

CBI MARKET SURVEY

The castings and forgings market in Poland

Publication date: May 2008

Introduction

This CBI market survey provides exporters in developing countries (DCs) with information on some of the main developments in the castings and forgings market in Poland. The information is complementary to the information provided in the CBI market survey 'The castings and forgings market in the EU', which covers the EU in general. That survey also contains an overview and explanation of the selected products dealt with, some general remarks on the statistics used, as well as information on other available documents for this sector. It can be downloaded from <http://www.cbi.eu/marketinfo>.

1 Market description: industrial demand and production**Industrial demand**

Because no data for the demand for castings and forgings are available, this survey puts a focus on two major end-user industries that offer good opportunities for developing country (DC) exporters: the engineering and the construction industry. Since both industries use many cast and forged parts and products, the production output of both industries is a good indication for the demand for cast and forged parts in these industries.

Engineering industry

Polish production in the engineering industry increased 15% per year in the period 2002-2006, to almost €16 billion in 2006. Especially the production of the mechanical engineering industry grew fast. For example, in 2005, production grew by 37%, followed by a 20% growth in 2006. The medium-sized Polish engineering industry ranked ninth in the EU, behind the Netherlands and Austria, but ahead of Finland and the Czech Republic. Of the main castings and forgings consuming engineering categories, especially "bearings, gears and other driving elements" (+20.1% per year), "electric motors, generators and transformers" (+20.1%), "agricultural machinery" (+16.2%) and "valves and taps" (+13.1%) performed the best. The position of Poland in the EU was relatively strong in "agricultural machinery" (8th with 4% market share), "engines and turbines" (8th with 3% market share) and "bearings, gears and other driving elements" (8th with 2% market share).

The world, EU, and Polish economic growth forecasts for 2008 (+3.8%, +1.7% and +5.1% respectively) and 2009 (+3.9%, +1.8% and +4.3%) lead to a good demand for engineering products in the country. It is expected that the Polish producers will benefit from this. Among other things, steel consumption for the engineering industry is expected to rise until 2009, before slowing down. Please also note that, although the EU is far from running the risk of recession, the EU and Polish economy are and will be clearly affected by the housing and credit crisis in the United States.

Construction industry

After a total growth of 10% in the period 2002-2005, the Polish construction industry amounted to €23.9 billion in 2005. For the period 2006-2008 it is expected that the industry will grow by more than 25% in total to €30.3 billion in 2008. The medium-sized Polish construction industry ranked twelfth in the EU, behind Portugal and Denmark, but ahead of Finland and Sweden.

Market segmentation

Most recent data (2004) show that domestically produced iron castings mostly go to the automotive industry (29%), followed by the engineering industry (25%) and ingot moulds and

bottoms (16%). The same goes for nodular iron with automotive representing about 50% and engineering representing 17.5% of total nodular iron production. For steel castings it is different: engineering represents the lion share (almost 70%) of domestic steel casting production. As a rough estimation, both construction and the iron and steel industry represents between 10-15% of all domestically produced castings. With regard to drop forgings, the main end-users in 2004 were automotive (59%), followed by mechanical engineering (27%, of which 8% was agricultural machinery and 7% mining machinery) and railways (6%).

Production

Foundry industry

The medium-sized Polish foundry industry ranked sixth in the EU, behind Spain and the UK, but ahead of the Czech Republic and Sweden. Iron castings accounted for almost 50% of total production, followed by light and ultra light castings (23%) and nodular iron castings (15%). In 2006, the medium-sized production of metal castings totalled 863,000 tonnes, an increase of 4.8% per year compared to 2002. While the production of iron castings remained stable, the production of light and ultra light castings more than doubled (+21% per year).

The Polish foundry sector is a diversified one. There are some very modern foundry facilities in Poland, including Teksid Iron Poland and Centrozap. However, Poland still has many aging foundries whose financial situation is weak. Beside the smaller Polish foundries, also the larger foundries do not hold a dominant position in the Polish market, as shown by the following list of largest foundries in Poland:

- Odlewnia Zeliwa - <http://www.oz-srem.com.pl> - annual capacity of 50,000 tonnes, 55% of production is exported.
- Odlewnie Polski - <http://www.odlewniepolskie.pl> - production of 13,000-15,000 tonnes per year, 60%-70% of production is exported.
- Centrozap - <http://www.centrozap.com>.

