Objectives
The pharmaceutical supply chain focuses on the needs of the patients. Therefore, the continuous availability of medicinal products is essential. This is why a sophisticated network of pharmaceutical full-line wholesalers has been put in place to ensure the continuous supply of all medicinal products to pharmacies and other healthcare professionals whenever and wherever needed. Though the pharmaceutical wholesale industry is relatively small, it is a vital branch within the pharmaceutical sector. Hence, pharmaceutical full-line wholesalers carry out a variety of main functions. One of these is the financing function. Pharmaceutical full-line wholesalers stock and distribute the complete assortment of products in range and depth. Moreover, they acquire ownership over the medicinal products when purchasing them from the manufacturers and pass on ownership to pharmacies when they are delivered. Thus, the analysis aims to draw a comprehensive picture of the pre-financing function, expressed in terms of working capital, of the pharmaceutical wholesale sector in Europe.

Methods
The necessary data was provided by the European Association of Pharmaceutical Full-line Wholesalers (GIRP). The study analyzed core indicators representative for all countries of the European Union plus Croatia, Norway and Switzerland (EU-25 + 3), with the exception of Malta and Cyprus as no full-line wholesalers are operating in the latter.

Results
In the analyzed countries, 935 pharmaceutical full-line wholesalers are serving 171,767 retail and hospital pharmacies and dispensing doctors and employ 520 million people. A tight distribution network of 1,220 warehouses is the foundation of a continuous, safe and rapid supply of medicinal products within the EU-25 + 3 (table 1).

Pre-Financing function
Pharmaceutical full-line wholesalers assume a pre-financing function towards manufacturers and pharmacists that is not offered by other distribution models. Payments by the pharmacies are usually delayed, often until after reimbursement from the Statutory Health Insurance (SHI). In this way, pharmaceutical full-line wholesalers assume a significant contribution to hedge the cash flows in the social security system. In the context of warehousing, capital commitment incurred, and risks, such as spoilage, breakage and loss are also covered (Itf 2008). This function can be expressed in terms of working capital. The calculation of the pre-financing is based on the Net Working Capital approach. According to this, the Net Working Capital Days are calculated as the sum of Days Sales Outstanding (DSO – capital commitment from accounts receivable) and Days Inventory Outstanding (DIO – capital commitment from stock) minus Days Payable Outstanding (DPO – pre-financing from manufacturers).

In the course of the wholesalers’ survey core indicators like inventory turnover (DIO), DSO and DPO were collected to calculate the amount of pre-financing.

In the EU-25 + 3 alone pharmaceutical full-line wholesalers pre-finance on average €12.2 bn over a period of 35 days. In total, this sum is pre-financed approximately ten times per year (figure 1).

Conclusion
Pharmaceutical full-line wholesalers pre-finance the entire retail market of medicinal products, guarantee the continuous supply of all medicinal products and secure the cash flow of social insurers. The funding and holding of buffer stocks, the resulting working capital and ownership that goes with wholesaling services are vital for an effective and efficient functioning of the healthcare industry in Europe.

References
GIRP: The European Association of Pharmaceutical Full-line Wholesalers, written information 2013
Additional literature with the author

Fig. 1: Pre-financing European Union plus Croatia, Norway and Switzerland (EU-25 + 3) with the exception of Malta and Cyprus, 2012

Fig. 2: Pre-financing European Union plus Croatia, Norway and Switzerland (EU-25 + 3) with the exception of Malta and Cyprus – Country specific results in million EUR, 2012

Tab. 1: Pharmaceutical full-line wholesalers in the EU-25 + 3, 2012

<table>
<thead>
<tr>
<th>Total number of full-line wholesalers</th>
<th>Total number of warehouses</th>
<th>Total number of dispensing units</th>
<th>Population of the EU-25 + 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>935</td>
<td>1,220</td>
<td>171,767</td>
<td>519,722,743</td>
</tr>
</tbody>
</table>

Source: GIRP 2013, IFP own depiction 2013

Additionally, pharmaceutical full-line wholesalers generated a total turnover of €130 billion in the EU-25 + 3. Though, the turnover of the wholesale sector has been negatively affected by reduced margins.

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