

# Nickel Price cycles anticipation

# Outline of the presentation

## I. Nickel Price

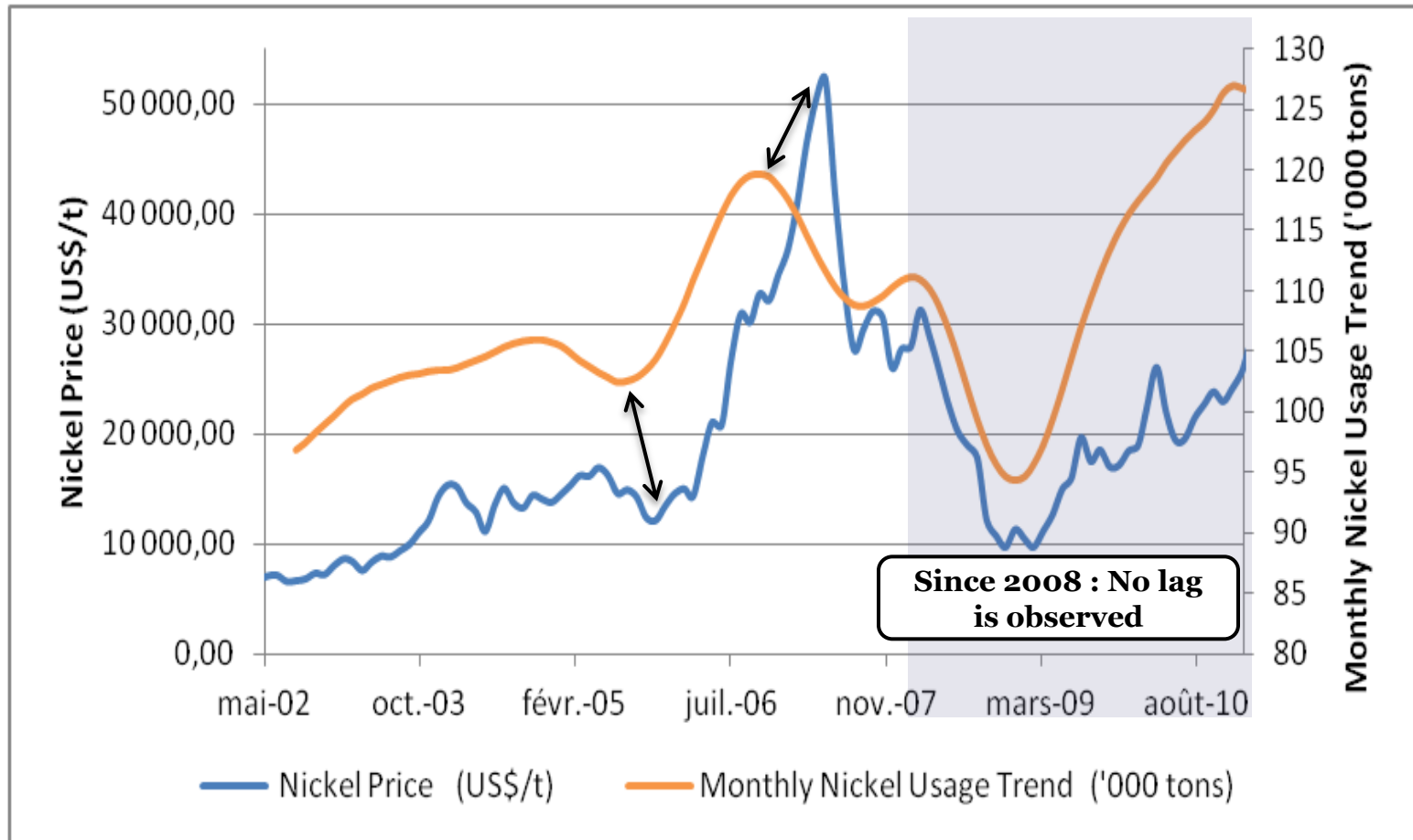
## II. Anticipation of cycles

1. Principle of the anticipation method
2. Nickel Price
3. Apparent Supply

## III. Conclusions

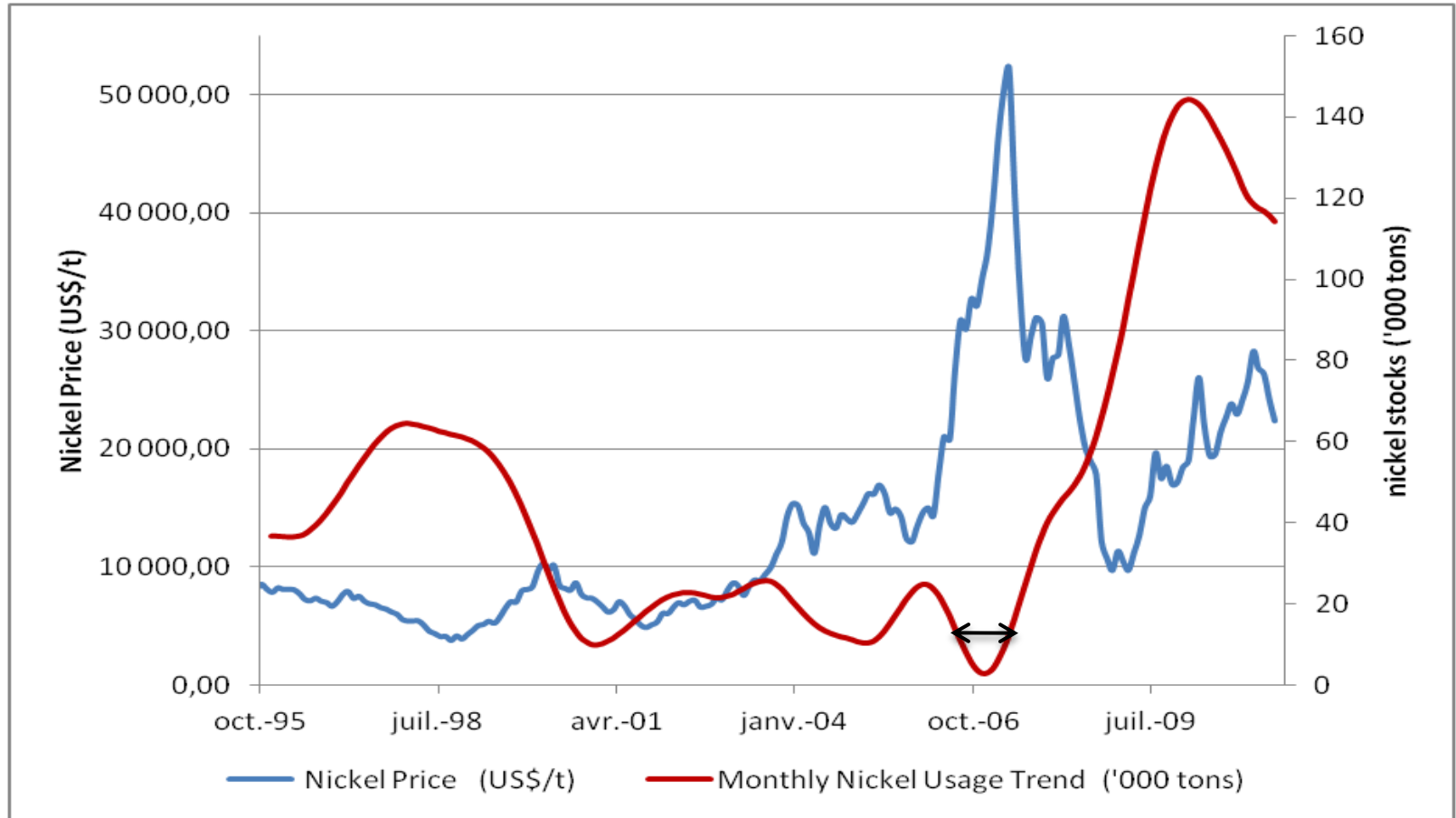
# **I. Nickel Price**

# 1. Nickel Usage



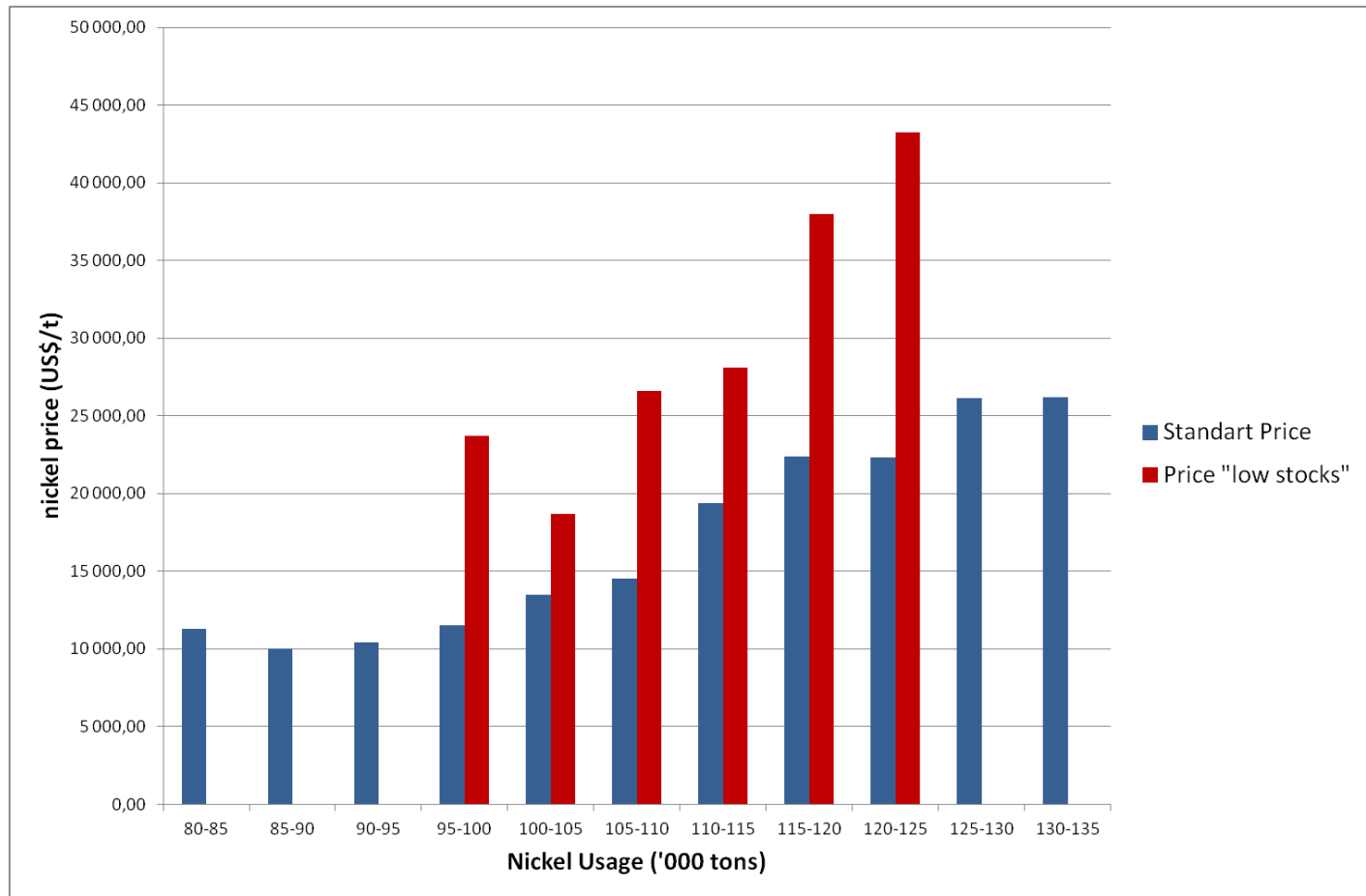
Nickel use cycles are ahead by 4 to 5 months compared with nickel price cycle.

