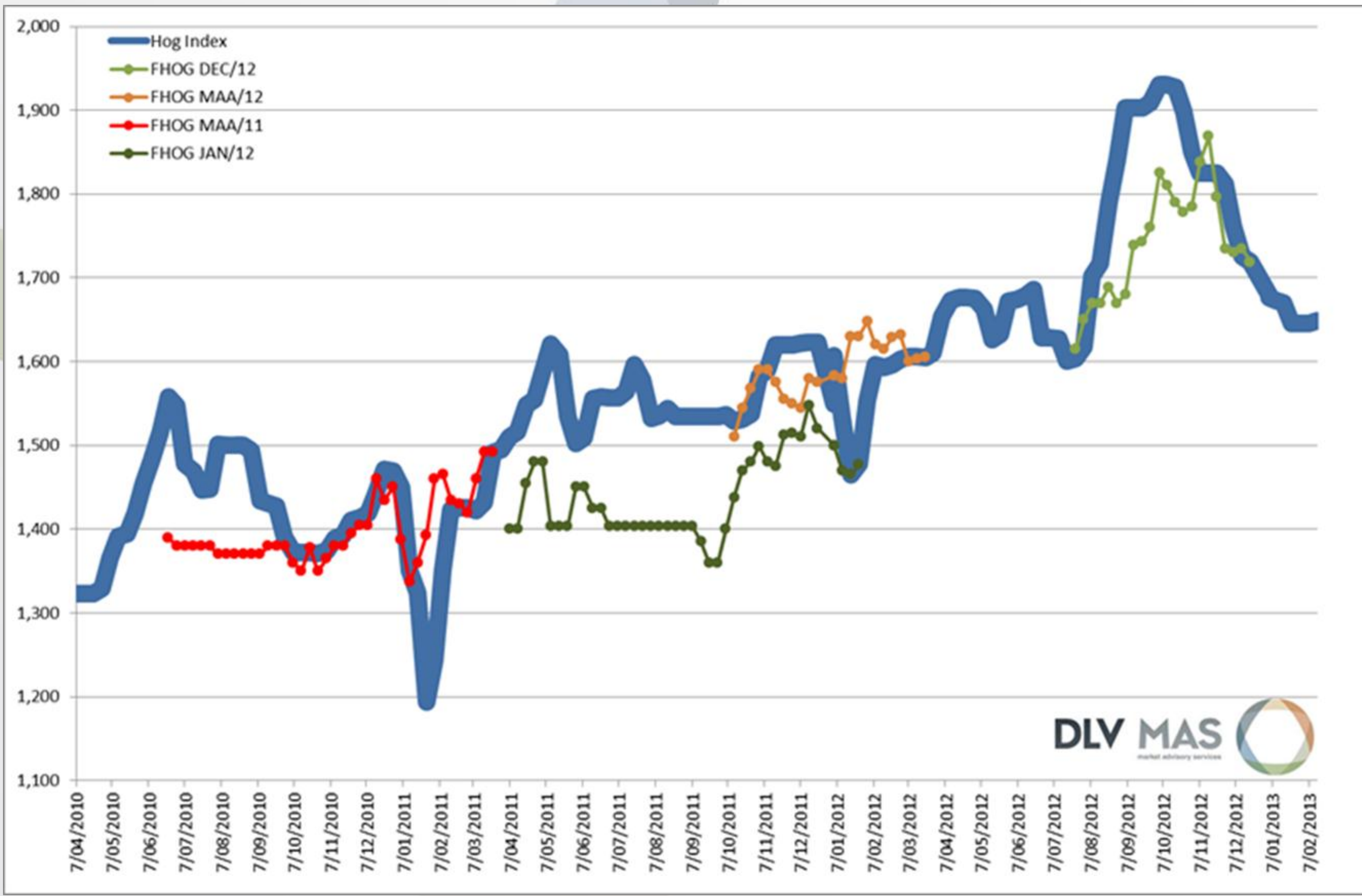
Or

- Covering 1 Ton Spot Commodity (Feed) ≠ 1 Ton Future Commodity

