Monthly Bulletin of Economic Trends

June 2018

IEER quarterly business climate survey results, April 2018

For concluding its Quarterly Business Climate Index survey, IEER asked 400 CEOs about the situation and the outlook of their businesses. The basis used for calculating the Quarterly Business Climate Index and the Quarterly Uncertainty Index was a sample of 300 small and medium-sized enterprises (20-249 employees) and 100 large enterprises (employing 250 people or more). Surveyed small and medium-sized enterprises were evaluated by using our SME Outlook Business Climate Index and SME Outlook Uncertainty Index.

According to our survey conducted in April 2018, the level of business confidence in Hungary was slightly higher quarter on quarter. The Quarterly Business Climate Index was up from 37 points in January to 39. The index has never been this high since business climate records began in 2010 (see figure 1). The Quarterly Uncertainty Index was at 28 points, 4 points lower than the level of the previous quarter. Uncertainty Index values suggest that the business situation has been given a more consistent evaluation by domestic companies compared to the previous quarter.

If business confidence levels are examined in the small and medium-sized sector only, we can see an other improving tendency: Since January, the SME Outlook Business Climate Index has increased by three points to a record-breaking 38 (see figure 2). The SME Outlook Uncertainty Index is at 34 points, having decreased by one point since January 2018 - this value indicates that small and medium-sized enterprises have been of a slightly more uniform opinion.

Figure 1: Quarterly Business Climate Index, 01. 2010. – 04. 2018.

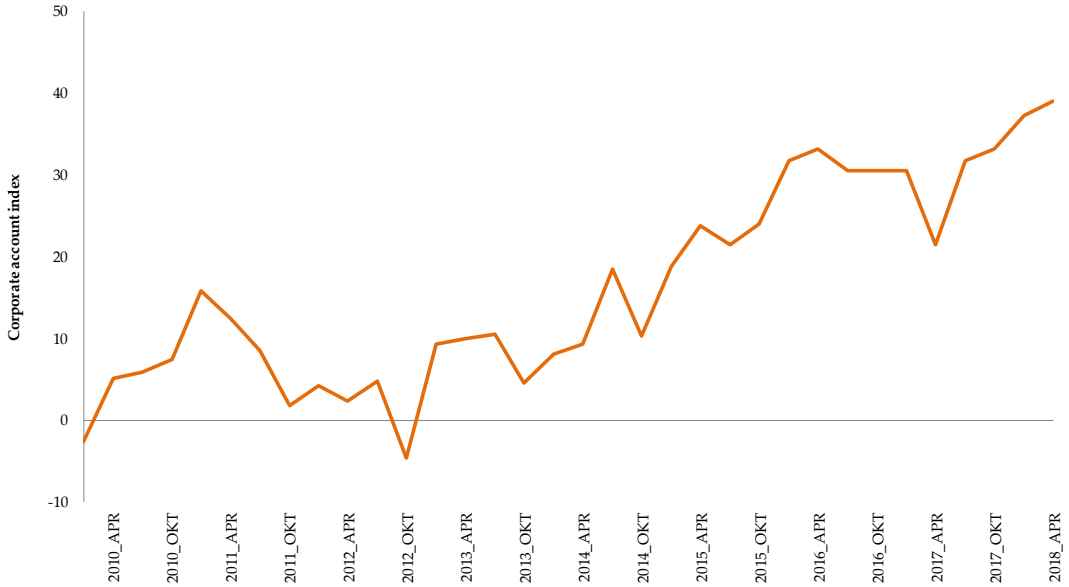
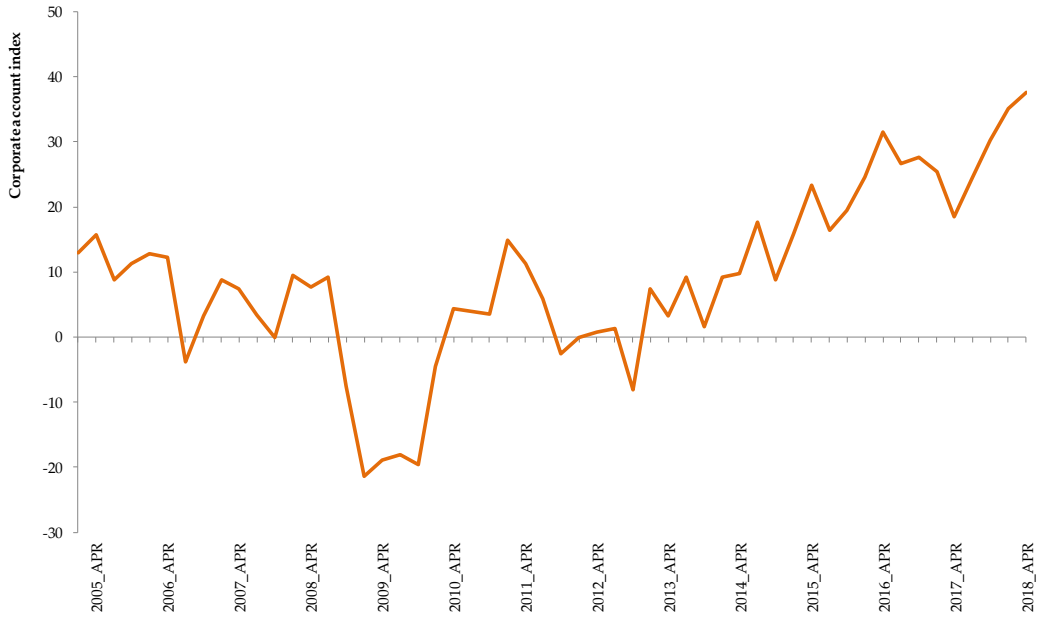


