The evolution of Hungarian exports and imports in the 21st century

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Abstract: The aim of the study was to review Hungarian competitiveness over the past 25 years. The aim was to identify the competitive products and to see if there is a trend in competitiveness over time. The export values in the WITS database were calculated using the Balassa index, which shows the evolution of competitiveness. For most products we cannot speak of positive competitiveness, i.e. most products are not competitive. So we have to import them instead of exporting them, or if we do export them, it is not advantageously. Among the m ost competitive products, live animals have maintained their competitiveness, but as they are basic products, i.e. not processed, their value added is not high. Even if it is competitive, the trader cannot realise a high margin on it in general. We can see similar situation in the case of vegetable planting materials. But the competitiveness of processed products, however, declined during the period under review and they lost importance. There are some product areas that we export in larger quantities, but their competitiveness has increased recently. These include rubber, railways, vehicles, plastics and pharmaceutical products. The latter has a high added value, but this is also the case for vehicles. - Its most competitive products are mainly of agricultural origin. - There are emerging product areas such as vehicles or pharmaceutical products.- Their competitiveness has declined over the last 25 years.- Both imports and exports are very similar. Electronics, vehicles, rubber, etc.- These are competitive but to a slightly or at most medium extent.- In general, the competitiveness of the Hungarian economy as measured by the Balassa index is moderate.

Keywords: export, Balassa index, competitiveness, Hungary

1 Introduction

The analysis of foreign trade is a key issue in the life of a country. In our country we have products that we can export and products that we import (Gáspár et al., 2023). The Hungarian economy was long considered a leader in terms of international investments, the appearance of foreign capital, privatization, the presence of a skilled workforce and several other economic and social indicators,

but this initial advantage seems to be disappearing today. Two of our neighbors have already adopted the euro (Slovenia in 2007, Slovakia in 2009), and macroeconomic indicators have also not developed very favorably in recent years. Based on GDP per capita, our country is in the middle of the world. The contribution of agriculture to the total GDP is only 3.4%, industry 22.8%, and the increasingly strong service sector 73.8%. See Figure 1. Accordingly, 4.5% of the workforce is employed in the primary sector, 32.1% in the secondary sector, and 63.3% in the tertiary sector. In 2023, Hungary's gross domestic product (GDP) at current prices was HUF 75 086.6 billion, down by 0.9% at constant prices compared to the previous year. The gross domestic product per capita was HUF 7.8 million, or €28,770 at purchasing power parity (KSH, 2023).

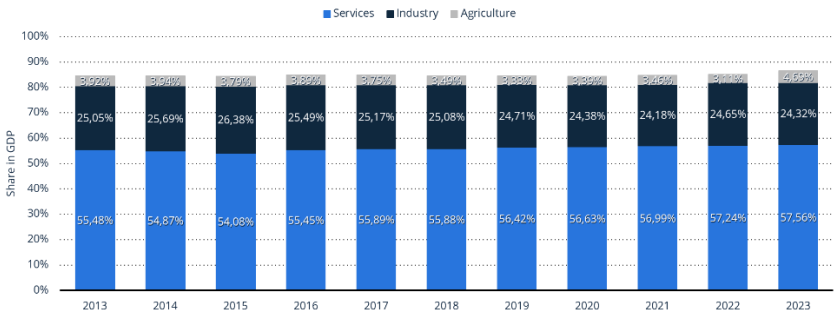

Figure 1

Share of economic sectors in gross domestic product (GDP) from 2013 to 2023 Source: Statista 2025b

1.1 Agriculture

The natural conditions of our country make it excellently suited for agricultural production, which is complemented by a fundamentally well-trained workforce. Approximately 83% of the country's territory is arable land, 48% is arable land, 19% is forested land and 11% is grassland. Of the remaining values, 1% is garden, orchard, vineyard and reedbed, and the proportion of areas taken out of cultivation is 17%.

The leading varieties of arable crop production are corn and wheat, but rye, barley, oats, sugar beet, sunflower, alfalfa and potato production are also important. We should also highlight the production of prime commodities, vegetables and fruits. The historical roots of grape and wine production can be traced back to Roman times, and some of our country's 22 wine regions produce world-famous wines.