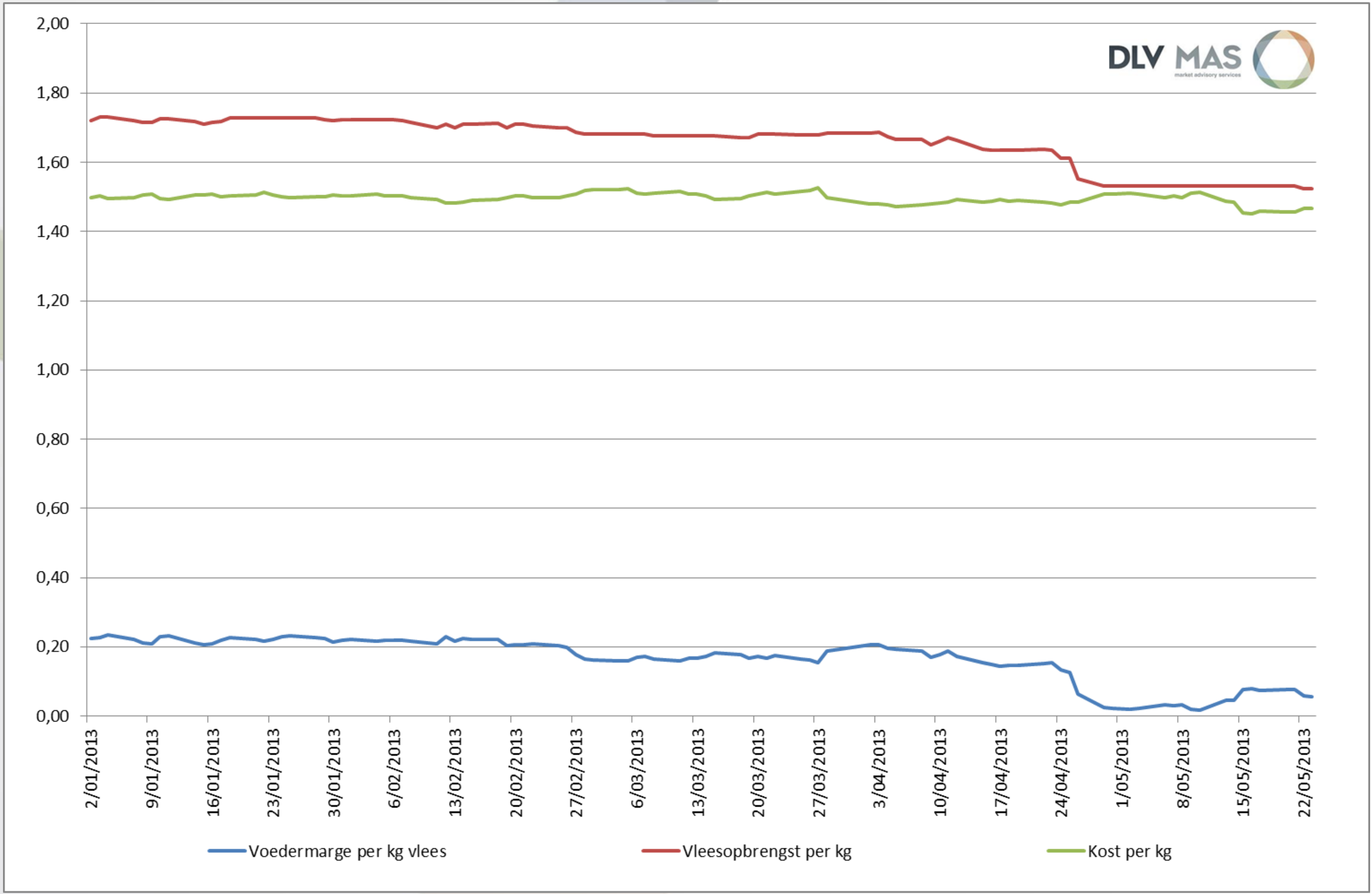
**Correct Hedge-Strategy <u>implies</u>** - Correlation
- Basis
- Hedging Effectivity
- Hedging Ratio

