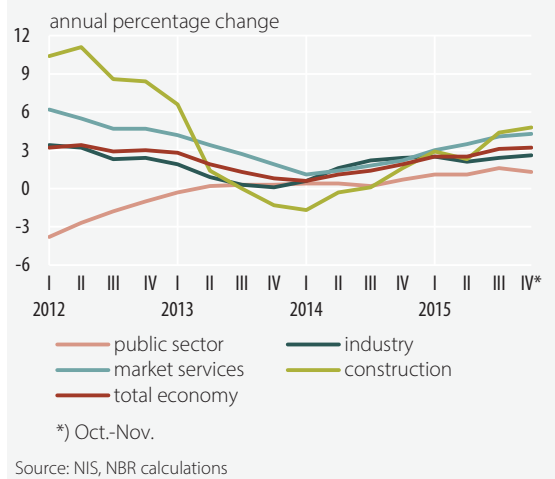


certain manufacturing sub-sectors, namely the automotive industry and the related industries, i.e. the manufacture of electrical equipment and of rubber products.

**Chart 2.9. Number of Employees Economy-Wide**



Furthermore, the 3 percent higher number of job vacancies in July to November than in Q2 translated

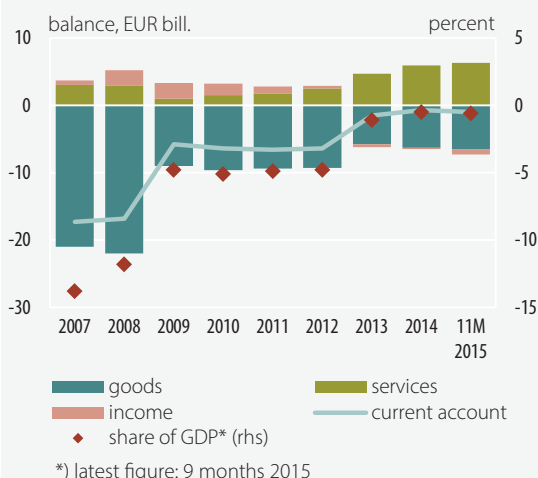
into a reduction in excess labour supply. This was however illustrated solely by the registered unemployment rate (down 0.3 percentage points, to 5.0 percent), whereas the ILO unemployment rate stayed virtually flat at 6.8 percent. Therefore, the favourable labour market developments mirror the improvement in the cyclical position of the economy rather than the increased efficiency of the search and matching process.

For early 2016, the NIS/DG ECFIN survey points to a persistently bright outlook for future hiring, especially in trade, services and construction. Moreover, the Manpower Employment Outlook Survey reveals employers' greater confidence in a robust pace of hiring. From a regional perspective, employers in the Centre and North-West regions showed the highest optimism, amid the capacity expansion of factories manufacturing spare parts and the increase in investments in the services sector, in particular the IT sub-sector. Conversely, managers in the North-East and South-West regions reported weaker prospects for hiring.

**Box 1. Structural factors driving the correction of the external imbalance**

The outbreak of the global financial and economic crisis in the autumn of 2008 led to a severe economic downturn in Romania, with the substantial fall in the demand for imports resulting in a correction in the current account (CA) deficit from a peak of 13.8 percent of GDP in 2007 to levels around 5 percent in

**Chart A. Current Account Balance**



Source: NIS, NBR, NBR calculations

2009-2012. An additional adjustment to levels close to or even below 1 percent (Chart A) occurred as of 2013, the recent shift being driven, this time, by structural factors. They refer to the lower energy intensity<sup>16</sup> of industry (a synthetic indicator that captures various influences), the smaller import content of exports of goods and the fast-paced growth of exports of services, amid a pick-up in foreign direct investment in certain economic sectors.

The determinants of the current account deficit adjustment stemming from industry are related to the significant drop in energy consumption and the swifter dynamics of export-oriented industries, on the back of foreign investors' favourable perception of the competitive advantages offered by the domestic market (particularly with respect to cheap labour). Thus, the

<sup>16</sup> Energy intensity is energy consumption per unit of value added.

substantial deficit correction in 2013 (by around 4 percentage points) actually mirrors the lower energy intensity of the economy, as also shown by econometric estimates, based on a model that captures the long-term determinants of the current account balance (Chart B).

