

## CBI MARKET SURVEY

## The castings and forgings market in Portugal

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 Portugal. 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***

Portuguese production in the engineering industry decreased 0.5% per year in the period 2002-2006, to €4.1 billion in 2006. The small Portuguese engineering industry ranked seventeenth in the EU, behind Ireland and Slovakia, but ahead of Romania and Greece. Of the main castings and forgings consuming engineering categories, "valves and taps" (+13.7% per year), "bearings, gears, gearing and driving elements" (+6.5%) and "machine tools, woodworking machinery and welding equipment" (+5.8%) performed the best. The position of Portugal in the EU was relatively good in "machinery for textile, apparel and leather production" (12<sup>th</sup> largest producer with 1% market share) and "valves and taps" (13<sup>th</sup> / 1%).

Despite the world, EU, and Portuguese economic growth forecasts for 2008 (+3.8%, +1.7% and +1.8% respectively) and 2009 (+3.9%, +1.8% and +2.1%), leading to a good demand for engineering products in the country, it is difficult to predict to what extent the Portuguese manufacturers will benefit from this. Please also note that, although the EU is far from running the risk of recession, the EU and Portuguese economy are and will be clearly affected by the housing and credit crisis in the United States. The Portuguese machine industry mostly consists of small companies, and the industry is not as developed as in other EU countries. Portuguese production of machinery is for the most part of rather low quality. As a result, high-tech machinery is imported from other EU countries. In the case that more engineering operations are relocated to other countries, engineering production could very well decrease further in the next few years.

***Construction industry***

The construction industry has contracted year on year since 2002, caused by a tighter fiscal policy that cut back public-sector investment, but also because of the ongoing weakness in consumer confidence. After a drastic decline of 14% in the period 2002-2005, the Portuguese construction industry amounted to €26 billion in 2005. For the period 2006-2008 the industry is expected to decline further by 5.1% in total to €24.7 billion in 2008. The medium-sized Portuguese construction industry ranked tenth in the EU, behind Austria and Belgium, but ahead of Denmark and Poland. However, the sector has fallen into recession, and output in the construction sector (on a national accounts basis) has contracted year after year since 2002,

## Production

The small Portuguese foundry industry ranked fourteenth in the EU, behind Belgium and the Netherlands, but ahead of Finland and Denmark. Nodular iron castings accounted for 52% of total production, followed by iron castings (18%) and light and ultra light castings (14%). In 2006, the small production of metal castings totalled 156,000 tonnes, an increase of 6.3% per year since 2002. Main reason was a good growth in production of nodular iron castings (+11%). In the same period, the average turnover per employee increased almost 12% per year to almost €89,000 – which is less compared to Finland but more compared to Slovenia.

Beside the large Teksid iron foundry Funfrap - <http://www.teksid.com/iron-1.htm>, owned by the Italian Fiat-group and specialised in automotive castings, in 2006 the country was home to some 60 ferrous metal foundries with an average turnover of €3.5 million per year. While the number of ferrous metal foundries remained relatively stable in the period 2002-2006, the number of non-ferrous metal foundries declined more than 20%, to 40 in 2006. Some more examples of Portuguese foundries are Fusag - <http://fusag.com>, and Fundilusa - <http://www.fundilusa.com>, specialised in propellers and other water propulsion components. Portugal is still home to some low added-value serial production, which is shown in the fact that manhole covers are still a major part of the product range of one of the largest foundries of the country (Fundição de Dois Portos - <http://www.fdp.pt>).

Unfortunately, data of the Portuguese forging production are not available. However, as with the foundry industry, it can be assumed that the Portuguese forge industry is small.

## Trends and characteristics

A major trend that influences the castings and forgings demand in Portugal 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 CO<sub>2</sub> and NO<sub>x</sub> 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.** In recent years, some engineering production has been outsourced to low cost countries (LCCs), especially Central and Eastern European (CEE) countries. So far, outsourcing often concerns labour-intensive and series production of standard products and parts that can easily be made in LCCs.

## Opportunities and threats

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

- + Light weight products and eco-friendly and energy-efficient technologies offer good opportunities for those DC exporters that are able to supply such products.
- ± As a country with relatively low wages, Portugal is (still) a competitor to DC exporters. This can also be seen from the fact that one foundry still produces civil engineering castings.
- The declining construction output leads to a shrinking demand for castings and forgings.
- Shift of engineering production towards LCCs, which may lead to a deceleration of demand growth for castings and forgings of the Portuguese engineering industry.
- Portugal is a small producer of engineering products.

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. One example of a large end-user of castings and forgings in Portugal is Cimpor (<http://www.cimpor.pt>; producer of cement equipment). Please refer to the CBI market survey covering the EU market for castings and forgings for a detailed explanation on the trade channels in this sector.

### 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, such as valves, 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:

- Association of Construction Companies - <http://www.cmm.pt> - choose the English version and click on 'CMM members'.
- Invest in Portugal Agency - <http://www.investinportugal.pt> - hit 'investors' contacts'.
- Portugal Virtual - <http://www.portugalvirtual.pt>. Click on 'Business' and on 'Directories'.
- Portuguese Association of Metalworking Industries - <http://www.anemm.pt> - choose the English version and click on 'Companies'.
- Portuguese Foundry Association - <http://www.apf.com.pt> - choose the English version and click on 'Alphabetic list' to find companies.
- Trade fair Moldplas - <http://www.exposalao.pt> - click on 'Exhibitors'.
- Trade fair Metal - <http://www.emaf.exponor.pt> - click on 'Exhibitors'.

