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)

Anticipation of increase

Anticipation of decrease

last anticipation : Price on march 2012 will be lower than price on september 2011

validation based on the variation of the previous six 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 and 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

<table>
<thead>
<tr>
<th>Period of anticipation</th>
<th>% increases detected</th>
<th>% decreases detected</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 month</td>
<td>81</td>
<td>72</td>
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<tr>
<td>7 month</td>
<td>77</td>
<td>71</td>
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<tr>
<td>8 month</td>
<td>80</td>
<td>69</td>
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<td>9 month</td>
<td>81</td>
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<td>10 month</td>
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<td>11 month</td>
<td>78</td>
<td>68</td>
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<tr>
<td>12 month</td>
<td>79</td>
<td>71</td>
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</tbody>
</table>
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 and 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

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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