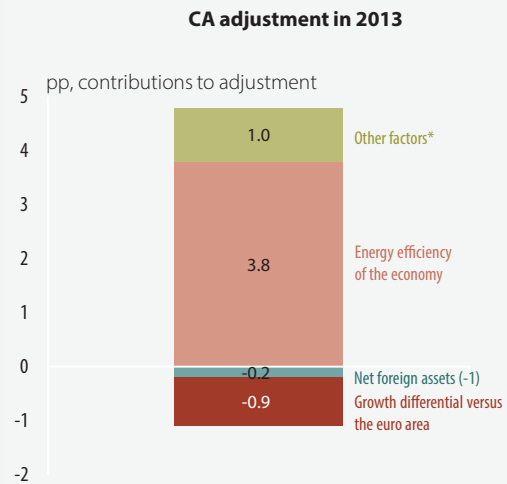
Chart B. The Determinants of the Current Account Balance

Dependent variable	Equation 1 – long-term relation –	Equation 2 – error correction model –
	CA share of GDP <sub>t</sub>	Δ(CA share of GDP <sub>t</sub> )
Energy efficiency <sup>a)</sup>	0.15***	
Growth differential versus the euro area <sub>t</sub>	-0.45***	
REER (calculated based on ULC) <sub>t</sub>	-0.02***	
Net foreign assets <sub>t-1</sub>	0.04***	
Crisis dummy	0.10***	
ΔFDI share of GDP <sub>t</sub>		-0.06**
ΔEnergy efficiency <sub>t</sub>		0.05***
ΔGrowth differential versus the euro area <sub>t-2</sub>		-0.21**
Error correction term		-0.71***
Half-life		0.56
No. of observations	46	44
Adjusted R <sup>2</sup>	0.8	0.7
Estimation period	2004 Q2 – 2015 Q3	

a) The reverse of energy intensity, i.e. value added per unit of energy consumption.

\*, \*\* and \*\*\* the coefficient is statistically significant for a confidence level of 90%, 95% and 99%. The variables for the growth differential versus the euro area and REER (calculated based on ULC) are expressed in logarithms.

Source: NBR estimates



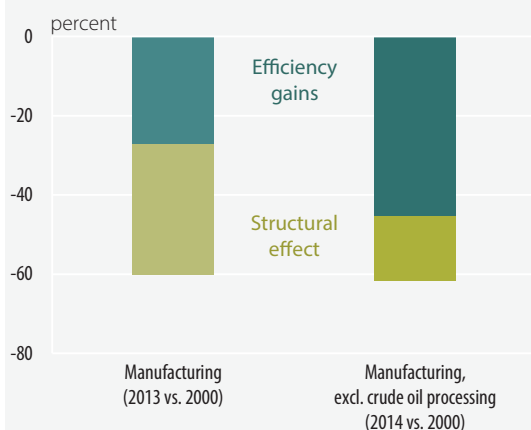
\*) e.g., bumper crops

Note: Estimates based on an error correction model (ECM) starting from the intertemporal approach to factors influencing the current account balance. Opting for an ECM was warranted by the non-stationarity of the current account (% of GDP, quarterly data), given the still small size of the sample.

Source: NIS, NBR, Eurostat, EC, NBR estimates

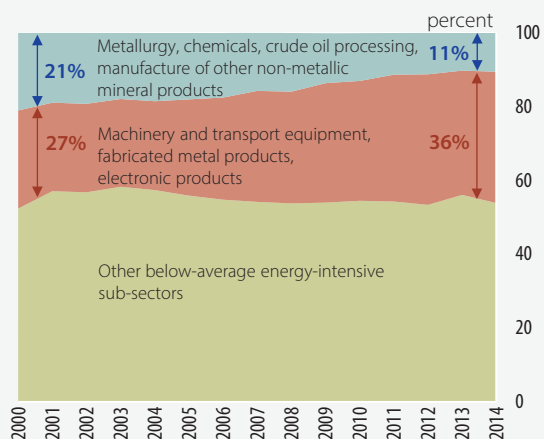
Although Romania further ranks among the EU countries having a markedly above-average energy intensity, in 2002-2013 the indicator posted the third largest decline (-41 percent according to Eurostat data). The downward path posted by the ratio of energy consumption to gross value added economy-wide is suggestive of the trend persisting into the following years as well. This development may be associated with energy efficiency gains, on the one hand, and with a shift in the composition of industrial output towards industries with lower energy consumption, on the other hand (Chart C).

