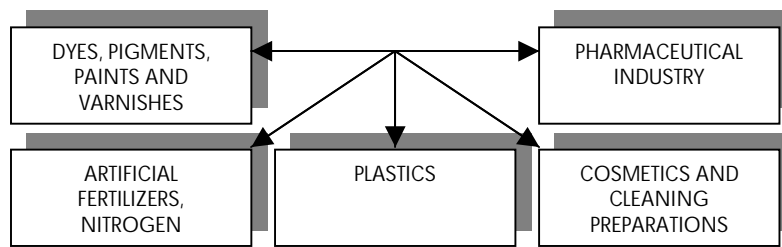


GENERAL INFORMATION ABOUT THE CHEMICAL SECTOR IN POLAND

The chemical industry is a major branch of the Polish national economy. At the end of July 2000, there were some 16,200 chemical enterprises operating in Poland. Almost 22 percent of them employed more than 5 persons, while 371 plants employed more than 100 persons. The share of the chemical industry in Poland's GDP is high. In 1999, it reached almost 8 percent.

The Polish chemical industry provides many diversified products both for industry and agriculture, and for consumers, as well. The largest enterprises in the chemical industry were established by central planners as branches contributing to the industrialisation of Poland. Development of Poland's chemical industry was rendered possible thanks to its endowment with a rich base of raw materials, including sulphur, rock-salt, coal, lime, as well its easy access to petroleum and natural gas imported from the CIS.

Fig. 1. Main branches in the Polish chemical sector

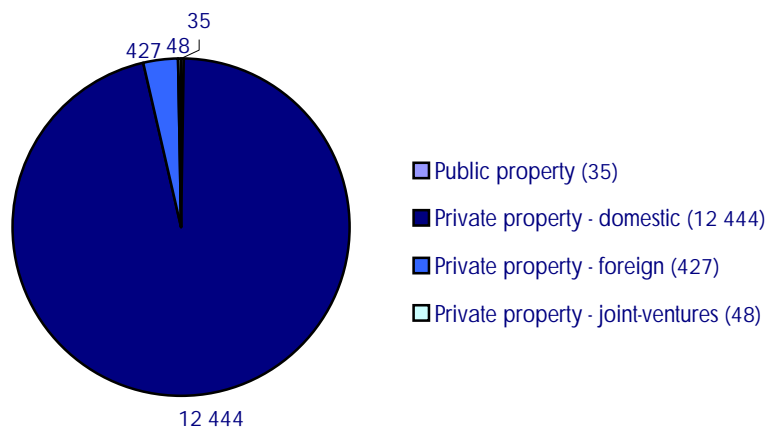


MARKET ENVIRONMENT

Number of enterprises

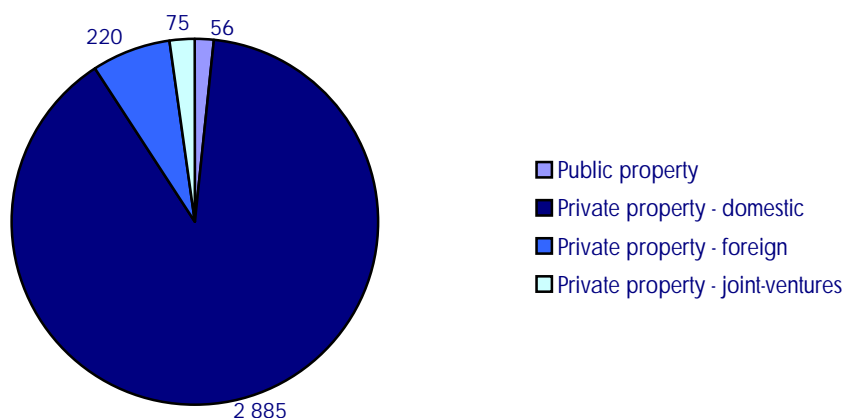
At the end of July 2000, there were 16,190 enterprises in the chemical industry, of which 12,950 manufactured articles of rubber and plastics, while the remaining entities dealt with the production of chemicals, chemical products and man-made fibres. Ninety-one chemical sector enterprises are owned by the state, while the remaining ones are privately owned, of which 647 firms are owned by foreign parties.