DLV MAS market advisory services

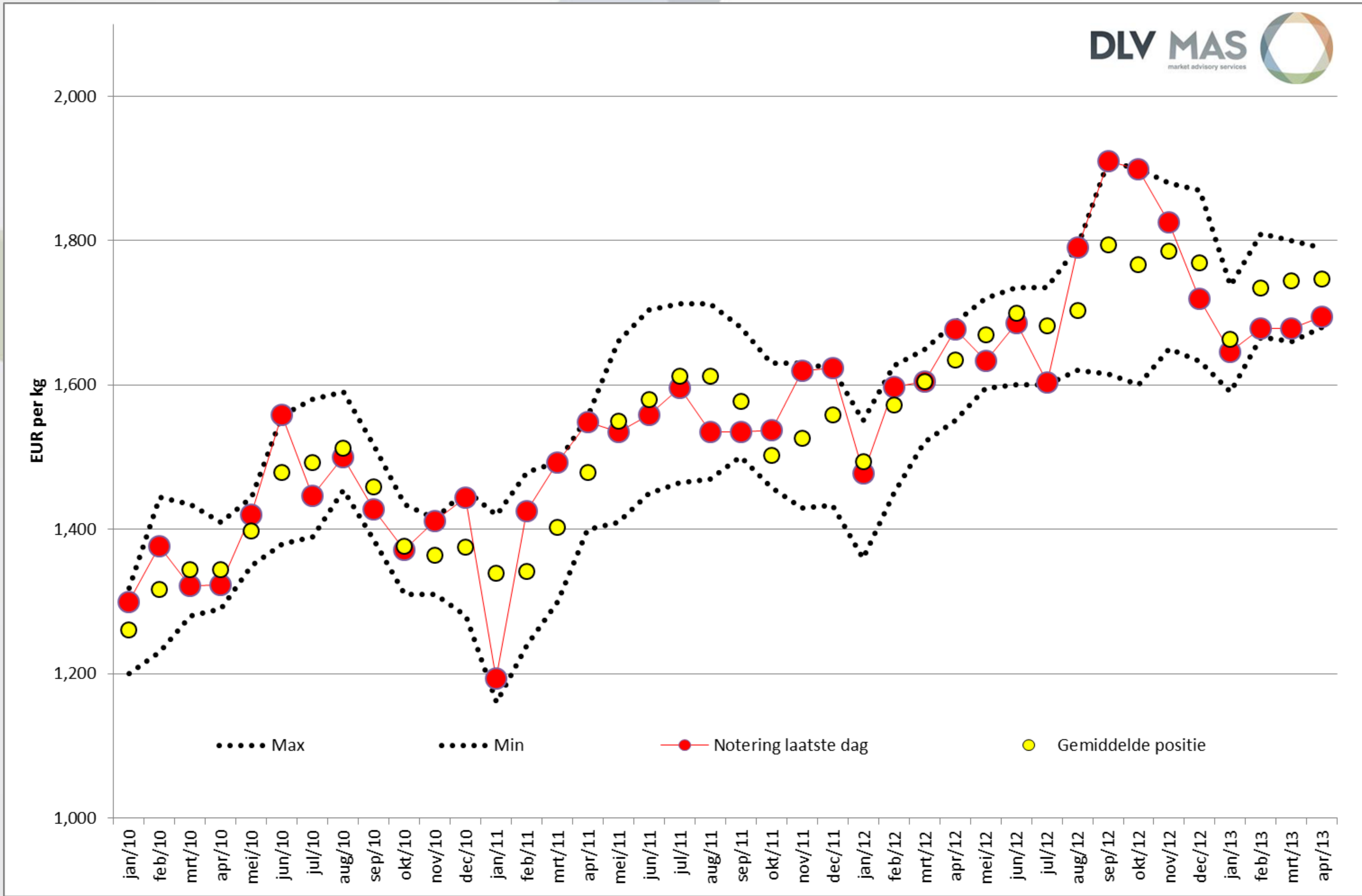
# Hedging the margin



# Monitoring Margin

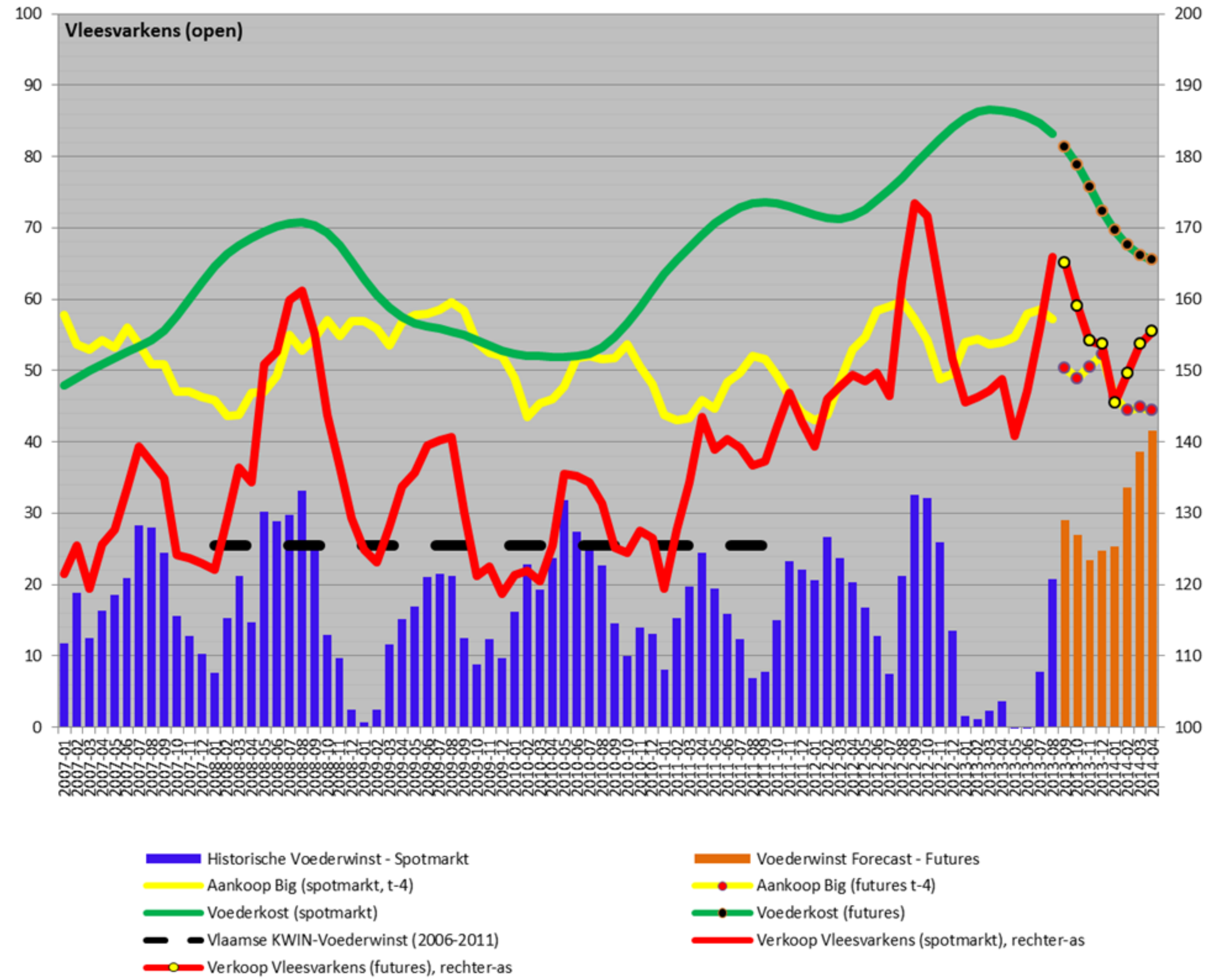


# FHOG



DLV MAS
market advisory services
EUR per kg
2,000
1,800
1,600
1,400
1,200
1,000
Max
Min
Notering laatste dag
Gemiddelde positie
jan/10
feb/10
mrt/10
apr/10
mei/10
jun/10
jul/10
aug/10
sep/10
okt/10
nov/10
dec/10
jan/11
feb/11
mrt/11
apr/11
mei/11
jun/11
jul/11
aug/11
sep/11
okt/11
nov/11
dec/11
jan/12
feb/12
mrt/12
apr/12
mei/12
jun/12