The leading branches of animal husbandry are cattle breeding, pig breeding and poultry farming, while sheep breeding and horse breeding no longer reach the previous quality and quantity standards.

Regarding agricultural products, it is worth highlighting our products with protected origin, which further enhance our country's reputation on the international stage. Our country also has excellent qualities in the field of game and fish farming.

The average size of land holdings is only 7.5 ha, so the holding structure is fragmented, despite the fact that large-scale farms are the dominant ones in terms of production (KSH, 2025a).

1.2 Industry

The spatial concentration of industry in Hungary changed significantly after the change of regime. The production structure and spatial weight of industry is nowadays concentrated outside the Central Region, mainly on the Budapest-Székesfehérvár-Nagykanizsa and Budapest-Tatabánya-Győr-Mosonmagyaróvár axes, i.e. mainly in the Central Region, Western Hungary and Central Transdanubia. This area accounts for about 70% of industrial production and 75% of industrial co-operatives (KSH, 2025b).

The domestic energy sector is mainly based on the processing of imported hydrocarbons and the production of the Paks nuclear power plant, so Hungary is highly dependent on imports. This import dependency is not only predominant in the food industry, but also in the raw materials, semi-finished products and components sectors.

In the structure of industry in Hungary, the mechanical engineering industry is the leading sector, followed by the chemical industry (plastics and pharmaceuticals), but the electronics industry should also be highlighted. The most visible sector of the mechanical engineering industry is car manufacturing (Esztergom, Győr, Szentgotthárd and, more recently, Kecskemét), while the country's main electronics companies have chosen Székesfehérvár, Gödöllő, Pécs and Zalaegerszeg as their locations. The formerly important mining, metallurgy and textile industries have lost considerable importance. The most important industrial cities in Hungary are now Budapest, Székesfehérvár, Győr, Debrecen, Miskolc and Szeged. The country's main export-import partners are Germany, Austria, Romania, Slovakia, Taiwan, Italy, France, the United Kingdom and Slovakia, and outside the EU Russia and China.

1.3 Services

From a transport-geography point of view, Hungary is clearly a transit country, with important transport corridors both east-west and north-south. Our transport

infrastructure is of a medium level of development and quality, but the construction of motorways in recent years has certainly improved the accessibility of certain areas and thus their competitiveness. Rail transport is declining and the share of passenger transport is decreasing year by year. In addition to road transport, air transport is also important in our country, although it is highly concentrated in certain areas. The most important waterway is of course the Danube, an international waterway.

In Hungary, as in the other countries that changed their regime, the financial sector underwent significant changes after the change of regime, including the dominance of foreign banks in the country.

Hungary has been an important player and player in world tourism for decades, but its positional advantage and attractiveness has changed significantly in recent years. Hungary's tourism is characterised by a strong territorial and temporal concentration, with the vast majority of tourists visiting the country coming to Budapest and Lake Balaton, and most of them in the high season (July-August). The problem of seasonality can be significantly improved by the world-famous health tourism, cultural tourism, rural tourism and gastronomy, including wine tourism (Tóth, 2010).

1.4 Hungarian GDP and trade

Hungarian production has grown steadily but unevenly in USD terms since 1989, except for the 2008 and 2020 crises. This is shown in the first graph. This is partly because the Hungarian economy is embedded in international trade, i.e. it is an integral part of it. The Hungarian economy is involved in world trade through both its export and import activities.

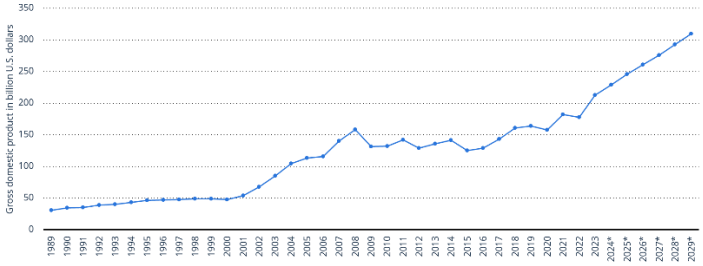

Figure 2
Gross domestic product (GDP) in current prices from 1989 to 2029 (in billion U.S. dollars) Source: Statista 2025a