These firms have between 3-4% domestic market share each. Export sales also account for the major sales share of the large foreign-owned foundries:

- Teksid Iron Poland - <http://www.teksid.com/iron-1.htm> - annual production of 40,000-50,000 tonnes, accounts for 70% of Polish ductile cast iron production; 70% is exported
- Nematik Poland (former Teksid Aluminium) - http://www.nematik.com/comp_of_poland.html - capacity of 30,000 tonnes annually, about 85% is exported.

Furthermore, there are several other large foundries in the country with capacities of 5,000-10,000 tonnes per year. Some of them are owned by foreign companies such as Alstom Power - <http://www.pl.alstom.com>. In 2006 a very large magnesium die-cast foundry – (also foreign-owned Euromag <http://www.euromag.com> – was completed. It is expected that the annual turnover will amount to €70-100 million, while major markets to be served are the automotive, electronics, construction and furniture industry. Within a few years, Euromag expects to become the largest magnesium die-casting foundry using hot chamber technology in Europe.

Most Polish foundries are small and medium-sized enterprises. In total, there are over 400 foundries in Poland. 180 of these make iron castings, 36 make steel castings, and 250 make non-ferrous castings. These firms usually act as suppliers to larger manufacturing companies, and almost 75% of them work with fewer than 50 people. In the period 2001-2005, the average turnover per employee increased more than 80% to almost €34,000 – an amount which is the tenth largest in the EU, behind Slovenia and the Czech Republic, but ahead of Lithuania and Hungary.

Forge industry

The Polish forge industry ranked sixth in the EU, behind the UK and Spain. In 2006, the medium-sized production of forgings was estimated at 269,000 tonnes, an increase of 1.6% per year compared to 2002. It is estimated that only 50-70% of the capacity – which is 200,000 tonnes of drop forgings and 150,000-200,000 tonnes of open die and other forgings – is used. There are several forges with impressive production volumes:

- Kuźnia Polska - <http://www.zks.skoczow.pl> - 27,000 tonnes of drop forgings annually
- Kuźnia Jawor - <http://www.kuznia.com.pl> - 22,000 tonnes of drop forgings
- FŁT Kraśnik - <http://www.ft.krasnik.pl> - 9,000 tonnes of drop forgings

Among the largest open-die forges in Poland are:

- Celsa Huta Ostrowiec - <http://www.celsaho.com> - 46,000 tonnes of shape forgings annually
- Kuźnia Batory - <http://www.kuzniabatory.pl> - 2,200 tonnes
- HSW Kuźnia Stalowa Wola - <http://www.hsw-zk.com.pl> - 5,700 tonnes and also drop forgings
- Kuźnia Glinik - <http://kuznia.glinik.pl> - 3,700 tonnes
- Huta Bankowa - <http://www.hutabankowa.com.pl>

There are also some companies that have specialised in non-ferrous metal forging, such as FA Swarzędz - <http://www.fa-swarzedz.com.pl> and Metron Toruń - <http://www.metron.pl>.

In total, forgings are produced by more than 50 firms. There are about 30 drop and 8 open die forges in Poland. About 60% of production is exported. Polish forges' capacity range is quite large: they make drop forgings up to 350kg and open die forgings up to 70 tonnes.