Figure 2: SME Outlook Business Climate Index, 01. 2005. – 04. 2018.

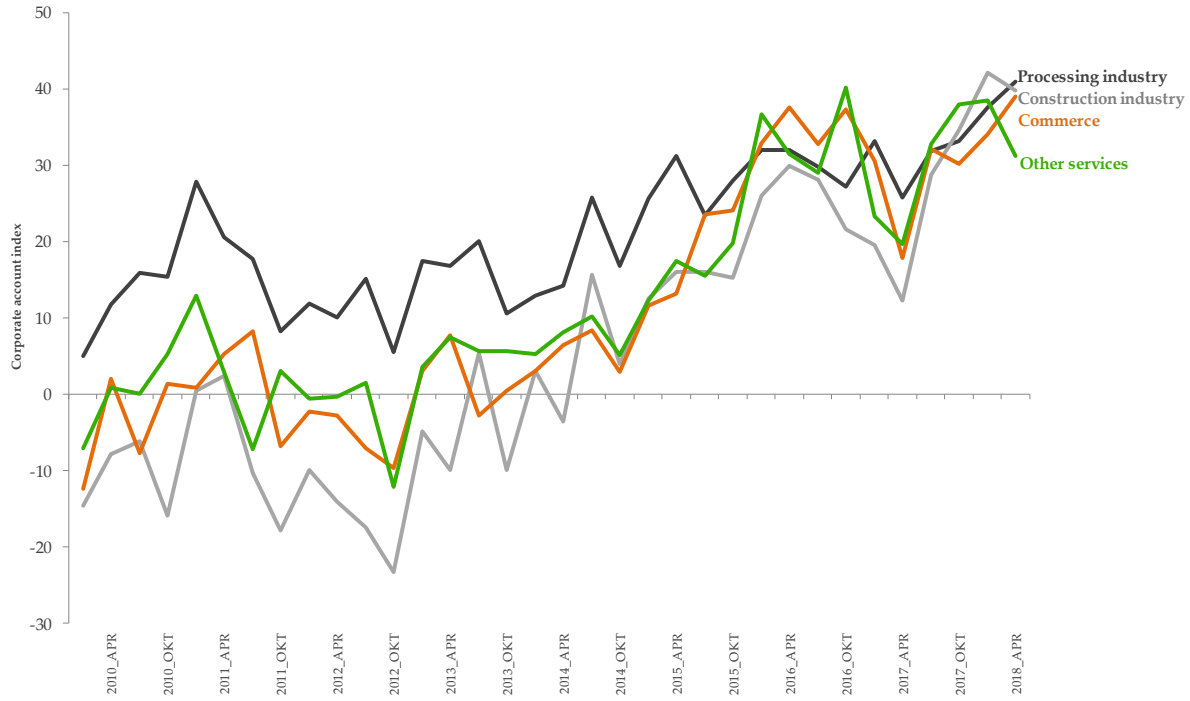


Source: IEER 2018

***Note** that the score in the figure is an aggregated balance indicator projected on a scale of 100. In all cases, the balance indicator shows the difference between the rate of companies providing positive and negative situation reports. The indicator therefore spans a scale from -100 to +100. -100 indicates that all of the surveyed companies assessed their situations to have been negative, while +100 indicates that all of the surveyed companies assessed their situations to have been positive.*

