



## **IFCN Insights Oct 2008**

**- An Explosive Mix Ahead of Us -**

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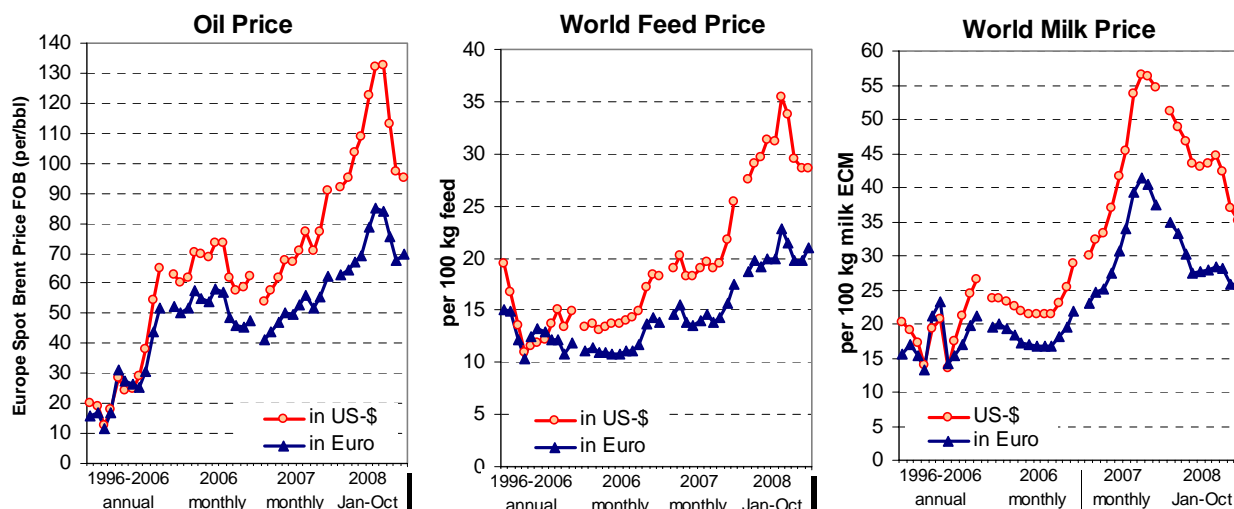
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International Farm  
Comparison Network

## World Market Trends

Exactly one year ago (9<sup>th</sup> October 2007) we have sent out an IFCN news saying: “**The key message is that the high milk prices might come down faster than most of us would like it.**” This expectation was right. We had a big drop in milk prices from 56US-\$ to 45 US-\$ (28 €) in July and an other drop to 35 \$ (25 Euro) in October.

**Oil price and also feed prices** were on a historic high level in June 2008. Both are now in US-\$ terms 20-30% below this level. In the major financial crisis it seems that commodity prices and also the US-\$/Euro exchange rate are moving towards more moderate levels than we saw them mid of 2008.



October figures are preliminary and based on most recent data available (exchange rate Oct: = 1.36 US-\$/€)

## Macro Perspectives

Looking to **longer term perspectives** the OECD (7/2008) and FAPRI (1/2008) predict the following trends: **a)** oil price on the level of mid 2007 (70-80\$/barrel), **b)** feed price levels of 22-23 \$/t, **c)** exchange rates - US-\$ at a level of the year 2007 and **d)** global GDP growth of 3-3.4% per year.

**IFCN thoughts:** It is most likely that we shall expect a slower GDP growth and have lower price levels as predicted for oil and feed. We might see also a stronger US-\$ if the latest trends continue. On a short term basis it is very rational to expect “hick-ups” which can push the markets in any direction.

## Dairy Perspectives

**Long term:** OECD (7/2008) and FAPRI (1/2008) expect the future milk prices in a range of 35 – 38 US-\$ per 100 kg milk.

**Short term:** There is a quite explosive mix of facts ahead of us – globally these are:  
**a)** milk supply push due to high 2007 prices: +15 mill t in 2008 vs. + 10 mill in 2007  
**b)** milk demand reaction on high dairy prices = minus X? mill t milk demand  
**c)** milk demand reaction to slower GDP growth = minus X? mill t milk demand  
**d)** milk demand reaction to melamin scandal: = minus X? mill t milk demand

**IFCN thoughts:** The high price in 2007 was a result of a lack of supply of 2-4 mill t milk. We are most probably now in the opposite situation -looking at annual figures- with a surplus milk supply of approx 5-10(?) mill t.