jul/12
aug/12
sep/12
okt/12
nov/12
dec/12
jan/13
feb/13
mrt/13
apr/13

# Forecasting "crush margin"




DLV MAS market advisory services

***Transactiekosten !***

*Merk op dat de termijnmarkt-kosten **NIET** inbegrepen zijn in deze berekening !*
*Deze kosten kunnen oplopen tot ± 0,60 EUR per big, indien de biggenprijs én de voederprijs worden gehegded.*

*Indien enkel het voeder wordt ingedekt kan dit beperkt worden tot ± 0,20 EUR per afgeleverd vleesvarken.*

***Berekeningswijze***

*Voor de berekening van de voederwinst werd uitgegaan van de methode zoals gehanteerd in de "Vlaamse Bedrijfseconomische Richtwaarden Varkenshouderij" (december 2011).*

*Biggenprijs = Vlaamse Biggen Prijs + toeslag*
*Varkensprijs = Danis + toeslag*

*De voederprijzen zijn gebaseerd op de prijzen zoals maandelijks gepubliceerd door BEMEFA.*

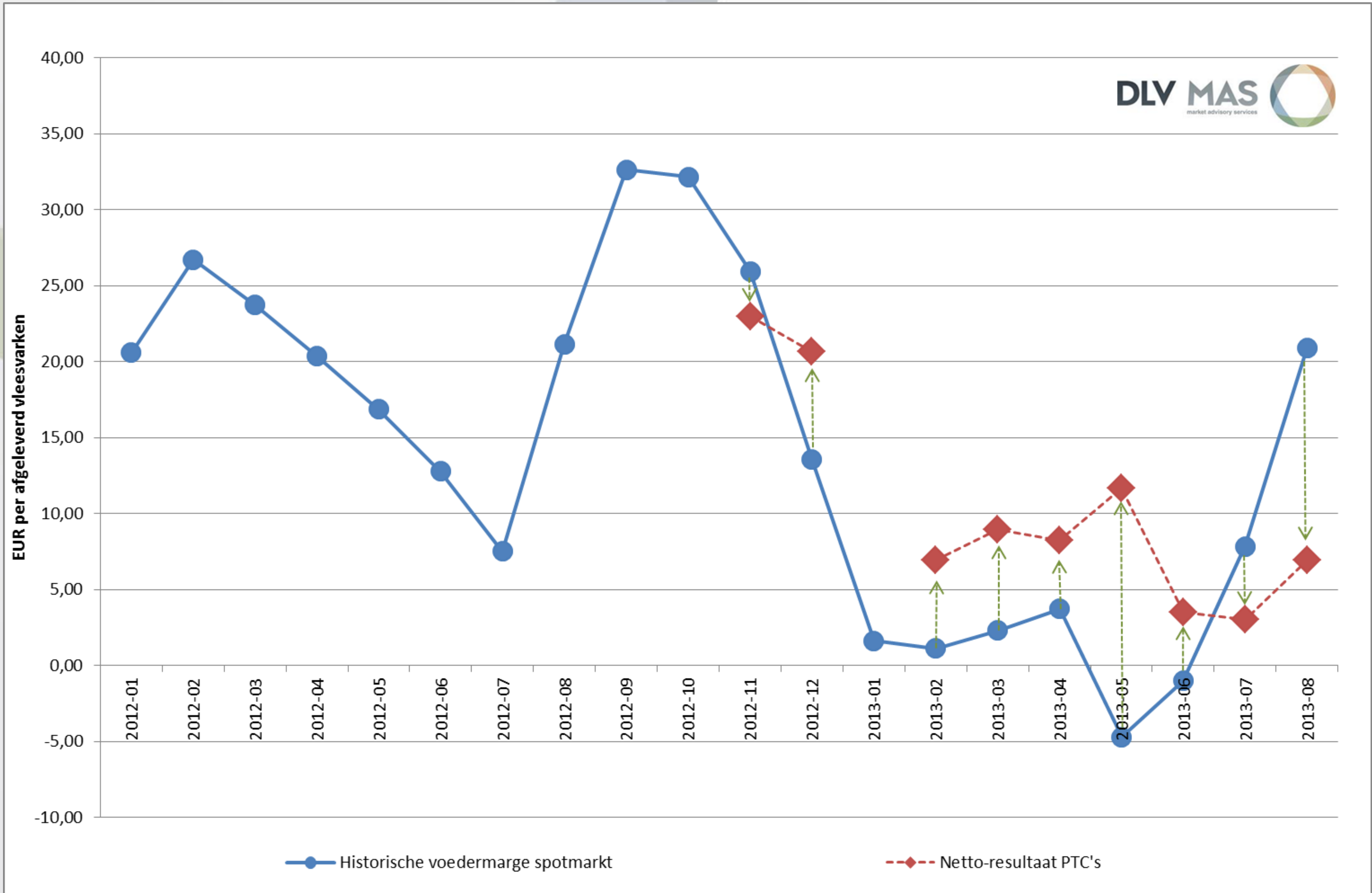
*De futures voor biggen en varkens zijn de futures genoteerd op Eurex. Voor de(voeder-) grondstoffen zijn de futures van Matif en CME de basis.*