The Quarterly Business Climate Index was the highest for the processing industry (+41 points). It was +40 points for construction companies, +39 points for commercial companies, and +31 points for businesses offering services termed as "other". Commercial enterprises experienced a five-point increase whereas businesses providing other services suffered a seven-point decrease on previous quarter results.

Figure 3: Quarterly Business Climate Index by economic sector, 01. 2010. – 04. 2018.



Source: IEER 2018

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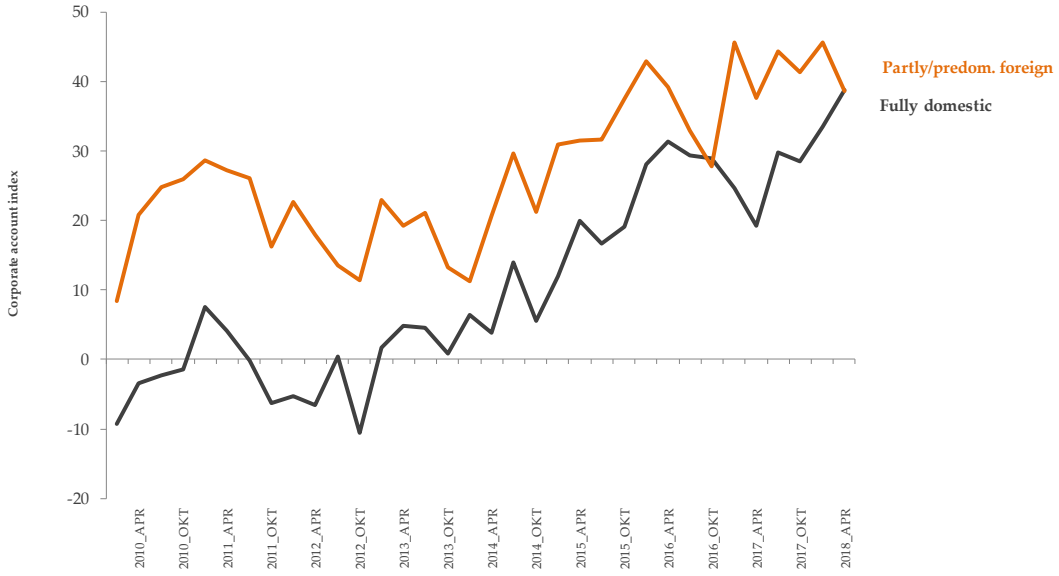
Scrutinising results by ownership structure reveals that companies of full domestic ownership and those of partial or predominant foreign ownership all scored +39 points in the Quarterly Business Climate Index survey. Figures were up 5 points quarter over quarter for companies of full domestic ownership. Partly or predominantly foreign-owned companies saw a 7 point decrease

Figure 4: Quarterly Business Climate Index by ownership structure, 01. 2010. – 04. 2018.