## 2. Nickel Stocks : LME stocks



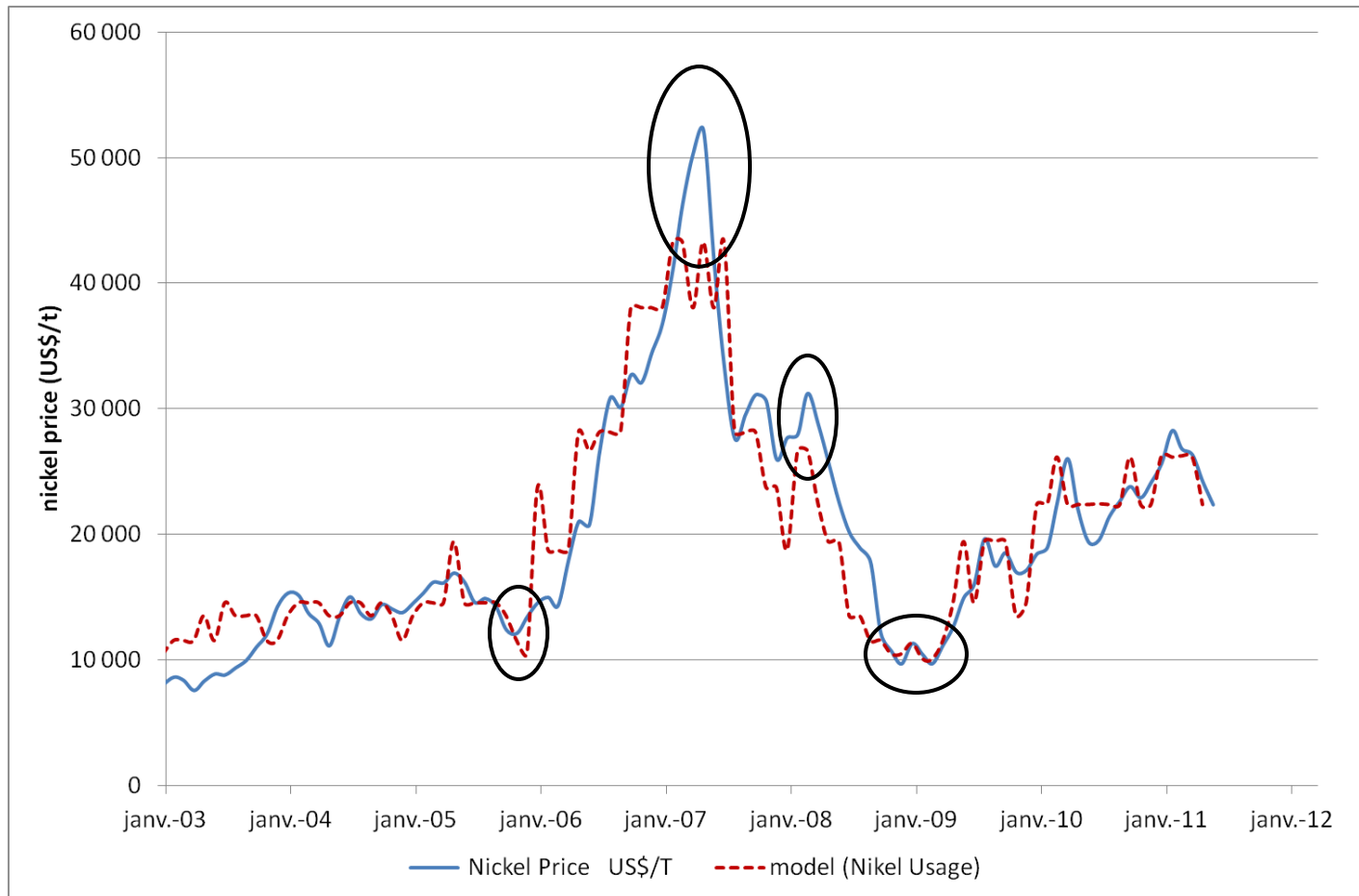
Stocks of the London Metal Exchange (LME) are lower than 10 000 T between July 2006 and July 2007