## 3 Trade: imports and exports

### Imports

In 2006, Portugal was a medium-sized importer of castings and forgings, ranking fourteenth in the EU, behind Denmark and Hungary, but ahead of Romania and Slovakia. Between 2002 and 2006, the total import value annually increased by 8% to €4 billion (3.8 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: 46% of total. Annual increase in import value of 12%.
- Parts of machinery, railway equipment and vehicles: 15% of total, increase of 4%.
- Articles of iron, steel or base metal: 13% of total. Annual increase in import value of 1%.
- Copper and zinc products: 11% of total. Annual increase in import value of 24%.
- Plastic and rubber products: 9% of total. Annual increase in import value of 2%.
- Light and ultra light products: 6% of total. Annual increase in import value of 6%.

Between 2002 and 2006, imports from DCs annually increased by 32% in value. Compared to 2002, the total share of DCs in import value increased from 5.6% to 12.3% in 2006. The DCs' shares in imports of some product groups showed better growth compared to other product groups, as can be seen below:

- Articles of iron, steel or base metal: growing from 2.4% to 5.6% in value.
- Iron and steel products: growing from 11.2% to 23.9% in value.
- Light and ultra light products: growing from 1.2% to 1.9% in value.
- Parts of machinery, railway equipment and vehicles: growing from 1.3% to 1.7% in value.
- Plastic and rubber products: declining from 2.2% to 2.1% in value.
- Copper and zinc products: declining from 0.6% to 0.3% in value.

Turkey accounted for 33% of all imports coming from DCs, followed by Brazil (27%), China (17%), Indonesia (4%), India (4%), and Iran (2%). Beside the fast growing Chinese share of DC exports to Portugal (+116% in the period 2002-2006), other DCs that saw a large increase of their share were Indonesia, India, Brazil and Algeria. 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, Portugal was a small exporter, ranking nineteenth in the EU, behind Romania and Slovenia, but ahead of Greece and Bulgaria. The total export value of Portugal showed an annual increase of 14% in the period 2002-2006, totalling €2.2 billion in 2006. Exports consisted of:

- Iron and steel products, accounting for 35% of total exports (€754 million). Annual increase in export value of 24%.
- Articles of iron, steel or base metal (31%; €672 million; +11%).
- Plastic and rubber products (14%; €308 million; +9%).
- Parts of machinery, railway equipment and vehicles (13%; €284 million; +2%).
- Light and ultra light products (5%; €106 million; +33%).
- Copper and zinc products (3%; €56 million; +30%).

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

- + In 2006, Portugal was a net-importer of castings and forgings, running trade deficits for iron and steel products (€1.8 billion), copper and zinc products (€80 million), light and ultra light products (€39 million), plastic and rubber products (€13 million).
- + The total import value of all product groups increased in the period 2002-2006.
- + The DC share of total imports grew by 121% in the period 2002-2006, which was faster than in the EU on average (81%).
- + The import share of DCs was 12.3% in 2006, above the EU average (8.2%).
- + China accounted for 17% of all imports coming from DCs, lower than in the EU on average.
- ± The Chinese share of DCs' exports to Portugal grew fast (+116%), but also some other DCs saw a large increase of their share.
- Portugal ran trade surpluses for parts of machinery, railway equipment and vehicles (€24 million), articles of iron, steel or base metal (€170 million).

### 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](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 Portuguese 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 7.2% in the period 2000-2006. In the meanwhile, the industry had to deal with increasing raw material and energy prices (although only +6% in 2006), as well as increasing wage costs (mounting to €7.37 per man-hour in 2005, which is below the wage levels in Eastern Germany and Spain, but much higher than the wages in CEE countries). Portuguese producers have tried and will try to translate increasing production costs into surcharges as soon as possible, although success depends on the supplier relation and the kind of product. The larger a supplier or the smaller a customer, the larger the negotiation power of a supplier. Moreover,

the less the product is a commodity product, the larger is the negotiation power. 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>
- 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 Portugal, you should be aware of the market access requirements of your trading partners and the Portuguese 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 Portugal 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 Portugal are trade fairs, associations and magazines:

#### Trade fairs

- Moldplas - <http://www.exposalao.pt> - fair held biannually, May, even years, in Batalha
- Metal - <http://www.emaf.exponor.pt> - fair held biannually, November, even years, in Porto
- 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.

#### Trade associations

- Association of Civil Construction Builders - <http://www.aiccopn.pt>
- Association of Construction Builders - <http://www.aecops.pt>
- Association of Metal and Mechanical Engineering Industry - <http://www.aimmap.pt>
- Portuguese Shipbuilders Association - [http://www.aim.pt/ingles/home\\_ing.html](http://www.aim.pt/ingles/home_ing.html)

Other relevant trade associations are mentioned in Section 2 under useful sources.

#### Trade press

- Arte & Construção - <http://www.arteconstrucao.com> - construction magazine
- Fundação Magazine - <http://www.apf.com.pt> - trade magazine

In general, German trade magazines contain very good information, also for this country. 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. Another good option might be the magazines of Spain.

This survey was compiled for CBI by Facts Figures Future  
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