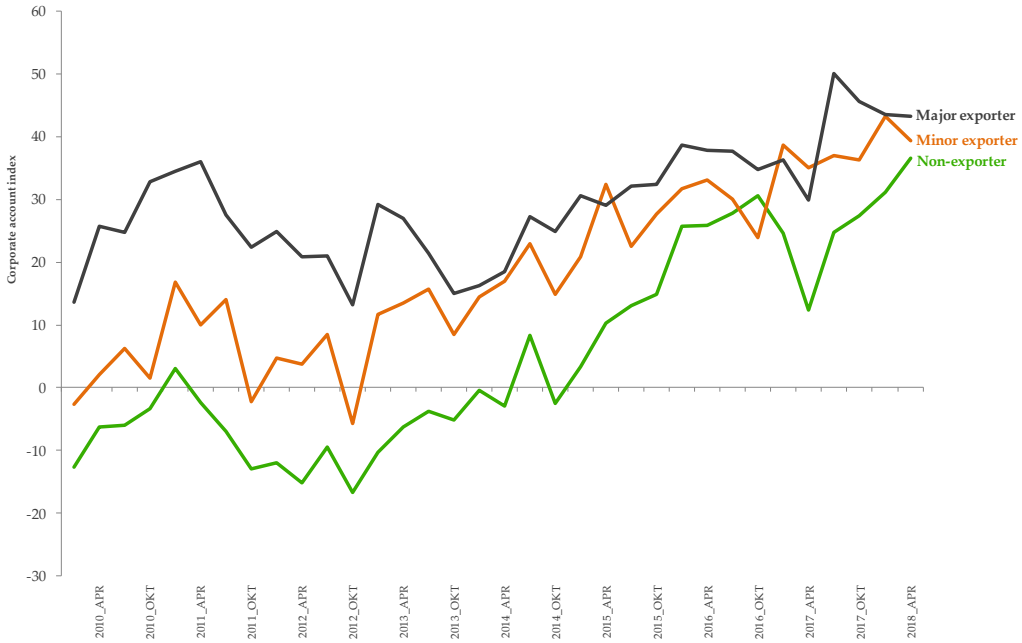


Source: IEER 2018

***Note** that the score in the figure is an aggregated balance indicator projected on a scale of 100. In all cases, the balance indicator shows the difference between the rate of companies providing positive and negative situation reports. The indicator therefore spans a scale from -100 to +100. -100 indicates that all of the surveyed companies assessed their situations to have been negative, while +100 indicates that all of the surveyed companies assessed their situations to have been positive.*

Looking at exports, the Quarterly Business Climate Index was highest with major exporters (+43 points). Minor exporters and non-exporters scored +39 and +37 points, respectively. In comparison with the previous quarter, non-exporting companies experienced a 5 point increase whereas partial exporters suffered a 4 point drop. The index remained virtually unchanged for companies relying predominantly on exports.

Quarterly Business Climate Index by export activity, 01. 2010 – 04. 2018.



Source: IEER 2018

Note *that the score in the figure is an aggregated balance indicator projected on a scale of 100. In all cases, the balance indicator shows the difference between the rate of companies providing positive and negative situation reports. The indicator therefore spans a scale from -100 to +100. -100 indicates that all of the surveyed companies assessed their situations to have been negative, while +100 indicates that all of the surveyed companies assessed their situations to have been positive.*

The Quarterly Business Climate Index contains ten indicators measuring

- present/expected business situation;
- present/expected profitability;
- expected patterns of investment activity;
- present unfilled orders;
- production levels of the previous quarter/expected production levels for the next quarter;
- expected change in employment;
- expected patterns in capacity utilisation.

Some sub-indicators indicate that business executives are having significantly more optimistic expectations about profitability and production than in the previous quarter, while expectations regarding investment have turned more negative compared to January 2018 levels. All components but the projected number of employees reveal more positive expectations year on year. The April 2018 projected change in employment was about the same as in April 2017. On the basis of our April figures it can be argued that small and medium-sized enterprises see their business situation more positively than large companies from the next aspects including present and expected business situations, present and expected profitability rates, expected production levels, projected number of employees and expected capacity utilisation. At the same time, companies employing 250+ workers gave a more positive assessment regarding expected investment activity, unfilled orders and previous quarter production levels