### 3. Probabilistic model with Nickel Usage

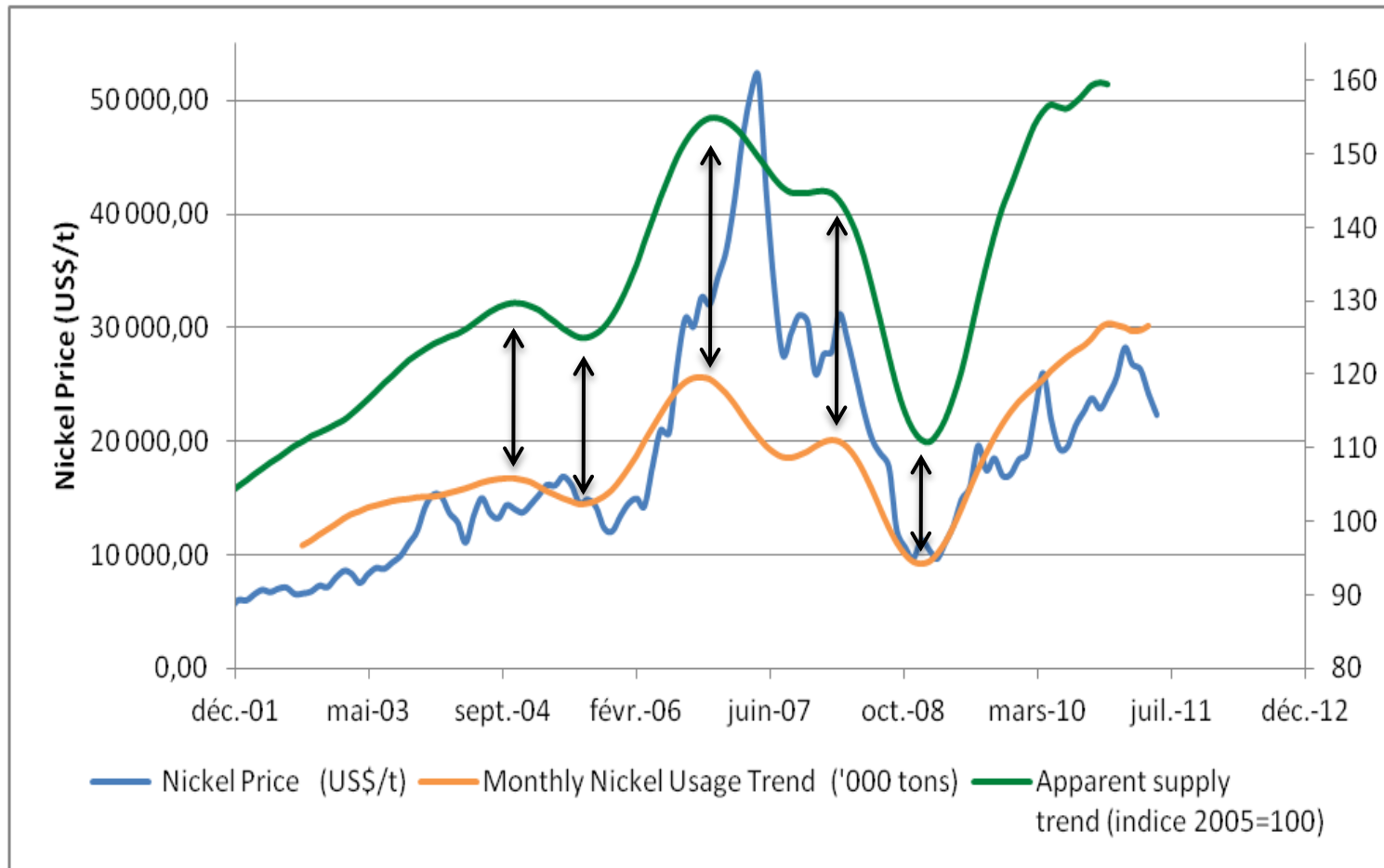


Expectations of the probability distributions of Nickel Price depending on Nickel Usage according to the level of LME stocks

