Why PMI matters to purchasing managers – an introduction to PMI

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The Purchasing Managers Index is a monthly released indicator of the state of the manufacturing sector. The index is followed extensively by investors and governments as it is said to influence markets within fixed income, foreign exchange, and derivatives because it is a leading indicator. Unfortunately, the respondents of the index at times seem to neglect the importance of PMI in their own work. This article attempts to shed light on the significance of the PMI for the purchasing manager.

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GDP and PMI

PMI is a strong tool for facilitating planning and forecasts more accurately. One of the main arguments for using PMI as a forecasting and planning tool is illustrated in figure 1. It shows that Eurozone GDP and Eurozone PMI are strongly correlated. This relationship is also present for the global GDP and the PMI. Most firms are exposed to changes in GDP, and since GDP data is published quarterly with a delay, firms need an indicator of GDP at all given times. Instead of waiting for GDP data to be published, firms may use the PMI as an indicator of the direction of GDP at any given point.

Industrial commodity prices and PMI

It is not surprising that most industrial commodities are highly correlated with the overall state of the economy and the manufacturing sector. Figure 2 shows that the steel price and Eurozone PMI follow each other, however, the steel price reacts to the overall state of the manufacturing sector a few months later. The only exception where the price did not reflect the fundamentals is in 2008. Even though some purchasing managers are not directly affected by the price of raw materials, they ought to be aware of this relationship as the price of raw materials ultimately is reflected in the price of finished and semi-finished goods.

Composition of PMI

Many stakeholders often think that PMI is based on future expectations – it is not. The index is a snapshot of the manufacturing sector based on a questionnaire sent to the respondents in the sector. Every respondent is asked to indicate whether there has been an increase, decrease or no change within the following categories: new orders, production, employment, supplier deliveries and inventories. Hence, each category is a sub-index and will show the state of the category within the manufacturing sector. A sub-index above 50 indicates that the category is expanding compared to the previous month, while an index below 50 indicates the contrary. The neutral level of 50 indicates no change. The sub-indices are given weights as can be seen in table 1. The PMI is the weighted average of all five categories; hence, the interpretation as stated above is valid as well. The monthly PMI report may include several other sub-indices that do not affect the PMI. The price index is one of the most common sub-indices and measure whether input prices have risen or fallen.