Trends and characteristics

A major trend that influences the castings and forgings demand and production in Poland is the growing number of innovative applications of aluminium and magnesium castings. Other trends are:

- **Growing demand for light weight and energy-efficient applications.** Due to the growing care for the environment, in several industries – for example the power generation industry – the search for energy efficiency and the limitation of CO₂ and NO_x emissions has led and should lead to the increased use of energy-efficient and light weight applications such as electric variable speed drives and energy-efficient engines, turbines, motors and generators. As a result, prospects for cast and forged parts in such applications are bright.
- **Relocation of engineering production to Poland.** In recent years, a lot of engineering production has been shifted from Western European countries to Poland.
- **Foundries improve their market position.** There is a growing trend for Polish foundries to become independent of the buyers of their products, resulting in a better market orientation and an increase of sales activities.
- **Rising demand for agricultural machinery.** Due to EU interventions, the demand for agricultural machines is expected to increase in the years to come, which will also lead to an increase of agricultural machinery production in Poland.

Overall, the demand for castings will grow in Poland over the next few years as some of the major end-user industries, such as the engineering and construction industry, continue to increase their output. Moreover, the niche for casting products made in CEE countries will continue to grow as Western European foundries focus on more technologically sophisticated products.

Opportunities and threats

The main opportunities and threats for developing country (DC) exporters are the following:

- + The fast growing economy is expected to drive a healthy demand for engineering products in the years to come, which will also stimulate local engineering production. The economic growth in Poland is much stronger than the average economic growth in the EU.
- + Strong growth of the construction output will lead to an increasing demand for castings and forgings in the next few years. The construction sector is the leading consumer of steel, with consumption of steel expected to rise until 2009 before slowing down.
- + Light weight products and eco-friendly and energy-efficient technologies offer good opportunities for those DC exporters that are able to supply such products.
- + Shift of engineering production towards LCCs such as Poland, which may lead to an acceleration of demand growth for castings and forgings of the Polish engineering industry.
- As Polish foundries increasingly become independent, their market orientation and efficiency may improve. As a result - also with regard to the huge steel production – Poland may have the potential to grow into one of the largest foundry nations of the EU. Beside, in general the product quality is good and several Polish foundries have achieved Western

European levels of product standards. DC exporters can therefore very well expect competition from Polish producers, although Polish wage costs are growing fast (also refer to Section 4) which weakens the country's competitive position.

Refer to Section 7 of the CBI market survey covering the EU market for more information on opportunities and threats.

2 Trade channels for market entry

Trade channels

The most common trade channels for DC exporters are direct sales to end-users, trade via traditional importers, supply agents, traditional agents, or subcontracting by EU foundries or forges. Although there are several options, supplying directly to end-users has some advantages and could be one of the most interesting trade channels, because there is a larger chance of a long-lasting relationship. DC exporters should therefore put efforts into building up supplier relationships with end-users. Refer to the CBI market survey covering the EU market for a detailed explanation of relevant trade channels in this market.

Examples of potential trade partners

Some examples of prospects in Poland are: Same-Deutz-Fahr (<http://www.samedeutz-fahr.com>; assembly of tractors), Amica Wronki (<http://www.amica.com.pl>, one of the Polish companies that survived the transition to a free market economy; domestic appliances), Emit Motor (<http://www.emit-motor.com.pl>; part of the Italian electric motors and generators manufacturer Electropol Cantoni), and Korurs (<http://www.korurs.pl>; crankshafts, pneumatic connections, valves).

Price structure

It is very difficult to give a general idea of the price structure in this industry, as prices and margins differ to a great extent. They may depend on size of the order, length and type of distribution chain, terms of delivery, added value / finishing and materials concerned. Bearing this in mind, some rough indications of margins in the chain could be given. Agents work with margins between 3-7%, for importers this is 15-35%. The margin depends on the level of care and attention an intermediary has to give to the process. Products that do not need much extra care, like finished and ready-to-use products as valves for example, will be sold with a smaller margin than products that need extra handling or even need to be stored

Useful sources

Some examples of available sources to find clients:

- Polish Association of Shipbuilders - <http://www.forumokretowe.org.pl/eng/index.php> - click on 'Members'.
- Polish Forging Association - <http://www.zkp.pl> - choose the English version and click on 'Full members' or 'Honorary members'.
- Metallurgical Chamber of Industry and Commerce - <http://www.hiph.com.pl> - choose the English version and click on 'Members'.