Hungarian foreign trade has been typically export-oriented over the past decade. Exceptions were the years after 2020, such as 2021 and 2022. The magnitude of

exports and imports shows that it was caused by the increased value of imports. It could have been driven by the drive towards self-sufficiency that emerged in the 2020 crisis, but this is contradicted by the increase in imports. What is behind this? The year 2022 was mainly about the difficulties caused by the war between Russia and Ukraine and the deepening energy crisis, with the effects of these developments reflected in both the performance of national economies and international trade. The ratio of domestic external trade to GDP reached 185%. The volume of trade in goods again outperformed previous years, reaching 155% of GDP in 2022, but its balance held back GDP volume growth by 0.5 percentage points. However, foreign trade in services again supported the expansion of the national economy. The share of services in total external trade continues to grow, reaching nearly 16.1% in 2022 as a whole. See the balances in Figure 3.

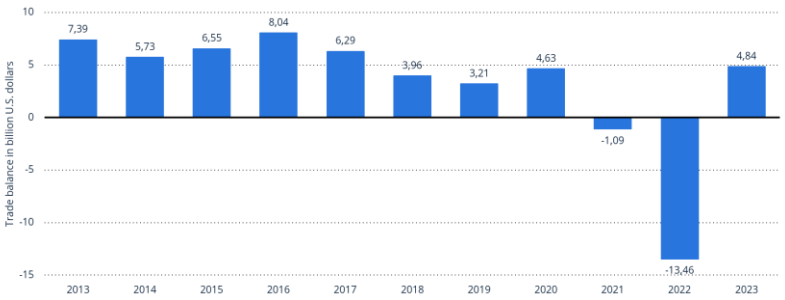

Figure 3

Trade balance of goods from 2013 to 2023 (in billion U.S. dollars) Source Statista 2025a

Its main export partners are Germany, Italy, Romania, Slovakia and Poland, while its main import partners are Germany, China, Austria, Poland and South Korea (KSH 2025a).

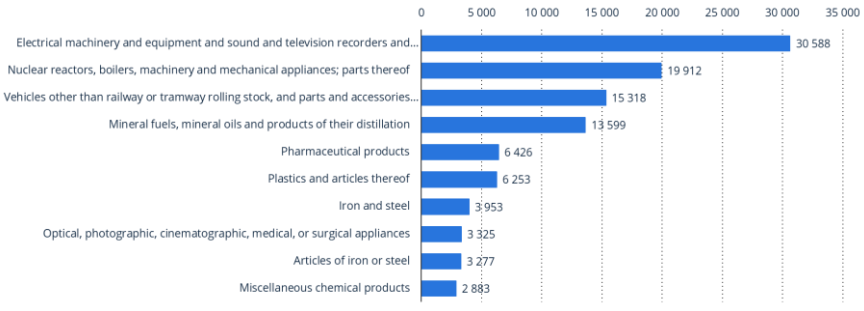

Figure 4

Main products imported to Hungary in 2023, by value (in million euros). Source: Statista 2025a

The main products imported were. Electrical machineries, nuclear reactors, vehicles, mineral fuels, pharmaceutical products, plastics, iron, steel. Interestingly, these products were the main exports, but with other countries as we can see on Figure 4 and 5.

Figure 5

Main products exported from Hungary in 2023, by value (in 1,000 euros). Source: Statista 2025a.

2 Data and methodology

For the research I used the WITS Login - World Integrated Trade Solution (WITS) database data. The selected period was 1999-2023. Export data in thousands of dollars, 97 main divisions were retrieved. The selected country was Hungary with all products. The data is used to calculate the Balassa index, which measures the competitiveness of each product. Trend function is calculated and compared with 2023 data. There are non-returning and returning competitive products and countries. Some examples of products.

01 -- Live animals

02 -- Meat and edible meat offal

03 -- Fish & crustacean, mollusc & other aquatic inv

04 -- Dairy prod; birds' eggs; natural honey; edible

05 -- Products of animal origin, nes or included.

06 -- Live tree & other plant; bulb, root; cut flowe

07 -- Edible vegetables and certain roots and tubers

08 -- Edible fruit and nuts; peel of citrus fruit or

09 -- Coffee, tea, matï and spices.