Fig. 2. Chemical industry enterprises by ownership form at the end of July 2000



Source: Articles of rubber and plastics

Fig. 3. Chemicals and chemical products

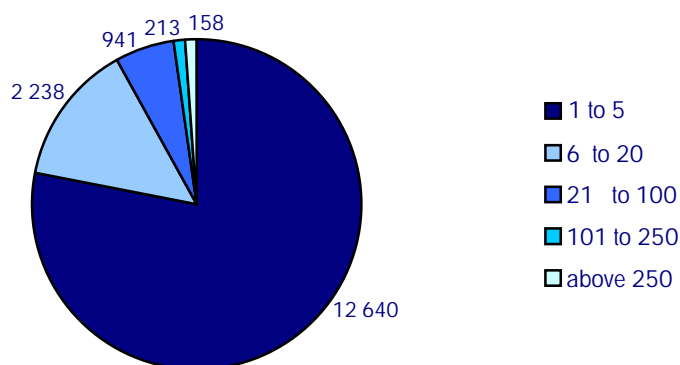


Source: Regon

Size of enterprises

In 1999, chemical industry enterprises with workforces exceeding 50 employees provided jobs for 226,000 persons, 14,000 more than in 1994. This employment growth is associated with the development of enterprises manufacturing articles made of rubber and plastics, while manufacturers of chemicals and chemical products have been reporting efficiency-related cuts in employment levels. This process is the consequence of the implementation of more efficient technologies and state-of-the-art organisation patterns in the chemical industry. In 1996-1999, employment in the manufacture of chemicals and chemical products declined by 20,000. Job losses have affected blue-collar workers. Between 1995 and 1997, the number of blue-collar jobs declined by 2,600, while 7,200 new white-collar jobs were created.

Fig. 4. Structure of chemical sector enterprises by workforce size at the end of 1999

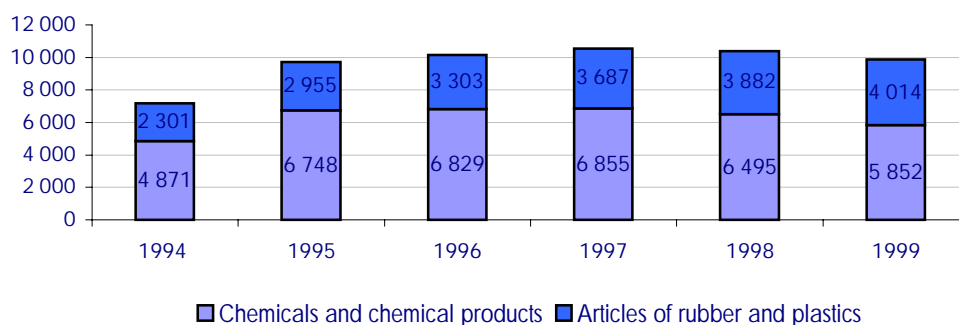


Source: Regon

VALUE OF SALES

Between 1994 and 1999, the value of sales in the chemical sector rose by 2.7 USD billion (38 percent). Manufacturers of chemicals and chemical products and manufacturers of articles of rubber and plastics increased their sales by USD 1 billion and 1,7 billion, respectively. A particularly fast growth rate was recorded by manufacturers of articles of rubber and plastics (in 1994-1999 it averaged 15 percent annually).

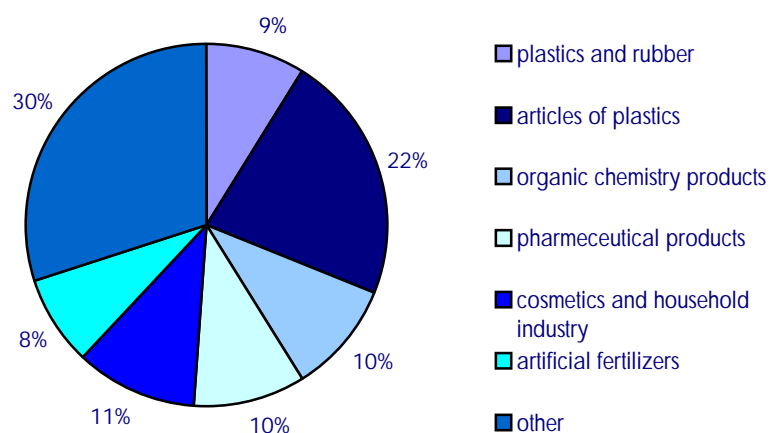
Fig. 5. Sold production of chemical sector in 1994-1999 (USD million)