EUROZONE GDP AND PMI

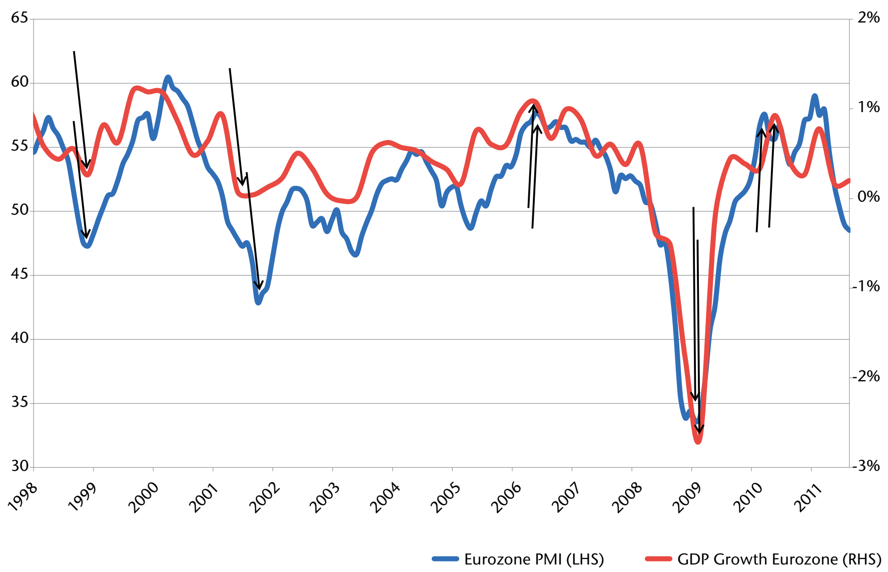

Figure 1. *Source: Markit, Eurostat.*

EUROZONE PMI AND STEEL PRICES

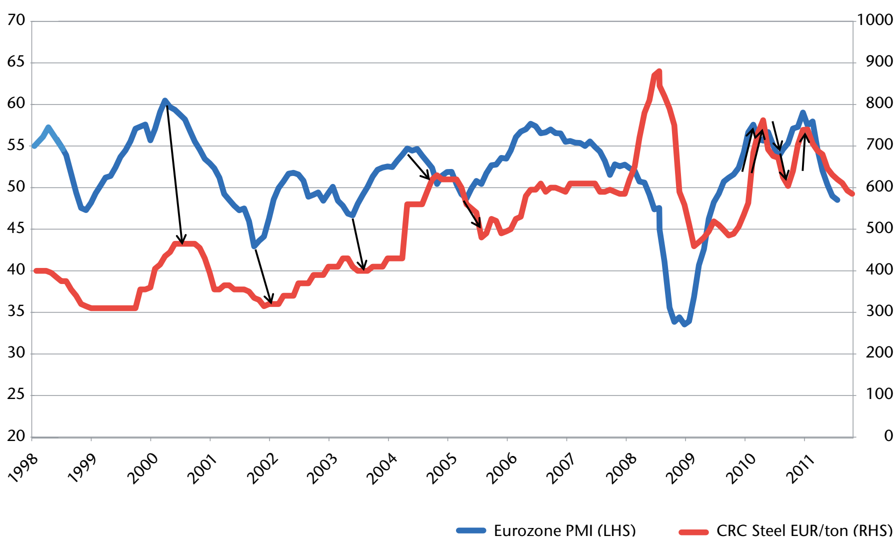

Figure 2. *Source: Markit, SteelBB.*

After the introduction to the structure of the PMI, we can examine each sub-index and explain what purchasing managers can deduct from them.

New orders

New orders account for the highest weight in the PMI, and therefore it is the most important sub-index of the PMI. If the index is substantially above 50, thereby indicating more orders than the previous month,it indicates that demand will increase in the very near future. Therefore, a purchasing manager should look at the inventory levels and decide whether it can handle a sudden unexpected increase in demand. The index can also be interpreted as an early warning on future price increases as demand and prices are correlated. Conversely, if the index is substantially below 50, it may be a good time to negotiate discounts with suppliers as their order book may be shrinking.

Production

Production is the second most important sub-index for the PMI according to the weighting. A sub-index above 50 indicates that production is higher in the current month compared to the previous. Manufacturers may start to use their inventories, and as a consequence they will need to restock in the near future. Therefore, purchasing managers should make sure that they have the capacity and inventories to handle a sudden increase in demand.

Employment

For purchasing managers employment is not a relevant sub-index in terms of forecasting and planning, and therefore we will not go further into depth. However, it should be mentioned that employment over a longer period of time can be seen as an early indicator of the future capacity of firms. It may also show how firms perceive the future as firms are more likely to hire when they expect growth in the near future.

SUB INDEX WEIGHTS

Sub-Index	Weight
New orders	30%
Production	25%
Employment	20%
Supplier deliveries	15%
Inventories	10%

Table 1. *Source: Markit.*

Supplier deliveries

This sub-index shows whether the lead times of the suppliers have increased or decreased. On one hand, if the sub-index is below 50, purchasing managers should be aware that there might be problems further down the supply chain and that delivery times may have risen. Therefore, the purchasing manager should start building inventories when longer delivery times start to appear. More importantly, longer delivery times result in increased prices which can be seen in figure 3. The right hand side is inverted to show the relationship between input prices and delivery times. It is evident that input prices and delivery times are highly correlated. One solution for the purchasing manager is to enter fixed price contracts in order to avoid price increases. On the other hand, if the index is above 50, the suppliers have become less busy resulting in shorter delivery times. Hence, suppliers may be more willing to negotiate contracts. At this point, it would be a good idea to float prices to benefit from the decrease in input prices.