The effects of digitalisation on inflation

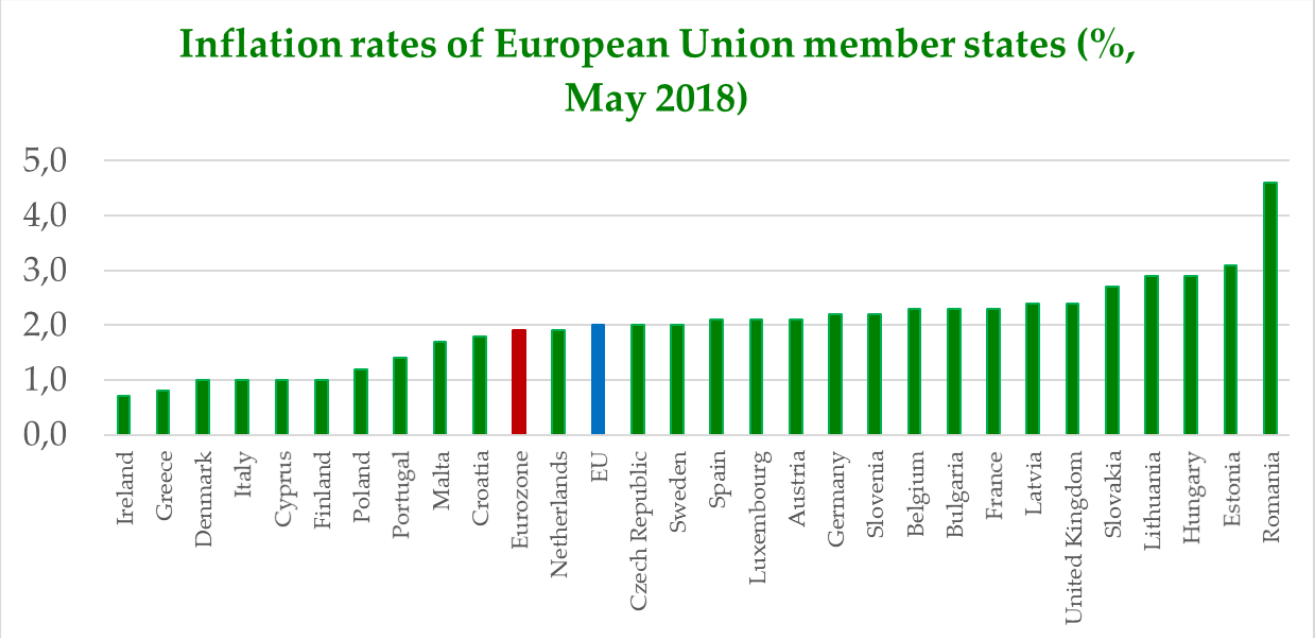
The development of digital technology, which has a great economic and social impact, is one of the most important structural changes of our time. Beyond its impact on the labour market, digitalisation may also influence countries' price dynamics and inflation rates.

Inflation may be affected by a number of economic and social factors. Business cycles, oil price fluctuation, a higher or lower demand than expected, and longer term changes in market structure are all factors influencing the level of inflation. However, there is a factor that may mitigate inflation rates: digitalisation. It can enhance competition and make production more effective, and as a result, it can drive prices down.

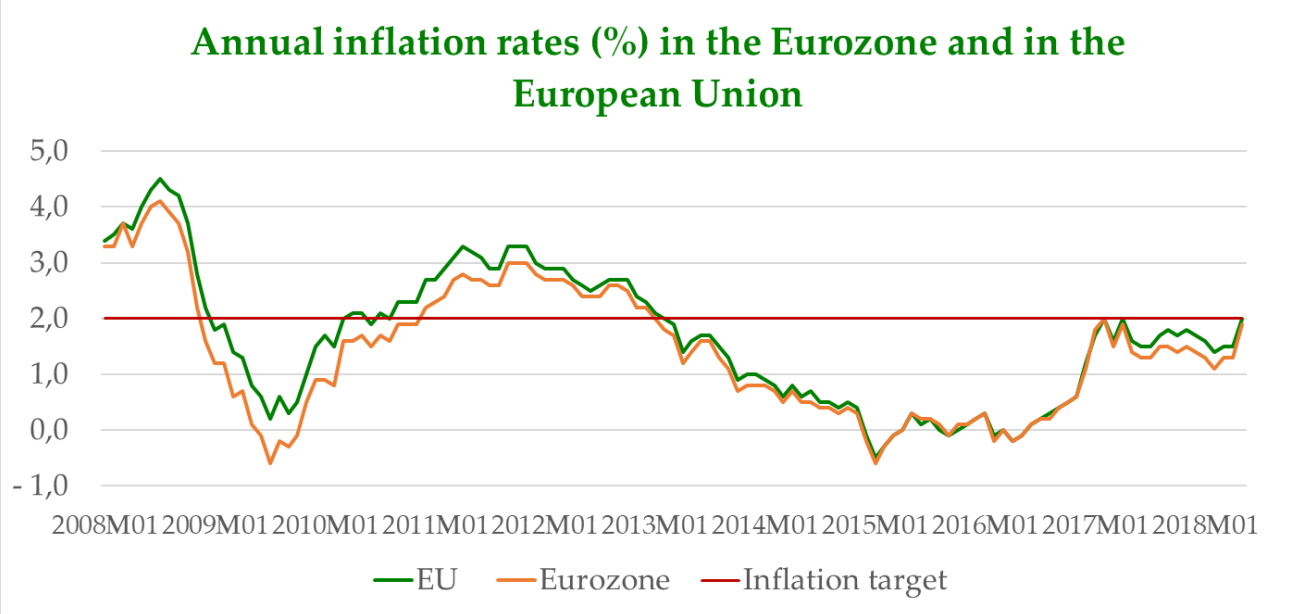
Globally, inflation processes have shown a moderate tendency in recent years. Between 2013 and 2017, average annual inflation rates stayed below the inflation target in the Eurozone and in the EU. According to the most recent inflation figures of Eurostat, inflation is still below 2% in 11 member states. Inflation in the European Union returned to the 2% level in May 2018 for the first time since February 2017. The inflation rate measured in the Eurozone is approaching the 2% mark. The latest figure was 1.9%.