Source: Biuletyn statystyczny GUS, Warszawa 1995-2000

The Polish chemical industry is undergoing a restructuring process. Among the 47 large chemical industry enterprises surveyed by the Polish Chamber of the Chemical Industry, the average employment was declining. Between 1998 and 1999 it fell by 12 percent. At the same time, the average value of sales per employee fell from USD 65,500 to USD 67,600. Articles of plastics account for the largest share in the sector's sales - almost 22 percent in 1998. Other groups of products also have a major share in the sector's sales.

Fig. 6. Structure of sales in the Polish chemical industry 1999

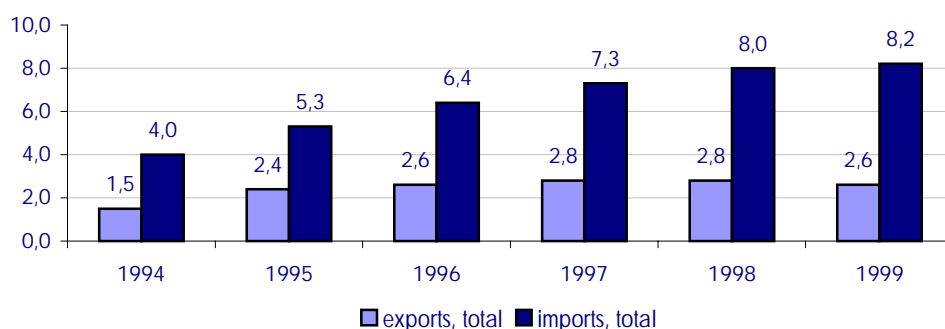


Source: Rocznik statystyczny przemysłu 2000, GUS, Warszawa

EXPORT AND IMPORT

The value of exports was growing from 1994 -1999 by 1.1 billion USD (74 percent). During the same period, the value of imports doubled. This means that the average annual growth rate of export was 12 percent, and the annual rate of import was 20 percent. In 1999, USD 8.2 billion worth of chemical products were imported to Poland, with exports reaching almost USD 2.6 billion.

Fig. 7. Chemical sector's exports and imports 1994-1999 (USD billion)

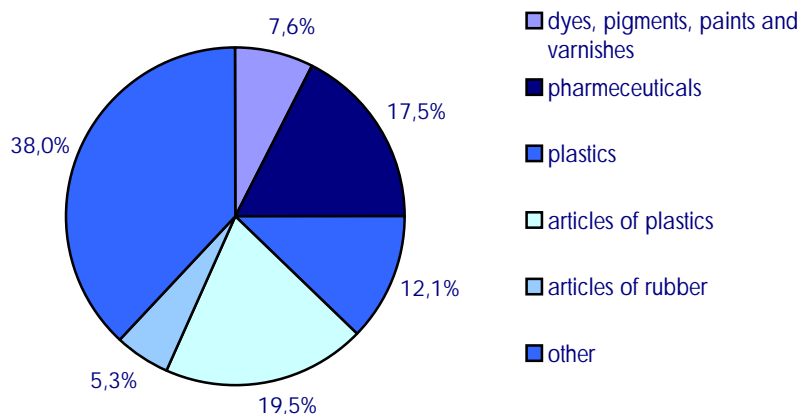


Source: Handel Zagraniczny, GUS, Warszawa 1996-2000

Exports

Exports of products from the chemical industry are highly diversified. Six major chemical products in terms of the value of exports account for less than 61 percent of the value of total exports. Most of these are processed goods. Between 1995 and 1999, exports of cosmetics recorded the fastest growth (from USD 75 million in 1995 to USD 187 million in 1999), along with exports of soap and detergents (USD 80 million and USD 125 million, respectively), and articles made of plastics (USD 300 million and USD 555 million, respectively). The share of articles made of plastics in the chemical sector's total exports has been growing every year, and clearly outpacing other groups of chemical products in terms of the value of exports.