The master thesis of A. Slabon (see annex 3) shows that we have already an impact on world milk prices if just one country shifts its milk surplus/deficit by 0,5 mill t./year.

### For the future we see

- a)** in short term world milk prices < 35\$,
- b)** these price lows are not sustainable
- c)** milk prices in the USA and also in Europe decouple from the world prices especially once prices are below the government support price levels (US= 22\$, EU=24,5€/ 100 kg milk) or may be even above this level.

**At our supporter conference** we have some interesting questions to discuss:

1. How deep will prices fall?
2. How long will the price stay low?
3. When are we back at realistic prices?
4. Will the next price peak be above or be low the 2007 price level of 56 US-\$ per 100 kg milk?

## IFCN Supporter Conference 2008 = The Dairy Think Tank



Following the invitation of Müller / Sachsenmilch AG - acting as our host - we will have our 6<sup>th</sup> IFCN Supporter Conference in Dresden. This event has become beside our researchers conference in June the major “Think Tank” on dairy issues around the globe.

So far representatives from over 50 companies of the dairy chain have registered. The aim of the event is to present the key findings of the IFCN Dairy Report 2008, define trends, identify key drivers for the developments and exchange hypothesis about future developments.

### Conference Program 25 – 26 of November 2008 – An Overview

#### Day 1: IFCN Dairy Report Day

##### Milk & feed world market trends and their drivers

##### Dairy farming and farm economics

- Analysing dairy farming systems in 44 countries
- Impacts of changing feed prices on milk production costs
- Carbon foot prints of dairy farming systems (first results)
- Farmers view: Robotics in milk production – A perspective for larger farms?