### 3. Probabilistic model with Nickel Usage



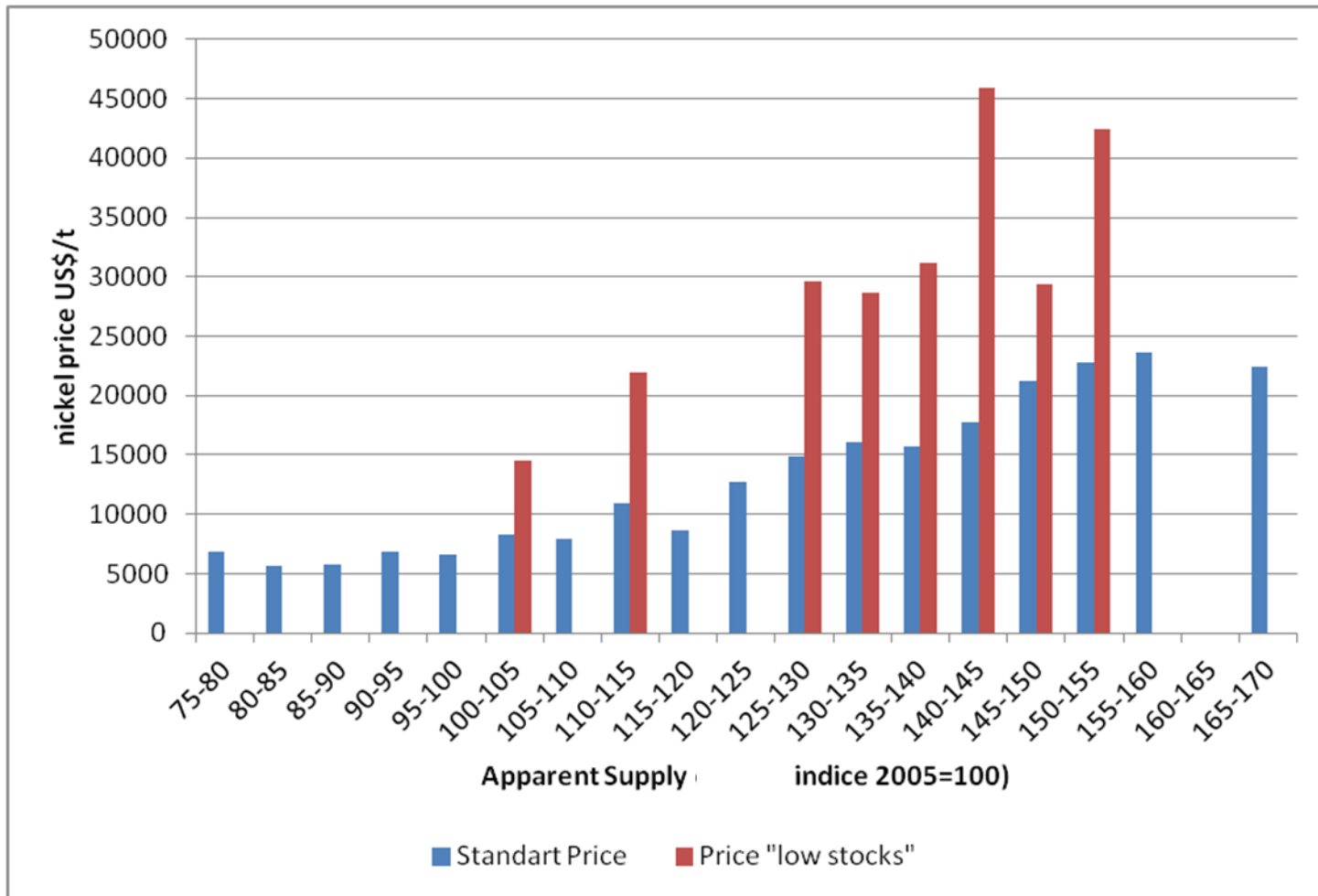
## 4. Apparent Supply



Nickel Usage and Apparent Supply cycles are simultaneous.