Chart C. Change in Energy Intensity in Manufacturing



Source: Eurostat, NIS, NBR calculations

Chart D. GVA in Industry Based on the Energy Intensity of Sub-sectors

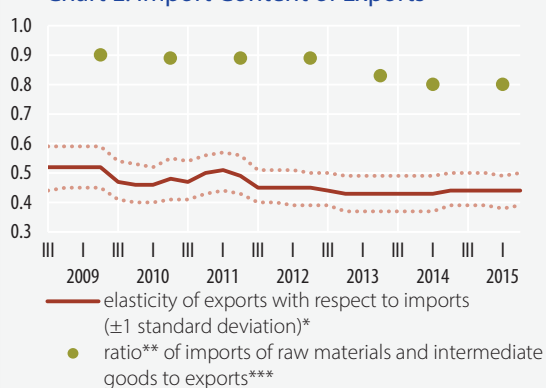


Source: Eurostat, NBR calculations

Aside from the benign influence of technological investment, the lower energy intensity also reflects the impact of the severe contraction in activity or even shutdown of some highly energy-intensive companies (in metallurgy and the chemical industry). The said firms have exhibited a low capacity of withstanding competitive pressures amid weak demand and the deregulation of the domestic energy market as of 2012 H2. This also contributed to a change in the composition of gross value added in industry, with the shares of energy-intensive sub-sectors shrinking markedly. In the same direction acted the fast-paced development of less energy-intensive sub-sectors, particularly the automotive industry and the related industries (Chart D).

The main catalyst of the latter trend was FDI in the aforementioned industries (net flows worth approximately EUR 1.2 billion in 2012-2014 versus EUR 0.4 billion over the previous three years). Foreign direct investors were attracted not only by the cheap labour but also by the opportunity to develop new production facilities close to regional hubs or in areas in which the drawback of poor road infrastructure appears to be less relevant. The step-up in investment had a favourable impact on aggregate productivity growth. Thus, a micro-analysis of the drivers of total factor productivity (TFP) of the firms in Romania shows that companies with majority foreign capital that are part of a group undertaking and carry out foreign trade activities are, on average, about 30 percent more productive<sup>17</sup>.

Chart E. Import Content of Exports



\*) quarterly sample – moving window estimates with 35 observations, the first observation (of the first window) is 2000 Q2 and the last observation (of the last window) is 2015 Q3

\*\*) for 2015, the ratio refers to the first 10 months

\*\*\*) exports of intermediate goods, capital goods and consumer goods

Source: ComExt, BIS, NIS, NBR estimates and calculations

The said investments also resulted in a closer integration of the domestic economy within the global production networks, as shown by the gradually larger intra-sector trade intensity<sup>18</sup>, an indicator that the literature employs as a proxy for the degree of trade integration. However, this development did not affect the adjustment of the current account deficit, given that local companies progressively captured a greater share of the value added chain. Specifically, the advance in exports was not accompanied by a higher import dependency, as revealed by both: (i) the weaker elasticity of exports with respect to imports<sup>19</sup> and (ii) the lower ratio of imports of intermediate goods and raw materials to exports of intermediate goods, capital goods and consumer goods (Chart E).