One example of a general source is Direct Industry - <http://www.directindustry.com> - you can search by product, company ('exhibitors') or catalogues and technical brochures.

3 Trade: imports and exports

Imports

In 2006, Poland was a medium-sized importer of castings and forgings, ranking eighth in the EU, behind Belgium and the Netherlands, but ahead of Austria and the Czech Republic. Between 2004 and 2006, the total import value annually increased by 29% to €10.9 billion (8.6 million tonnes) in 2006. The increase in value was partly caused by the increasing prices of raw materials (refer to Section 4). The product group shares were as follows:

- Iron and steel products: 37% of total. Annual increase in import value of 31%.
- Articles of iron, steel or base metal: 21% of total. Annual increase in import value of 24%.
- Plastic and rubber products: 14% of total. Annual increase in import value of 14%.

- Parts of machinery, railway equipment and vehicles: 14% of total. Annual increase in import value of 224%.
- Light and ultra light products: 9% of total. Annual increase in import value of 16%.
- Copper and zinc products: 5% of total. Annual increase in import value of 52%.

Between 2004 and 2006, imports from DCs annually increased by 58% in value. Compared to 2004, the total share of DCs in import value increased from 1.8% to 4% in 2006. The DCs' shares in imports of some product groups showed better growth compared to other product groups, as can be seen below:

- Parts of machinery, railway equipment and vehicles: growing from 0.2% to 2.6% in value.
- Iron and steel products: growing from 0.3% to 2.9% in value.
- Articles of iron, steel or base metal: growing from 3% to 7.1% in value.
- Plastic and rubber products: growing from 1.4% to 3.2% in value.
- Light and ultra light products: growing from 3.3% to 3.6% in value.
- Copper and zinc products: growing from 5.5% to 5.9% in value.

China accounted for 61% of all imports coming from DCs, followed by Turkey (19%), India (4%), Moldova (3%), Kazakhstan (3%), and Chile (3%). The DCs that saw the largest increase of their share to the country were Chile, Moldova, Egypt, Kazakhstan, the Philippines and India.

Of all intra-EU imports a small part may be re-exports, but the exact value of re-exports is unknown because Eurostat does not allow for such detailed analysis.

Exports

In 2006, Poland was a medium-sized exporter, ranking eleventh in the EU, behind Sweden and the Czech Republic, but ahead of Finland and Denmark. The total export value of Poland showed an annual increase of 33% in the period 2004-2006, totalling €9.5 billion in 2006.

Exports consisted of:

- Articles of iron, steel or base metal, accounting for 32% of total exports (€3.1 billion). Annual increase in export value of 23%.
- Parts of machinery, railway equipment and vehicles, accounting for 23% of total exports (€2.2 billion). Annual increase in export value of 214%.
- Iron and steel products, accounting for 20% of total exports (€1.9 billion). Annual increase in export value of 21%.
- Plastic and rubber products, accounting for 10% of total exports (€953 million). Annual increase in export value of 39%.
- Copper and zinc products, accounting for 9% of total exports (€869 million). Annual increase in export value of 37%.
- Light and ultra light products, accounting for 6% of total exports (€594 million). Annual increase in export value of 18%.

Probably a small part of exports consists of re-exports to other EU countries, mainly to neighbouring countries, but the exact value of re-exports is unknown because Eurostat does not allow such a detailed analysis.

Opportunities and threats

- + Poland was the eighth largest importer of castings and forgings in the EU in 2006.
- + In 2006, Poland was a net-importer of castings and forgings, running trade deficits for iron and steel products (€2.3 billion), plastic and rubber products (€254 million), light and ultra light products (€206 million).
- + The total import value of all product groups increased in the period 2004-2006.
- + The DC share of total imports grew by 123% in the period 2004-2006.
- Poland ran trade surpluses for copper and zinc products (€69 million), parts of machinery, railway equipment and vehicles (€277 million), articles of iron, steel or base metal (€460 million).
- The import share of DCs was 4% in 2006, far below the EU average (8.2%).

- China accounted for 61% of all imports coming from DCs. This was a much higher share than in the EU on average (39%).