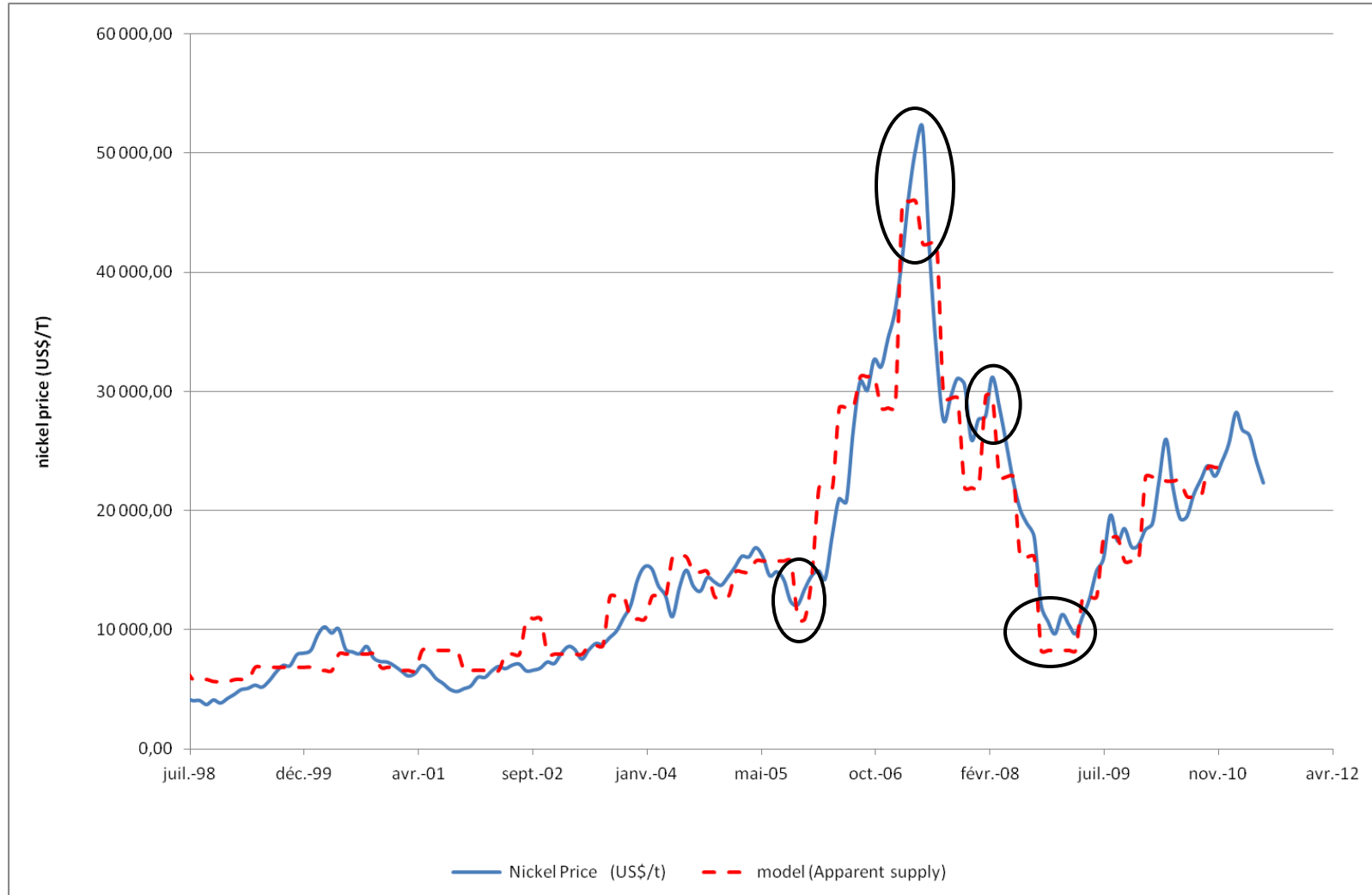


## 5. Probabilistic model with Apparent Supply



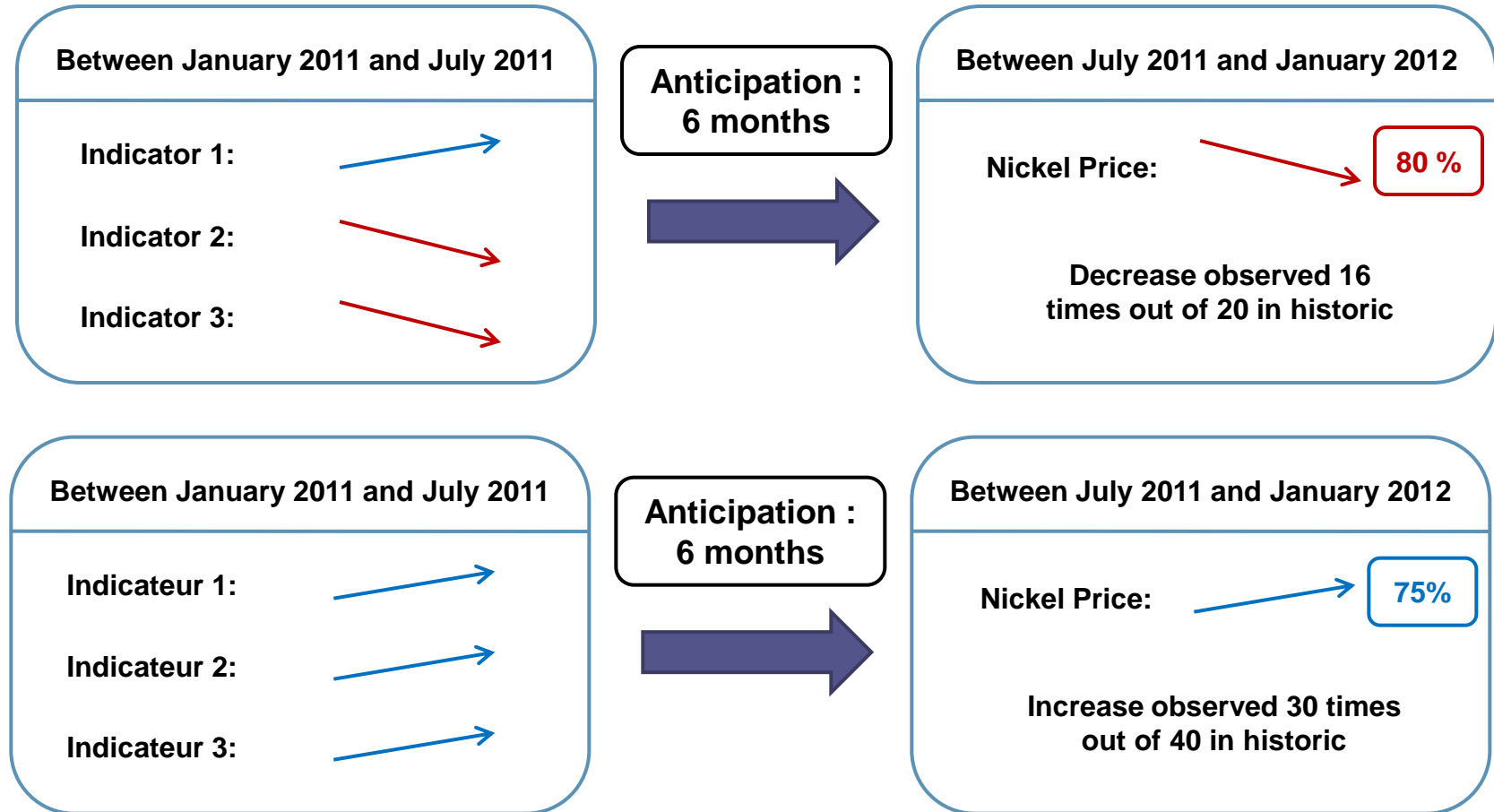
Expectations of the probability distributions of Nickel Price depending on Apparent Supply according to the level of LME stocks