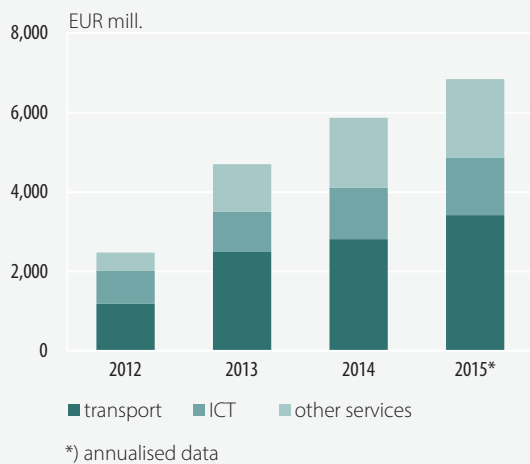
Over the past years, the current account deficit staying at low levels was also bolstered by the substantial and increasing surplus on trade in services, which was associated with structural factors as well (Chart F). On the one hand, the above-mentioned advance in export-oriented industries is highly likely the major contributor to the significant rise in exports of transportation services. On the other hand, the IT sub-sector

<sup>17</sup> Other factors that are positively correlated with the TFP of domestic companies are size, their private ownership, workers' skills and the level of R&D investment. The empirical exercise involved two stages: (i) determining the TFP based on a panel sample of firms, and (ii) estimating the relationship between TFP and a vector of explanatory variables constructed in compliance with the literature. Data source: the Ministry of Public Finance and the NBR survey on the firms' behaviour on the labour market (2014).

<sup>18</sup> Measured using the Grubel-Lloyd index, which rose from 0.198 in 2012 to 0.222 in the first eight months of 2015. Calculations were based on ComExt data at the maximum level of disaggregation (HS standard, over 7,000 goods).

<sup>19</sup> Estimates with time-varying coefficients and moving window estimates of an error correction model suggest a downtrend in the elasticity of exports with respect to imports from around 0.6 in the pre-crisis period to about 0.4 as of 2013.

Chart F. Surplus on Trade in Services



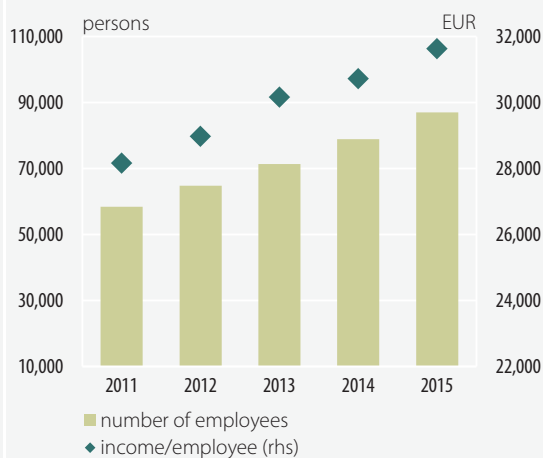
Source: NBR

has accounted for an increasingly larger share of the trade in services surplus (according to ANIS, exports make two thirds of the IT companies' income).

The fast-paced development of this sub-sector may be linked with the adoption of the Digital Agenda for Europe by the European Commission in 2010. It aims at boosting growth of Information and Communication Technologies (ICT) at the EU level with a view to capitalising on their potential to drive TFP increases and consequently competitiveness gains. The environment favoured the expansion of multinational companies on the domestic market, to which they were attracted by the competitiveness gains delivered by IT employees, i.e. complex skills and a high degree of adaptability at comparatively low costs. Against this

background, the share held by the ICT sub-sector in total gross value added moved up from 4.2 percent in 2011 to 6.7 percent in 2015, nearing that of construction.

Chart G. Developments in the Number of Employees and Income in IT



Source: ANIS-PAC, 2015

From 2011 to 2015, the number of employees increased, on average, by almost 10 percent per year. It seems likely that employment in the IT sub-sector rose at an even swifter tempo if self-employed are taken into account as well. In addition, steady productivity gains were reported also as a result of companies' shift from providing outsourced non-core services to setting up software development facilities that can generate higher value added (Chart G).

Looking forward, the uptrend in the IT sub-sector is expected to continue, due to persistently strong external demand, given the larger amount of time required to achieve the objectives set in the Digital Agenda. Nonetheless, the said rise might be dampened by the limited number of future IT

graduates, as around 60 percent of specialised companies<sup>20</sup> currently report a shortage of skilled workers.

<sup>20</sup> In line with the NBR survey on the firms' behaviour on the labour market.