Useful sources

- EU Expanding Exports Helpdesk - <http://exporthelp.europa.eu> → go to: trade statistics
- Eurostat - official statistical office of the EU - <http://epp.eurostat.ec.europa.eu>
- Understanding Eurostat: Quick guide to EasyComext - http://epp.eurostat.ec.europa.eu/newxtweb/assets/User_guide_Easy_Comext_20080117.pdf

4 Price developments

One of the major trends that affect the costs and revenues of Polish castings and forgings production is price pressure, which results in importers/agents and OEMs as well as their suppliers continuing their search for opportunities to reduce cost prices of parts by 10-30%. This may be underlined by the fact that prices in the engineering industry increased only 4.2% in the period 2000-2006. In the meantime, the industry had to deal with increasing raw material and energy prices. Although average wages in the industry increased 20% in the period 2000-2005, the Polish wage level was still the lowest in the EU (€3.80 per man-hour in 2005), lower than in Slovakia. Industry specialists expect that wages will rise further in the next few years, which will lead to an increasing price level of Polish castings and forgings. Please refer to the CBI market survey covering the EU market for castings and forgings for more information on trends related to price developments.

Useful sources

- CAEF Eurofoundry - <http://www.caef-eurofoundry.org>
- European Engineering Industries Association (Orgalime) - <http://www.orgalime.org>
- Eurostat - official statistical office of the EU - <http://epp.eurostat.ec.europa.eu> - by comparing import value and volume, it is possible to get an idea of import prices.
- London Metal Exchange - <http://www.lme.co.uk>

5 Market access requirements

As a manufacturer in a developing country preparing to access Poland, you should be aware of the market access requirements of your trading partners and the Polish government. For information on legislative and non-legislative requirements, go to 'Search CBI database' at <http://www.cbi.eu/marketinfo>, select castings and forgings sector and Poland in the category search, click on the search button and click on market access requirements.

Detailed information on packaging can be found on the ITC website on export packaging: <http://www.intracen.org/ep/packaging/packit.htm>. Information on tariffs and quota can be found at <http://exporthelp.europa.eu>.

6 Doing business

Information on doing business, such as approaching potential business partners, building up a relationship, drawing up an offer, handling the contract (methods of payment, and terms of delivery) and cultural differences can be found in CBI's export manuals 'Export Planner', 'Your image builder' and 'Exporting to the EU'. These can be downloaded from <http://www.cbi.eu/marketinfo> - go to search publications. Beside a number of sources already mentioned in previous sections, other useful sources that contain market information and information on doing business in Poland are trade fairs, associations and magazines:

- Katowice - <http://www.mtk.katowice.pl> - technological trade fair held biannually, September, even years, in Katowice, also covers metallurgy.
- Metal Kielce Nonfermet - <http://www.targikielce.pl> - trade fair held annually, in Kielce September.
- Metalforum - <http://metalforum.mtp.pl> - trade fair held annually in Poznan, June.

- Hannover Messe - <http://www.hannovermesse.de> - the largest engineering trade fair in Europe, held in Hannover, Germany every year. This fair is also home to a large section on castings and forgings. Please refer to Auma (<http://www.auma.de>) and EventsEye (<http://www.eventseye.com>) to find more information on relevant fairs.
- Economic Chamber of the Electromechanical Industry - http://www.kig.pl/izba_gpe
- Foundry Chamber of Commerce - <http://www.oig.com.pl>
- PMR Publications - <http://www.pmrpublications.com> - construction magazine
- Tworzywa - <http://www.gazeta.tworzywa.com.pl/index.asp> - machinery, steel and plastic magazine

In general, German trade magazines contain very good information, also for Poland. One example is 'Giesserei', a foundry magazine (<http://www.giesserei-verlag.de>). To find more relevant trade magazines consult the CBI market survey covering the castings and forgings market in Germany.

This survey was compiled for CBI by Facts Figures Future
in collaboration with Effox Turbine and Gietech.

Disclaimer CBI market information tools: <http://www.cbi.eu/disclaimer>