## 5. Probabilistic model with Apparent Supply



## **II. Cycles anticipation**

# 1. Principle of the anticipation method



For a triplet of indicators: eight combinations associated with an increase or decrease the price of nickel (with probability)

# 1. Principle of the anticipation method

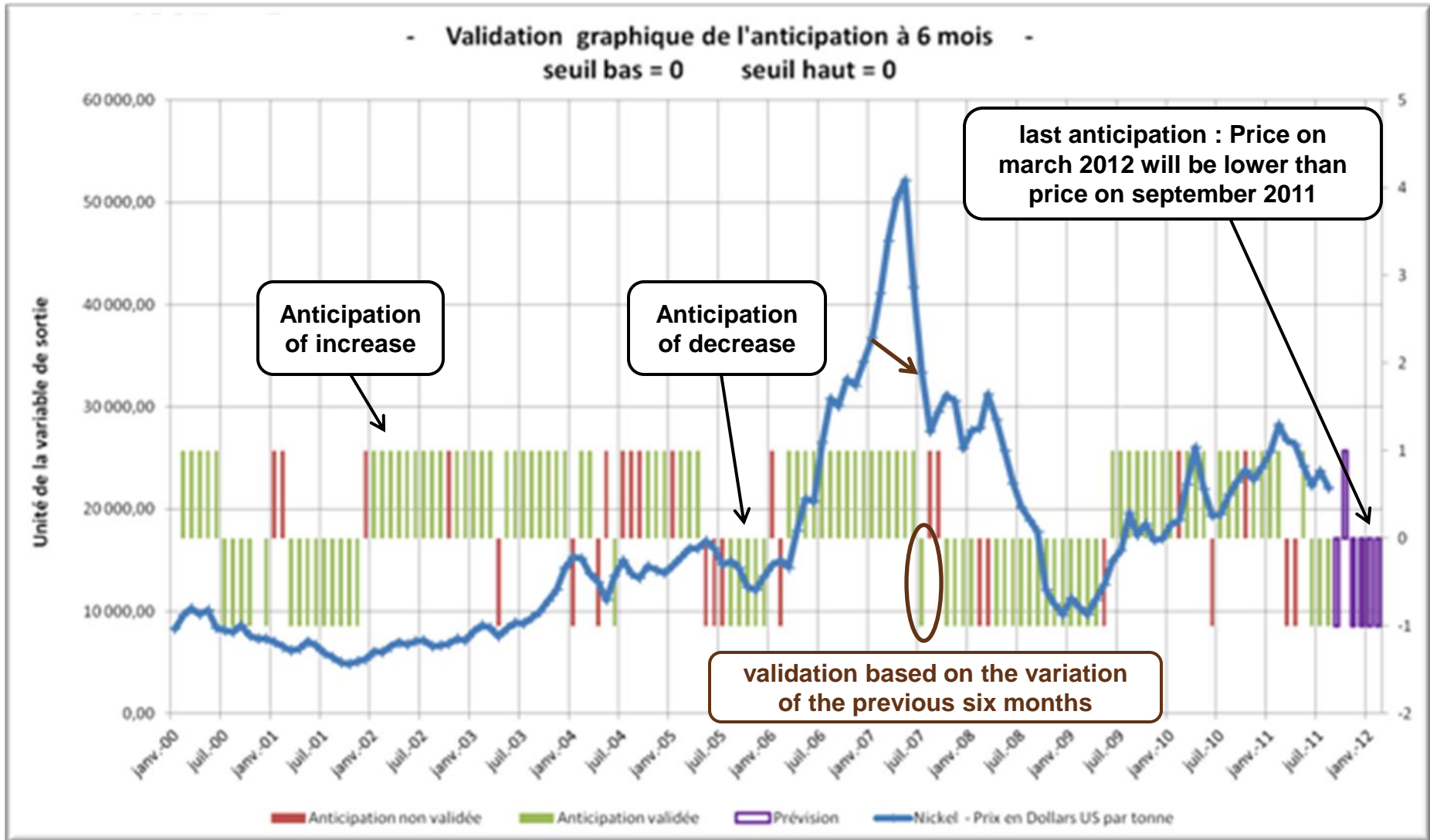
## Data base :