Fig. 8. Structure of chemical sector's exports in 1999 by group of products (%)

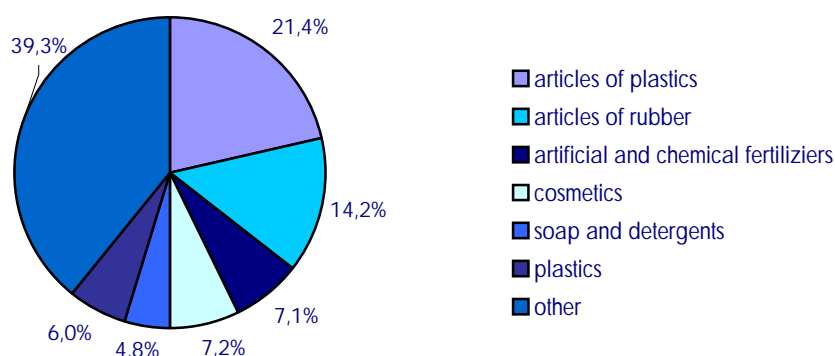


Source: Handel Zagraniczny Syczeń - Grudzień 1999, GUS, Warszawa 1999

Import

The share of low-processed goods in the value of imports has been declining. Chemical imports to Poland are dominated by final products, i.e. articles of plastics and pharmaceuticals. Between 1995 and 1999, the fastest growth was recorded by imports of cosmetics (from USD 152 million in 1995 to USD 187 million in 1999), pharmaceutical products, articles of rubber, mixtures of odoriferous substances, lubricating preparations, and photographic or cinematographic goods, as well as dyes and pigments, paints and varnishes.

Fig.9. Structure of chemical sector's imports in 1999 by group of products (%)



Source: Handel Zagraniczny Syczeń - Grudzień 1999, GUS, Warszawa 1999

Economic conditions

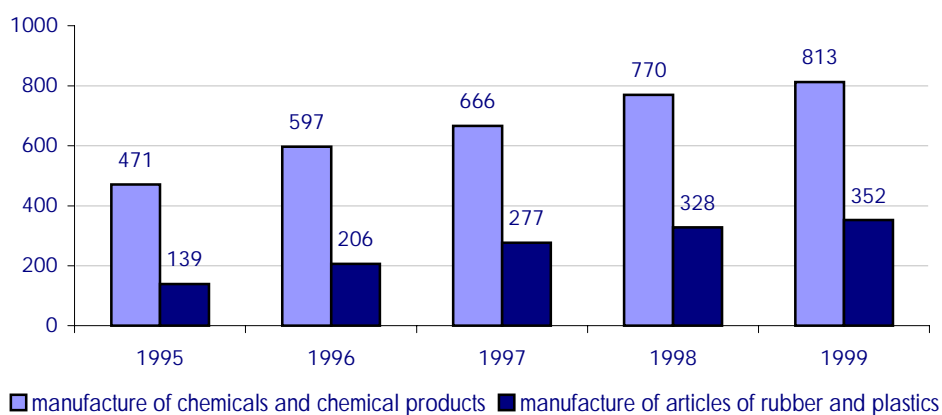
Poland has signed an agreement to abolish duties and quota restrictions with most of its major trading partners from the European Union, as well as from CEFTA (Central Europe) and EFTA countries. Tariff quotas are applicable only to some imported production inputs for the pharmaceutical industry (Dz. U. of April 8, 1999, item 272).

INVESTMENT IN THE CHEMICAL SECTOR

Rate and size of investment

In the second half of the 1990s, investment in the chemical industry had been constantly growing. In 1999, investment outlays of enterprises in the chemical sector amounted to USD 1,2 billion. In the case of production of chemicals and chemical products, investment outlays in 1999 were 80 percent higher than in 1995, while in the manufacture of rubber and plastics the increase was 153 percent. This investment mostly involved modernisation of the existing technological processes and installations, especially from the point of view of reducing the energy-intensity and material-intensity of production, improving product quality and reducing environmental hazards.