##### Networking Evening

#### Day 2: Think Tank Day

##### Dairy development trends – global + regional view

##### Outlook session for the next 12 months

##### Field trip - The Müller company and the Leppersdorf dairy factory

## News from the IFCN Center in Kiel

**Companies:** We welcome the six companies which joined the IFCN in the last 3 months:



**People** joining the IFCN team in Kiel: Anika Slabon – Dairy Economist & Marketing Assistant

**IFCN Dairy Report 2008:** Send out is the 20<sup>th</sup> Oct., official release is the 30<sup>th</sup> Oct. 2008

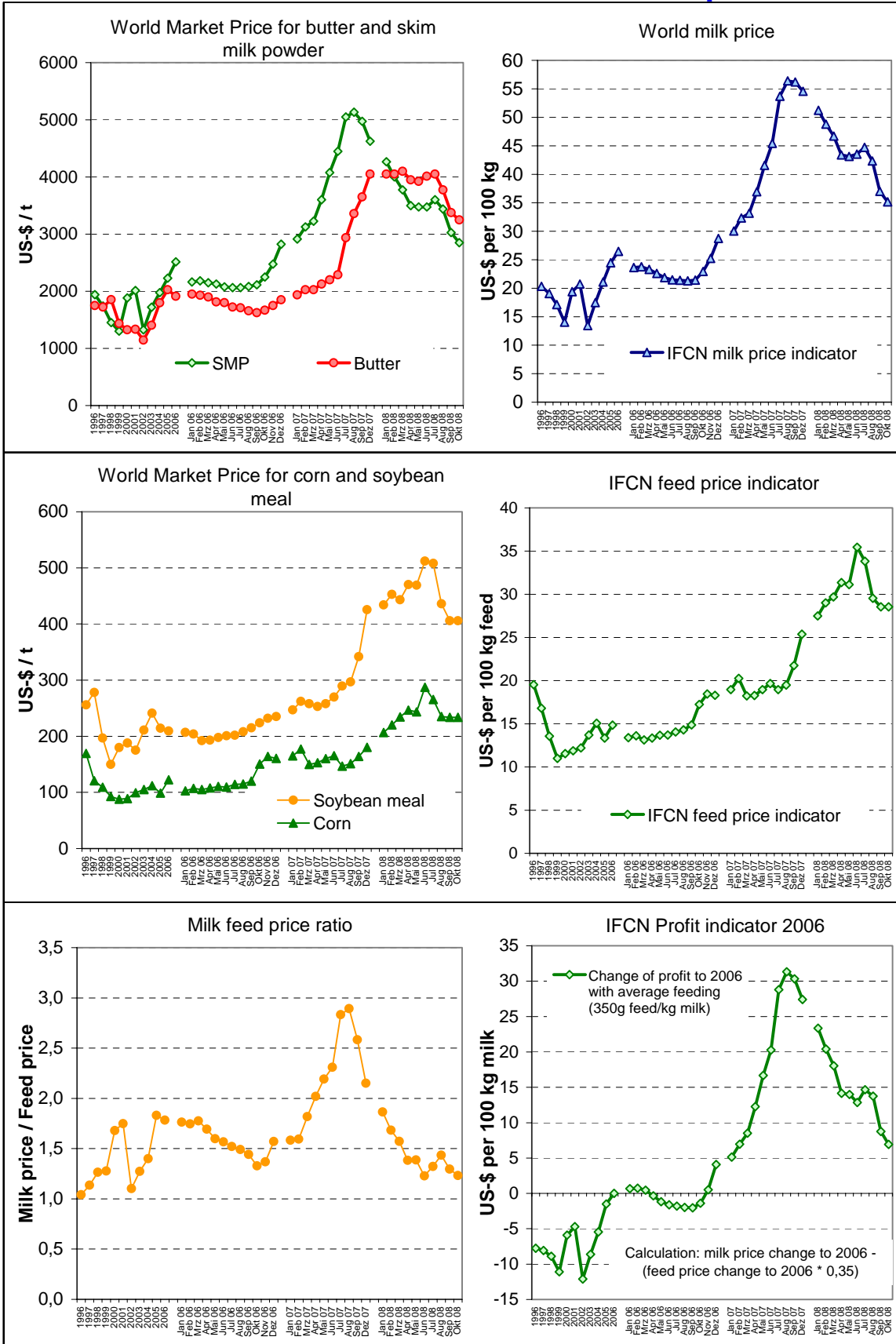
## Conferences ahead with IFCN participation:

**Mexico:** IDF World dairy summit – IFCN ppt at 12 Nov. 11.30 – 12.00. Once you will attend this event please give Torsten ([torsten.hemme@ifcndairy.org](mailto:torsten.hemme@ifcndairy.org)) a short feedback as a short meeting could be arranged.

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## Annex 1: US-\$ - Milk and Feed Price developments