10 -- Cereals

11 -- Prod.mill.indust; malt; starches; inulin; whea

12 -- Oil seed, oleagi fruits; miscell grain, seed,

13 -- Lac; gums, resins & other vegetable saps & ext

The methodological basis of the study is the index of manifest comparative advantage defined by Balassa (1964). The index is based on the theory of trade based on Ricardo's theory of comparative advantage. The original index is calculated using the following formula:

$$B_{ij} = RCA_{ij} = \left(\frac{X_{ij}}{X_{it}} \right) \Big/ \left(\frac{X_{nj}}{X_{nt}} \right),$$

where X is the export, i is the country, j is the product, t is the group of products, and n is the reference country.

3 Results

Both in general and for the most competitive products, we see that since the 1990s the calculated Balassa index, i.e. the competitiveness of product groups, has been steadily decreasing. For most products we cannot speak of positive competitiveness, i.e. most products are not competitive. So we have to import them instead of exporting them, or if we do export them, it is not advantageously. Among the most competitive products, live animals have maintained their competitiveness, but as they are basic products, i.e. not processed, their value added is not high. Even if it is competitive, the trader cannot realise a high margin on it in general. We can see similar situation in the case of vegetable planting materials. But the competitiveness of processed products, however, declined during the period under review and they lost importance. See the figure 6.

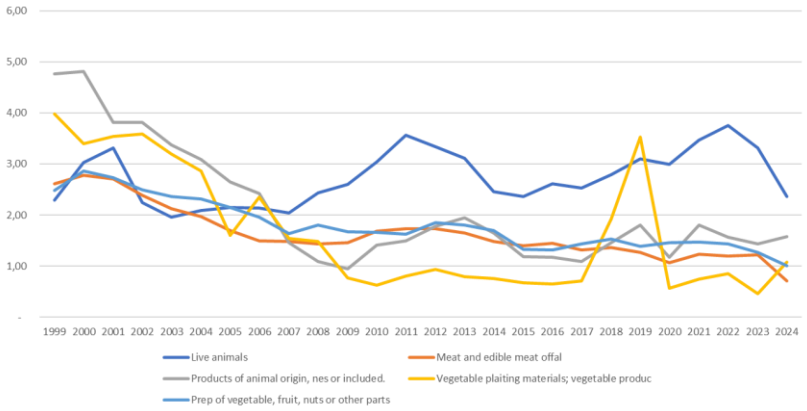

Figure 6

The most competitive products in Hungary. Source: own calculation.

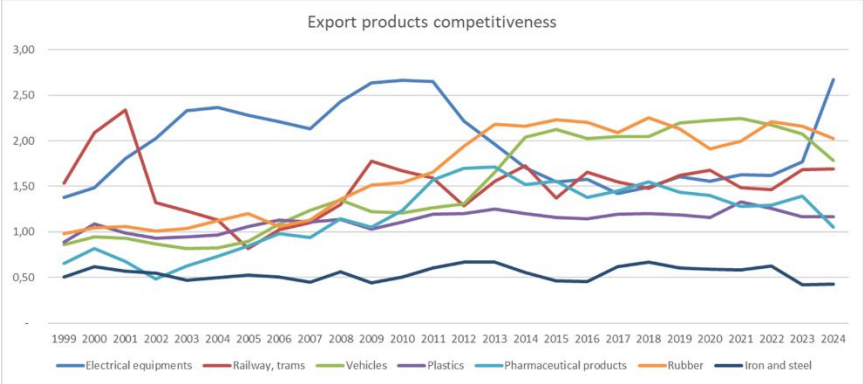

Figure 7

Export product competitiveness. Source: own calculation.

The good news is that there are some product areas that we export in larger quantities, but their competitiveness has increased recently. These include rubber, railways, vehicles, plastics and pharmaceutical products. The latter has a high added value, but this is also the case for vehicles. This is shown in Figure 7.

Unfortunately, in general, with one or two exceptions, Hungarian products are not competitive.

Conclusions

The following conclusions can be drawn from the analysis.

- Its most competitive products are mainly of agricultural origin.
- There are emerging product areas such as vehicles or pharmaceutical products.
- Their competitiveness has declined over the last 25 years.
- Both imports and exports are very similar. Electronics, vehicles, rubber, etc.
- These are competitive but to a slightly or at most medium extent.
- In general, the competitiveness of the Hungarian economy as measured by the Balassa index is moderate.

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