The fact that global inflation processes have been moderate can be attributed to the development of digital technologies and the spread of automation and robotisation. Our analysis will give a detailed account of the channels through which digitalisation may influence inflation. Our analysis is based on papers published by Riksbank[1], the Bank of Canada[2] and the National Bank of Hungary[3] .

[1] http://archive.riksbank.se/Documents/Rapporter/PPR/2015/150212/rap_ppr_ruta4_150212_eng.pdf
[2] https://www.banqueducanada.ca/wp-content/uploads/2017/11/san2017-20.pdf
[3] https://www.portfolio.hu/gazdasag/a-robotok-legyozhetik-az-arak-emelkedeset.286792.html



Source: Eurostat, http://ec.europa.eu/eurostat/web/hicp/data/database



Source: Eurostat, http://ec.europa.eu/eurostat/statistics-explained/index.php/Inflation_in_the_euro_area

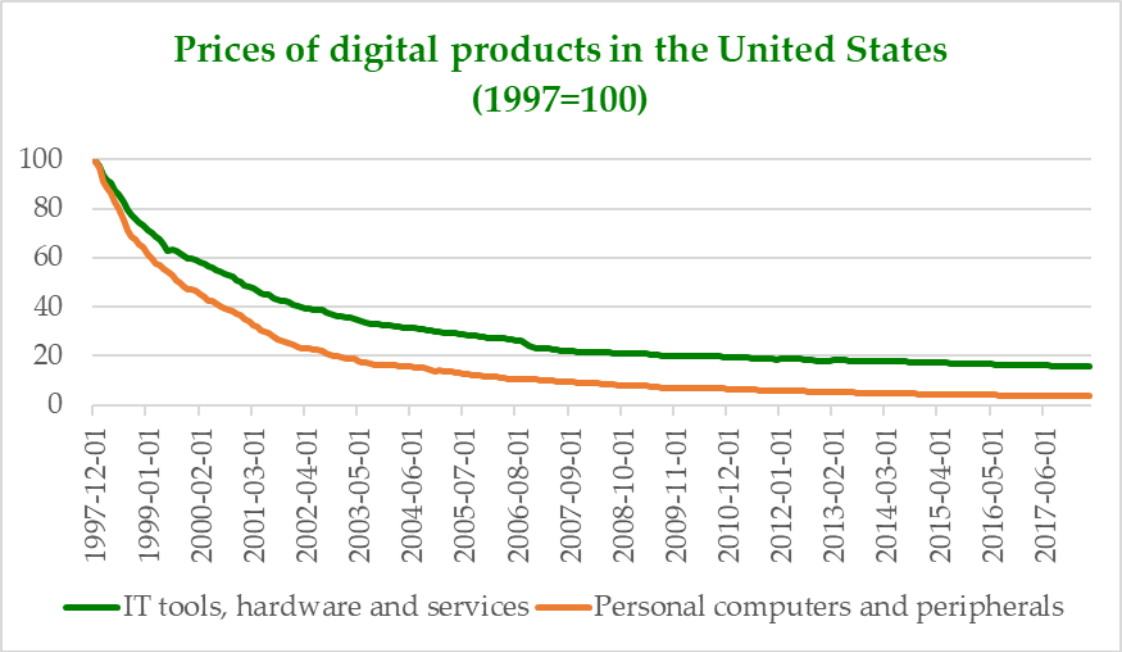
The price reduction of ICT-related goods and services