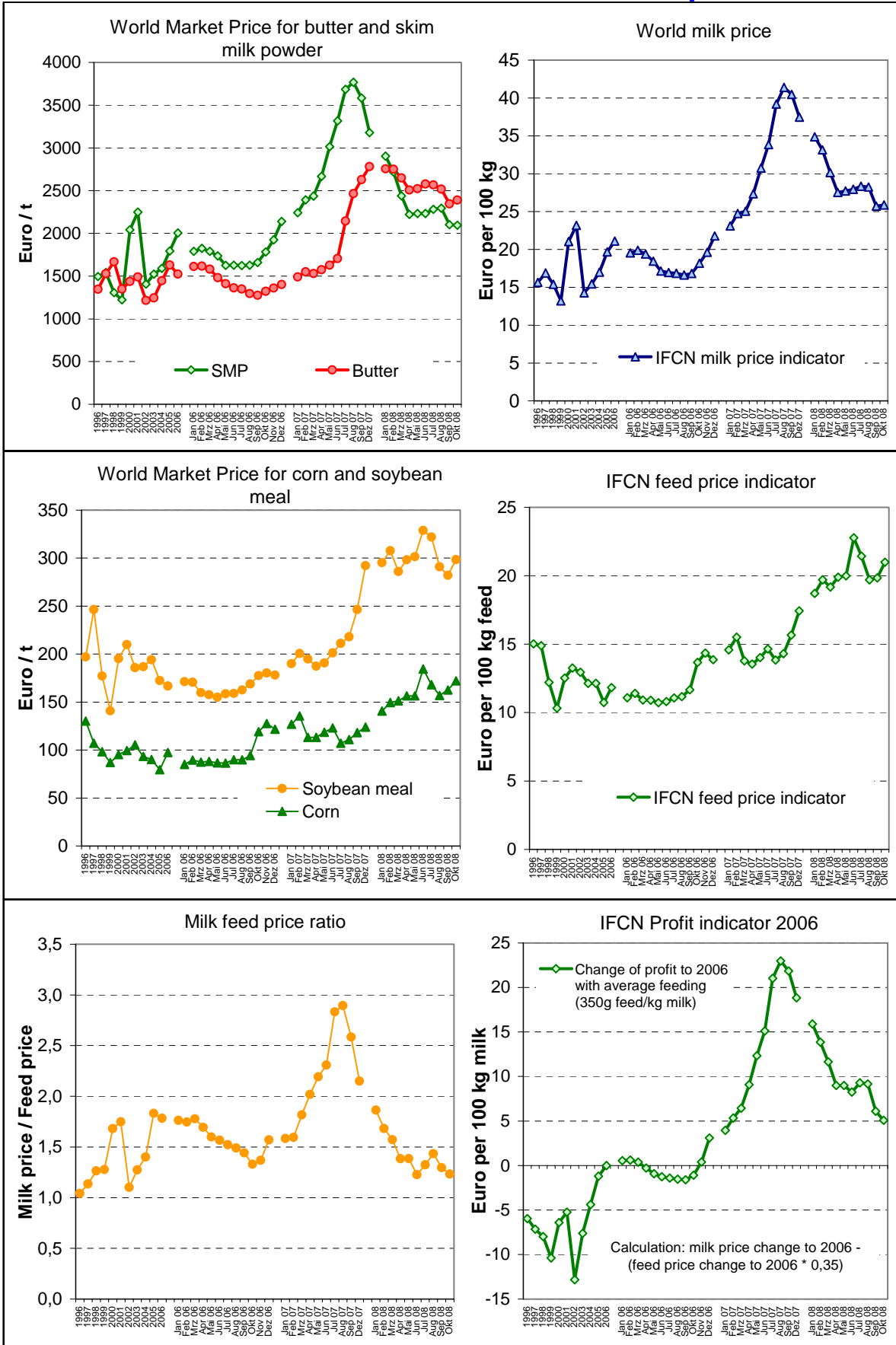
Estimate of world market price for "milk". Calculation based on world price for butter/SMP and processing costs (butter 311 €/t, SMP 290 €/t)

Estimate of world market price for "feed". Calculation based on feed concentrate with 70% corn and 30% soybean meal.

IFCN Profit indicator 2006: milk price change - (feed price change \* feed ration). Prices=Annual averages; Oct 08 Preliminary.

Source: IFCN Dairy Report 2007, FAPRI, USDA, ZMP, IFCN estimates and calculations.

## Annex 2: Euro - Milk and Feed Price Developments



Estimate of world market price for "milk". Calculation based on world price for butter/SMP and processing costs (butter 311 €/t, SMP 290 €/t)

Estimate of world market price for "feed". Calculation based on feed concentrate with 70% corn and 30% soybean meal.

IFCN Profit indicator 2006: milk price change-(feed price change\*feed ration). Prices=Annual averages; Oct 08 Preliminary.

Source: IFCN Dairy Report 2007, FAPRI, USDA, ZMP, IFCN estimates and calculations.

## Annex 3 : The World Market Price for Milk 1981-2007

Extract out of the IFCN Dairy Report 2008, A. Slabon, T. Hemme, IFCN Kiel & University Göttingen

### Introduction

The world market price explosion of milk in 2007 was a starting point for an analysis of the price developments and fluctuations on the world dairy market. The focus was put on an analysis of price developments during the period of 1981-2007, especially the point of times, where the milk price had conspicuous price movements.

### Method and data

The study is based on the "IFCN Dairy Sector Model" which is combining milk production, processing and trade data based on various sources like FAO, ZMP, FAPRI, OECD and national statistics. On the basis of the world market prices for skim milk powder and butter the "theoretical world market price for milk (P-WM)" was calculated.

The coefficient of variation (CV) used here is based on the standard deviation and arithmetic mean. A low CV means the product prices have a relatively low variation of prices around the arithmetic mean. The analysis effects the period of 1998 to 2006.

To analyse, if trade quantity changes influenced the world market price for milk the ten biggest net exporters (world trade share 94 %) and thirty biggest net importers (world trade share 81 %) have been analysed. Moreover hypotheses was tested, that every time when the trade quantities of one country change at least by 0.5 mill t ME the world market price for milk will be affected. This hypothesis is based on the theoretical thought that in such case an exporter or importer is changing trade volumes which then drives price changes in existing trade relations and price levels.