EUROZONE INPUT PRICES AND SUPPLIER DELIVERY TIMES

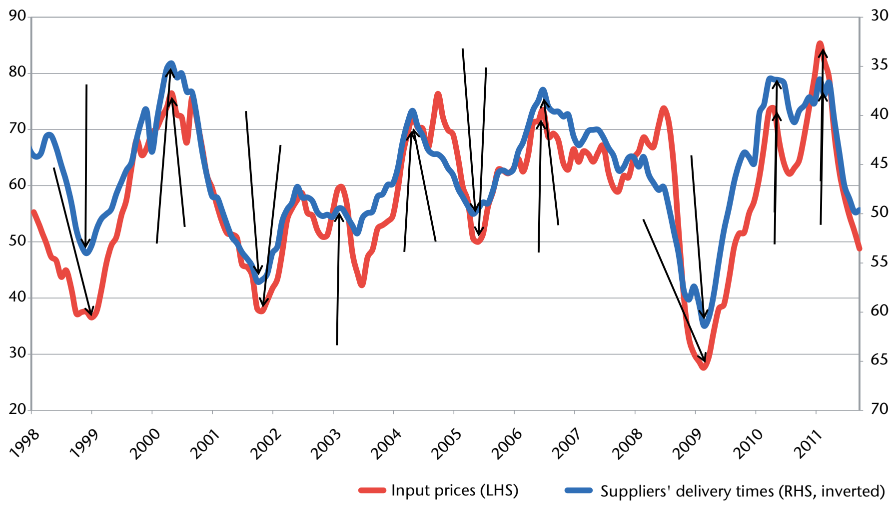

Figure 3. *Source: Markit.*

EUROZONE INVENTORIES AND REUTERS COMMODITY INDEX

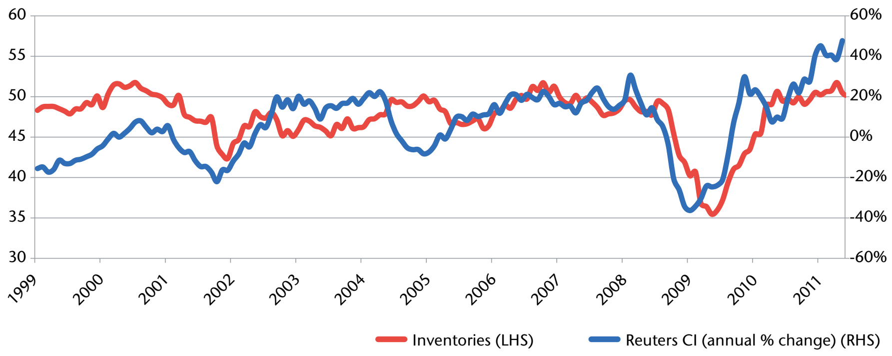

Figure 4. *Source: Markit, Reuters.*

EUROZONE INPUT PRICES AND REUTERS COMMODITY INDEX

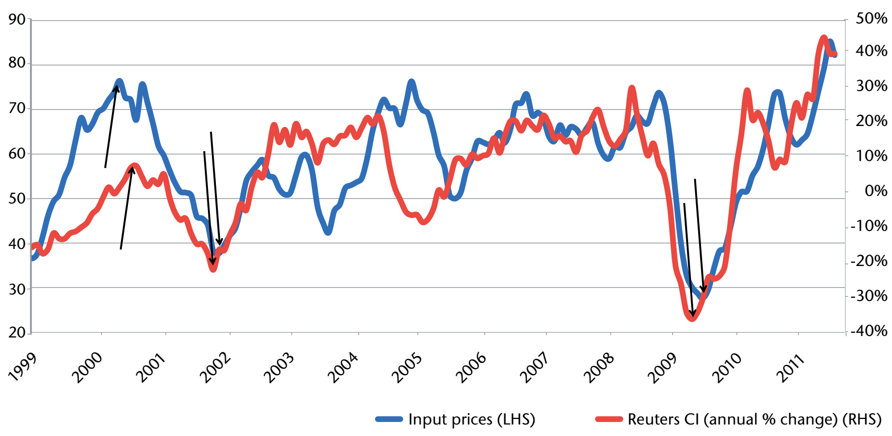

Figure 5. *Source: Markit, Reuters.*

Inventories

Even though the sub-index accounts for the smallest weight in PMI, the inventory levels are very important to purchasing managers as they give an indication of the future demand for products. Inventory levels substantially below 50 indicate that the clients are experiencing unexpected demand and therefore must use their inventory. Purchasing managers should therefore expect that whenever the unexpected demand has settled, firms will want to stock up and thereby increase their orders in the near future.

Input prices

Even though it does not influence PMI, most PMI reports include a section regarding input prices. The questionnaire includes input prices because it is quintessential for every manufacturing firm. The sub-index gives an indication of price inflation within the manufacturing sector, and purchasing managers may use it as a benchmark to reaffirm potential own findings. By plotting the sub-index and Reuters' Commodity Index in the same graph, it becomes obvious that the sub-index gives a good indication of the overall raw materials price. Therefore, if the sector experiences falling input prices, purchasing managers may attain bargaining power with suppliers as they have clear evidence that most other manufacturers have falling input prices. It may also give the purchasers an incentive to shop around for more price-concerned suppliers.