Digitalisation has a direct effect on inflation rates since the prices of ICT-related products and services constantly decrease. The umbrella term "ICT-related products" covers audiovisual and information processing appliances including television sets, personal computers, internet routers and telephones. Changes in ICT-related product prices for products which are included in the basket of consumer goods affect the rate of inflation directly.

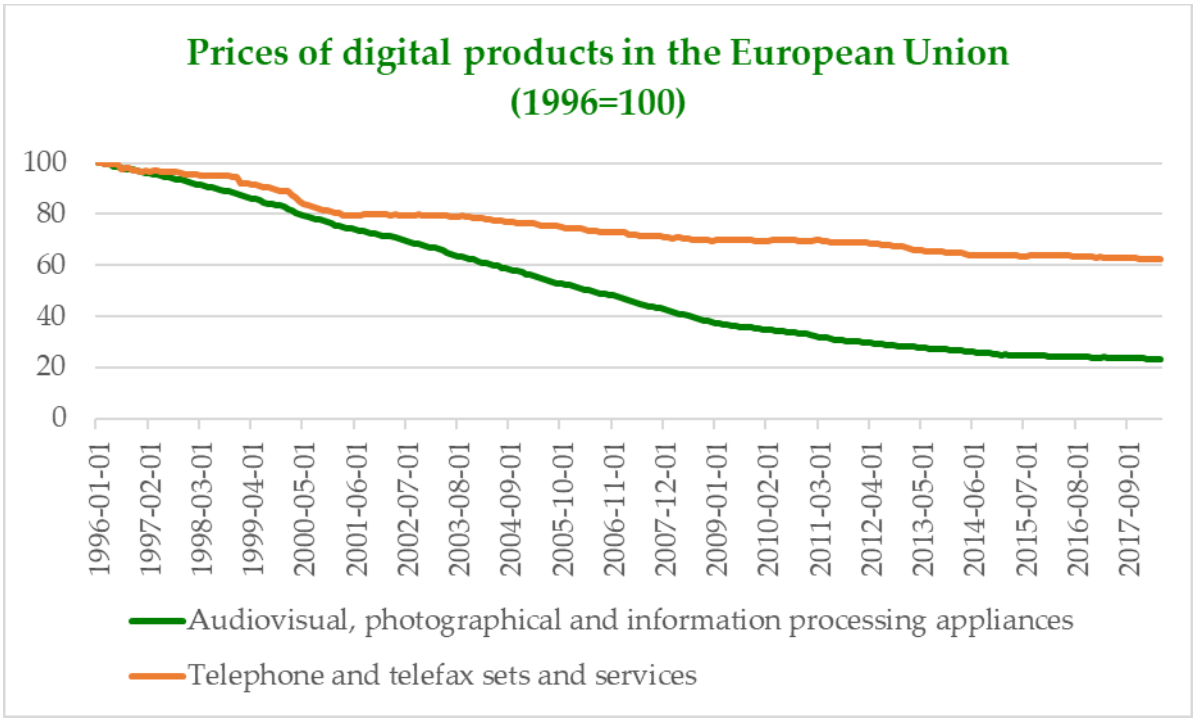
Based on the consumer price index of the U.S. Bureau of Labor Statistics, prices of IT hardware and services decreased by 84% in the United States between December 1997 and May 2018. The price drop of personal computers and peripheries was even higher: a whopping 96%. According to figures published by Eurostat, prices of audiovisual and information processing appliances fell 78% in the European Union between January 1996 and May 2018. Prices of telephone and telefax sets and services decreased at the least steep rate, by 37.5%.

However, falling ICT product prices also affect inflation rates indirectly. Digital products have been gaining importance in production processes causing ICT product price reduction to mitigate production costs and enhance the efficiency of production.