### Results

#### 1. World market price for milk 1981-2007

Since 1981 the theoretical world market price (P-WM) ranged between 8 and 47 US-\$/100 kg milk. In this time period a number of highs and lows could be observed. The annual price change 1981-2006 was in a range of 0.5-10 US-\$ per 100 kg milk. The annual change in 2007 was + 21 US-\$/100 kg milk.

**Low price levels** are observed in: 1986, 1990, 1999 and 2002.

**High price levels** have been found for: 1989, 1995, 2001 and 2007.

#### 2. Price volatility of agricultural commodities 1998-2006

The highest price volatility measured via the coefficient of variation was found for coffee. Interestingly dairy products can be classified as the second most volatile commodity with prices ranging between 13 and 26 US-\$/100 kg milk. Once we consider the new price level from 2007 with 47 US-\$/100 kg milk can be classified as the most volatile agricultural commodity in the coming years.

#### 3. Qualitative analysis: Drivers for prices changes 1981-2007

A simplified view on a number of "world affecting issues" and the world market prices allows a first qualitative estimation of drivers for price changes. It is remarkable that in a lot of cases the price highs and lows are related to some key issues.

1990: It seems that there can be a relation to the Gulf war and the opening of CEEC countries.

1999: It seems that the economic crisis in Asia and Russia have affected world prices.

2000/01: It seems that the BSE crisis had an impact on world prices.

2002: The Argentina crisis and the 11<sup>th</sup> September happenings seemed to affect price levels.

2003-07: It seems that GDP growth in emerging markets and also the rising oil prices had an impact. The correlation coefficient between world milk price and the oil price for the period 1981-2007 was 0,65 which shows a certain relation between both prices.

#### 4. Quantitative analysis: Drivers for prices changes 1982-2005

The analysis of the trade quantity changes ( $\pm 0.5$  mill t ME) of the biggest net-exporters and net-importers show, that in 72% of the years the movements of the world market price can be explained by the changes of trade quantity. Details see table end explanations on the following page.

### Outlook

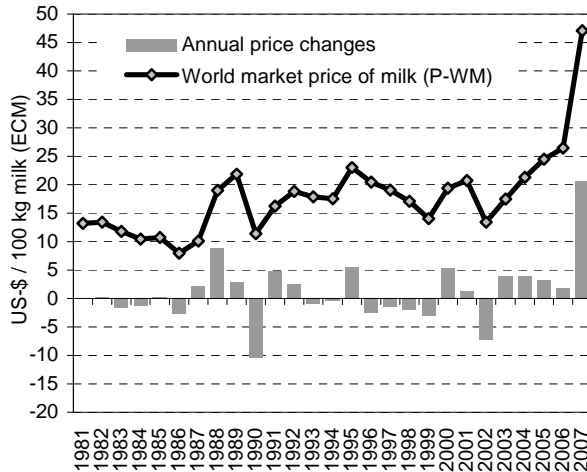
Prices for dairy commodities have been in the past among the most volatile agricultural products. The price highs in 2007 have been a result of "shortage in milk supply" of approx 2-4 million t milk which is 0.3-0.6% of world milk production. This analysis shows that a shortage/surplus of about 0.5 mill t milk (0.1% of world milk production) affects world milk prices. It is most probably that dairy products will become the most volatile agricultural commodity in the future.

### Explanations

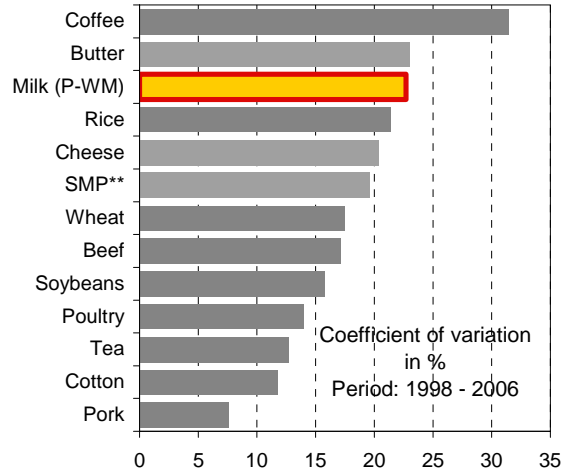
**Sources:** Master thesis Anika Slabon, University Göttingen, IFCN Dairy Sector Model, expert interviews

**Abbreviations:** ME= milk equivalents, CV= coefficient of variation, P-WM= theoretical world market price of milk based on SMP/butter prices and assumptions on processing costs, SMP= skim milk powder, FMD – Foot and mouth disease; BSE – Bovine spongiform encephalopathy, commonly known as Mad-Cow Disease; SARS = Severe acute respiratory syndrome.