- 571 macro-economic, industrial and financial indicators
- Sources : Bloomberg (data not available as open data)

## Number of triplets :

- From 1991 to 2011 : 498 indicators → 20 460 496 triplets
- From 1996 to 2011 : 571 indicators → 30 865 405 triplets

## 2. Nickel Price anticipation (6 months)



## 2. Nickel Price Anticipation (6 months)

### Triplet of indicators :

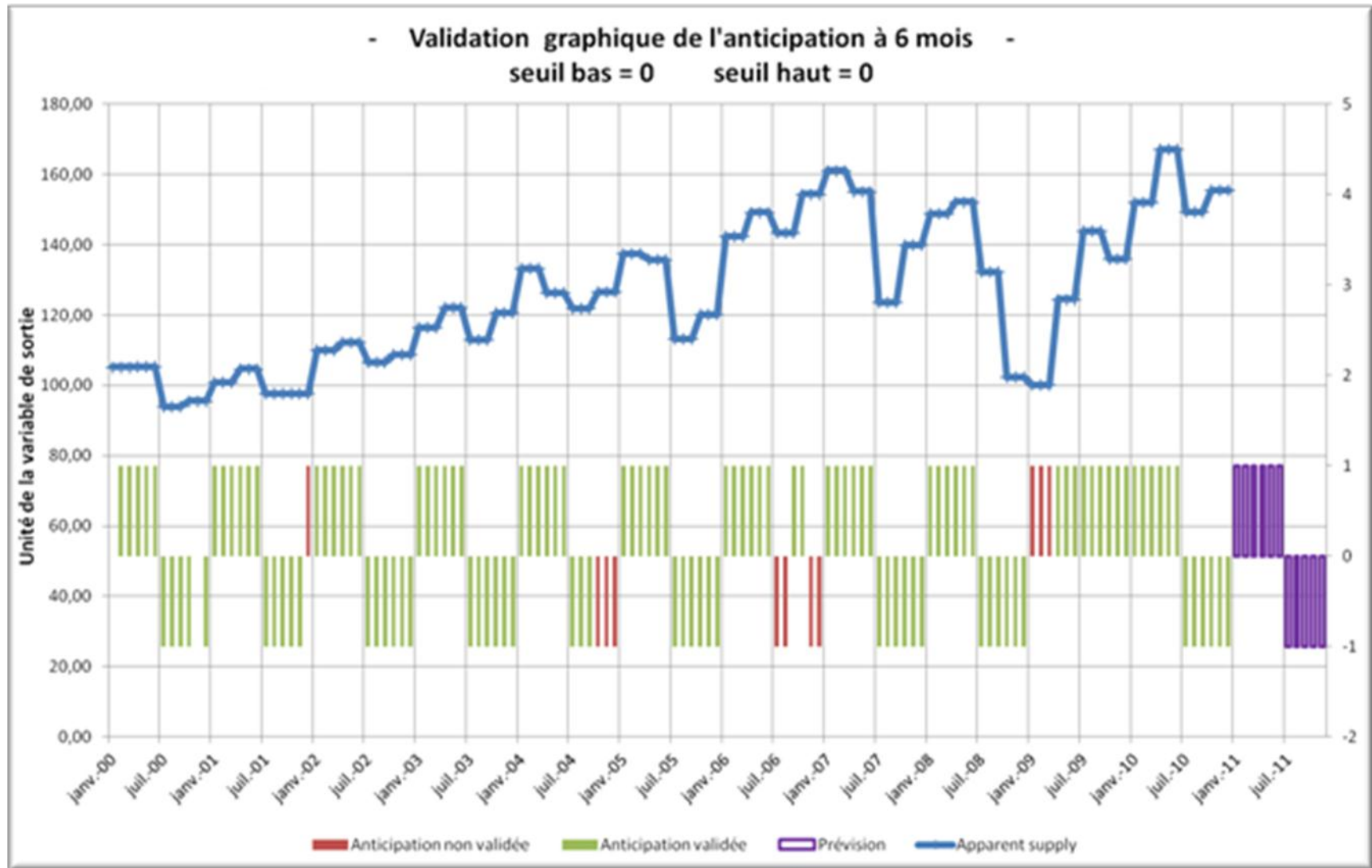
- Eurozone manufacturing confidence finished products stocks
- South Korea PPI S. Korea
- UK Retail sales Textile index (2005=100)