***Opgepast !***

*Alhoewel de gehanteerde berekeningen zoveel mogelijk rekening houden met de realiteit, zijn de bekomen cijfers enkel indicatief.*

*Deze berekening heeft niet de ambitie om rekening met álle parameters die een invloed hebben op het bedrijfseconomisch resultaat.*

# Results Pig Trading Companies

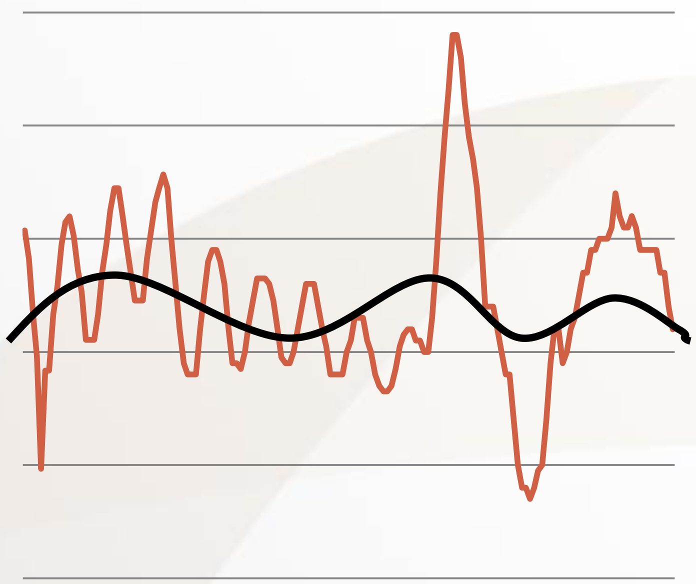


# DLV MAS

- Developing Smart hedging Milk
- Mature markets : f.e. grains, oilseeds, potatoes, sugar, cacao, oil
- Possible for all agricultural products AND lots of food products (cross hedges)
- Necessary for all links within food-chain to stabilize prices and secure incomes

DLV MAS
market advisory services

# Questions ?



- **More information :**

  Dirk Coucke +32 495 29 25 00, dc@dlv.be