Combining sub-indices

As stated above, each sub-index has its own interpretation. However, one can also look at more than one indicator at the time and thereby draw overall conclusions. A simple example is: Production remains constant while new orders rises

EXAMPLE OF COMBINED INDICES

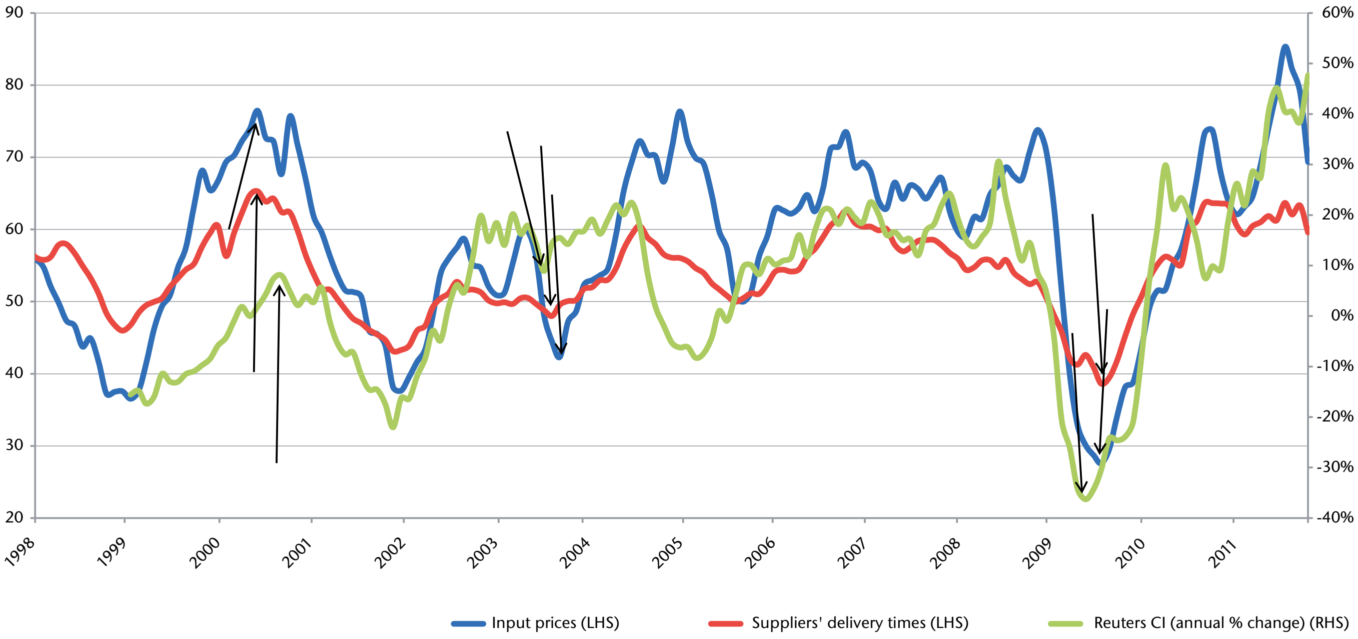

Figure 6. *Source: Markit, Reuters.*

and inventories decrease. This indicates that production ought to increase in the next months to keep up with the new orders. As inventories have not increased, we would expect delivery times to increase which might cause prices to increase suddenly. Figure 6 shows how supplier deliveries are correlated with input prices.

The strengths of PMI

The strengths of PMI are plenty and should be apparent from the above. An additional strength is the monthly release of the PMI. Most national statistics only contain quarterly data, and the most current data is released several months after it has been collected. GDP is a prime example of quarterly data which is released with a delay. PMIs are highly correlated with GDP as illustrated in the introduction. Thus, purchasing managers and investors can get a valid indication of the current growth in GDP by looking at the PMI level. This can be extremely helpful for industries that are highly sensitive to changes in GDP such as the automotive, transportation, machinery and construction industries.

Thus, purchasing managers and investors can get a valid indication of the current growth in GDP by looking at the PMI level.

However, one should also be aware of the potential limitations. The most important limitation is that the index disregards the strength of the individual answers. For example, if a firm experiences a 1% increase in production, it will affect the index to the same extent as if it had had a 10% increase since both scenarios will cause them to answer that they had an increase in production. Intuitively, it accounts for decreases as well. Therefore, very high indices do not necessarily imply that there is a large increase in the absolute number; it only shows that most of the respondents experienced increases.

This article aimed to shed light on the importance of PMI in the daily work of purchasing managers. The PMI gives a snapshot of the current state of the manufacturing sector while the sub-indices explain the context. It was argued that the sub-indices can be used to forecast and prepare for unexpected changes in demand up to six months ahead of time. The sub-indices may also give the purchasing manager a tool for renegotiating contracts. Therefore, purchasing managers can gain a valuable insight into the future and thereby gain a competitive advantage by analysing the monthly reports. /

References

To find out more about the respective countries' and region's PMI, please visit Markit.com, ISM.WS (US PMI) or DILF.dk (Danish PMI)