### Conclusion :

- 81% of increase et 72% of decrease are detected
  - One of the indicators does not seem at all related to the nickel
- The robustness of the results is not optimal

Period of anticipation	% increases detected	% decreases detected
6 month	<b>81</b>	<b>72</b>
7 month	77	71
8 month	80	69
9 month	81	70
10 month	77	69
11 month	78	68
12 month	79	71

### 3. Apparent Supply anticipation (6 months)



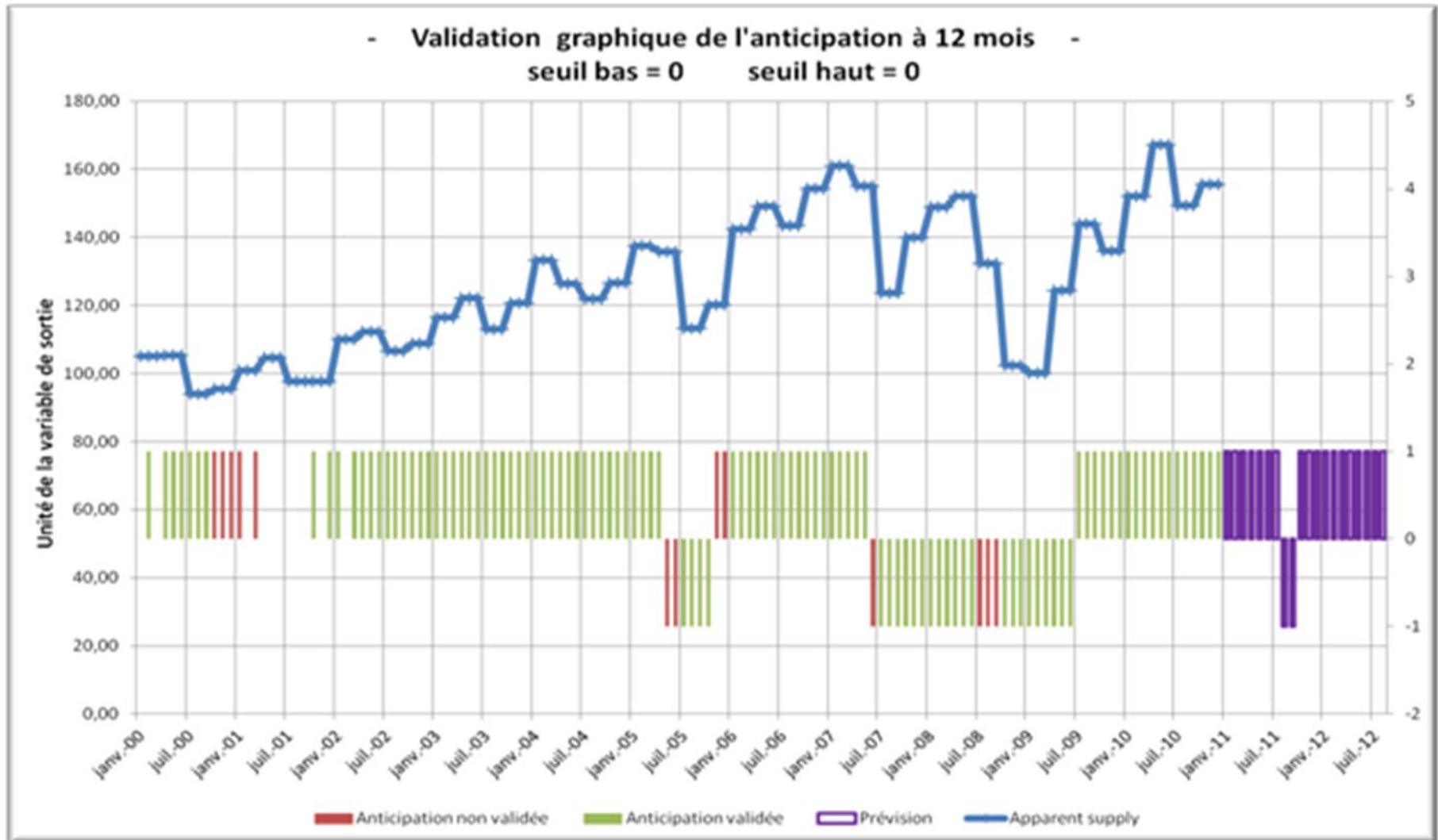


### 3. Apparent Supply anticipation (6 months)

#### Triplet of indicators :

- China export trade cumulative (Value-Bn USD)-Customs General Administration
  - China export trade cumulative YoY(%) - Customs General Administration
  - South Korea PPI - S.Korea
- **Results** : 93% of increases et 94% of decreases are detected

### 3. Apparent Supply anticipation (12 months)



### 3. Apparent Supply anticipation (12 months)

#### Triplet of indicators :

- Baltic dry index
  - E&E Household Appliance S.A.-US durable goods inventories
  - US import price index All commodities from Europe Union-Bureau of labor states
- **Results** : 90% of increases and 80% of decreases are detected

Period of anticipation	% increases detected	% decreases detected
6 month	<b>93</b>	<b>94</b>
7 month	88	68
8 month	87	69
9 month	91	59
10 month	90	70
11 month	94	68
12 month	<b>90</b>	<b>80</b>

## **IV. Conclusions**

# Conclusions

- Nickel Price can be explained by a probabilistic model based on Nickel Usage or on Apparent Supply
- Nickel Price anticipation is possible but not optimal
- Apparent Supply anticipation produces very good results at 6 and 12 months
- Nickel Price and Apparent Supply anticipations are realizable every month:

**Warning :** data not available on Internet