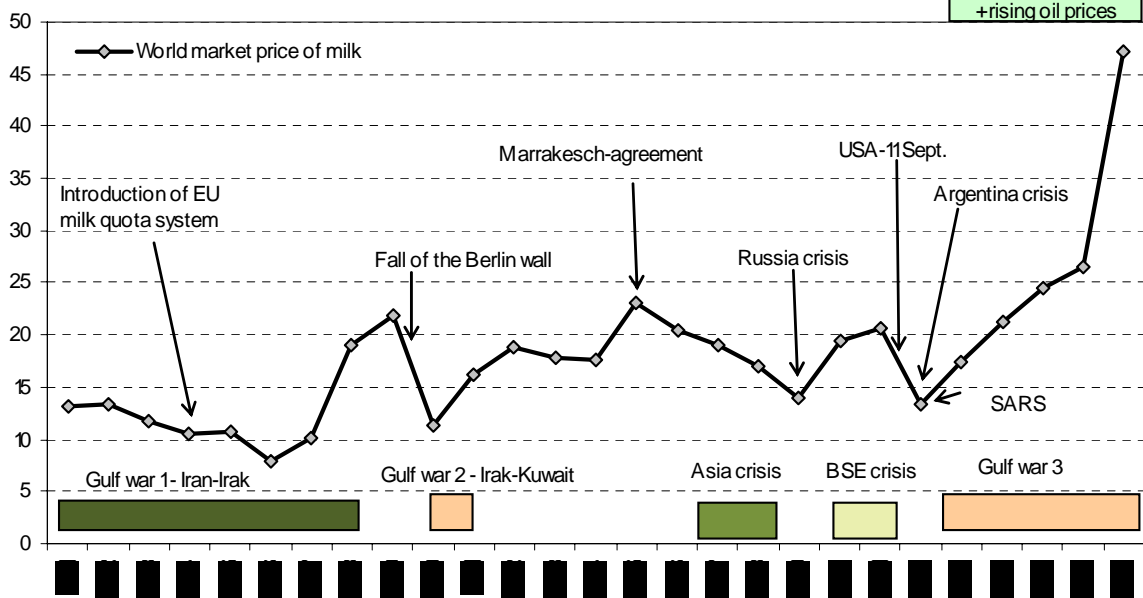
**World market price of milk 1981-2007**



**Price volatility of agricultural commodities**



**Relation of world market price of milk and "world affecting issues"**



**Hypothesis test: 0.5 mill t ME trade change per country affect world milk prices**

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Approach explains x %
Net export changes (supply)	+	+	+	+	-	-	-	+	-	-	+	-	-	-	-	+	-	+	-	+	+	+	-	+	48
Net import (demand)	-	0	0	+	+	+	-	+	-	+	+	-	+	+	+	-	+	-	-	+	0	+	0	-	36
Explainability via supply and demand	Yes	Yes	Yes	Yes	Yes	Yes	No explanation	Yes	No explanation	No explanation	Yes	No explanation	Yes	Yes	Yes	Yes	Yes	Yes	No explanation	Yes	Yes	Yes	No explanation	Yes	72

Description: Concept of 0.5 mill t ME trade change per country and year.  
 Generell: + (plus sign), if hypothesis could be confirmed; - (minus sign), if hypothesis could not be confirmed;  
 0: no trade quantity changes of more than ± 0.5 mill t ME per country existed;  
 At detail: Net export changes (NEC): + (plus sign), if NEC >+ 0.5 mill t ME and world market price of milk declined or NEC <-0.5 mill t ME and world market price of milk increased; otherwise - (minus sign). Net import changes (NIC): + (plus sign), if NIC >+ 0.5 mill t ME and world market price of milk increased or NIC <-0.5 mill. t ME and world market price of milk declined; otherwise - (minus sign);  
 0, if no NIC existed and no explanation is possible.