Fig. 10. Investment outlays in the chemical sector in 1995-1999 (USD million)

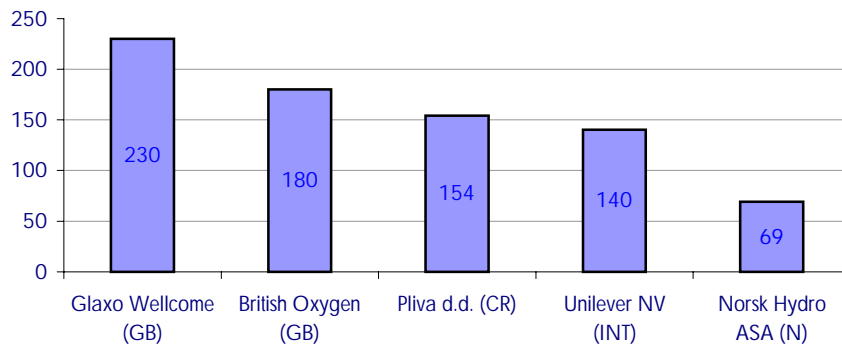


Source: Biuletyn Statystyczny GUS, Warszawa 1996-2000

Structure of investment

As of June 30, 2000, foreign investors had spent almost USD 1.3 billion on their activities in the Polish chemical sector. Their investment plans will provide for further investment valued at some USD 450 million. Most investment outlays were attracted by the following branches: household chemistry, paints and varnishes, pharmaceuticals, industrial gases and plastics.

Fig. 11. The biggest foreign investors in chemical industry in Poland (USD million)



Source: Inwestycje Zagraniczne, IKCHZ, Warszawa 2000

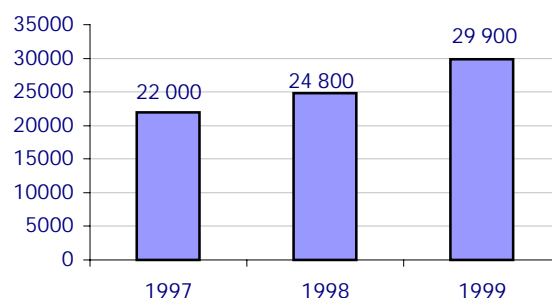
Investment conditions

The financial standing of the chemical industry is much better than that of the manufacturing industry as a whole. The lower share of costs, i.e. higher profitability, make the activities of chemical firms attractive for potential investors. Particularly good results are obtained by enterprises dealing in the manufacture of rubber and plastics. In regard to costs, the use of materials and energy is the major item (54 percent of the costs of production of chemicals and chemical products and 59 percent of the costs of production of articles of rubber and plastics), other firms' services (16 percent and 11 percent, respectively), and wages (12 percent and 14 percent, respectively).

Flexible and adaptable labour force

In Poland, there is very good access to a qualified labour force, which guarantees potential investors a strong resource for future development of their businesses.

Fig. 12. Graduates of engineering and natural sciences in 1997-1999



Source: *Mały Rocznik Statystyczny 2000*, GUS, Warszawa 2000

Activities of the state

The activities of the state are an important factor stimulating the sector's development. By providing mechanisms that support the activities of enterprises in the chemical industry (privatisation, consolidation of the sector), the state exerts its impact on the growth of production in the chemical industry in Poland. On the other hand, the state

provides incentives that reduce the adverse external effects of the sector's activities. A system of chemical production monitoring, approximating European Union standards, is in effect in Poland.

A sector-wide program, referred to as Big Chemical Synthesis, was instituted in the mid-1990s for restructuring and development of the chemical sector. Consolidation of enterprises in the chemical industry in order to achieve a synergy effect is one of the program's tasks.

Restrictions

The major administrative restrictions applicable to the chemical sector include: setting limits on water intake, requirements concerning consent for discharge of sewage effluents and for discharge of air pollutants. Decisions on these issues are made by the Provincial Office. If limits are exceeded, the enterprise must pay appropriate fines.

Certification

Manufacturers of chemical products are obliged to receive certificates proving the fulfilment of all necessary norms by the product. Such norms are set by the Polish Centre for Testing and Certification. Production and imports of asbestos are prohibited in Poland (Dz. U. No. 101 of August 18, 1997, item 628).

THE REASONS WHY FIRMS ARE INVESTING IN THE POLISH CHEMICAL SECTOR

- Very good access to a highly qualified labour force
- Continued growth in labour productivity
- The successful process of restructuring of enterprises in the sector
- A strong raw material base
- Long tradition and knowledge