According to a Bank of Canada study, the deflationary effect of decreasing ICT product prices is low in developed economies. Yet the statistical significance of the deflationary effect varies from country to country. The deflationary effect is more likely to be significant in countries that incorporate ICT products into their production faster, or use them more in the economy (e.g. in Sweden).



Source: U.S. Bureau of Labor Statistics, FRED, https://fred.stlouisfed.org/series/CUUR0000SEEE, https://fred.stlouisfed.org/series/CUSR0000SEEE01



Source: Eurostat, FRED, https://fred.stlouisfed.org/series/CP0910EUCCM086NEST, https://fred.stlouisfed.org/series/CP8283EUCCM086NEST

The deflationary effects of e-commerce

The increasing popularity of e-commerce changes the traditional market structure and competition. Online selling means a significant cost-cutting to online traders. They can save the rent and the wages of shop assistants to mention just a few examples. In addition, entering the online market has relatively low upfront costs, resulting in the online growth of an increasing number of companies.

Widespread e-commerce resulted in more transparent markets since making well-informed choices and comparing prices has become much simpler. Competition has also shifted from the local to the global level: local companies now have global rivals. One of the most important effects of e-commerce is bigger competition, resulting in prices falling.

The impact of bigger online competition on prices can be brought closer by studying on- and offline price comparisons. According to a study by Alberto Cavallo[4] (2017), online and offline prices are identical in some 72% of all cases. Price difference also depends on the sector. The biggest price difference was between stationery items marketed on- and offline, where the same price for the same product was offered in only 25% of all cases. Price differences were relatively big in the pharmacological industry, too, with identical on-and offline prices in only 38% of the cases. Clothing articles presented the slightest difference: Online and offline prices were the same 92 times out of a hundred.

Goolsbee-Klenow (2018) used Adobe Analytics data to study trends of online prices, and compare them with traditional consumer price index tendencies that measure inflation. The resulting Digital Price Index (DPI) contains the online prices of the same products included in the traditional Consumer Price Index (CPI), thus enabling comparisons. Surprisingly, the inflation measured with DPI was more than 3 percentage point lower for the period between 2014 and 2017 than the inflation measured with CPI. DPI showed a lower rate of inflation for all product categories except medicine.

Widespread e-commerce also seems to result in more aware consumers, which in turn generates greater competition and drives prices down. The analysis of online shopping may be a good approach to estimating the rate of more aware consumers. Online purchase sales figures[5] suggest that Western-European countries are market leaders in Europe. 87% of UK customers shop online; in Denmark and in Gemany this rate is 84% and 82%, respectively. It is also interesting to note that almost two thirds of the EU population use the Internet to gain information about products and services.

According to a 2015 survey, [6] 79% of Americans use the Internet for shopping and

[4] https://pubs.aeaweb.org/doi/pdf/10.1257/aer.20160542

[5] https://www.ecommerce-europe.eu/press-item/european-ecommerce-report-2017-released-ecommerce-continues-prosper-europe-markets-grow-different-speeds/

[6] http://www.pewinternet.org/2016/12/19/online-shopping-and-e-commerce/

65% compare offline and online prices before making a purchase to go for the cheapest option. 82% of customers reportedly check online feedback first before shopping.

The integration of automation and robotisation into production

Technology may replace humans doing repetitive work and it may also become auxiliary to more complex jobs. Automation and robotisation may increase efficiency in production, and as a consequence, push down costs and prices. According to International Federation of Robotics sales figures, 294 thousand industrial robots were sold globally in 2016, which was a 16% increase year-on-year. Calculating with an unchanged growth rate, this number may reach 520 thousand by 2020.

Although it may seem a logical assumption that automation increases productivity, figures to prove this point are still missing. Productivity growth has been decreasing in the past decade in G7 while the number of robots employed in production increased, the exact opposite of what one would expect. This may have several reasons. For one thing, the number of robots employed in present factories is still low compared to the number of employees in the heavy industry. Also, robotisation does not concern all industries equally. Therefore, it may take some more time until the spread of automation leaves a mark on prices and inflation.

To sum it up, digitalisation affects the rate of inflation through four main channels: through the reduction of ICT product prices, through the spreading of e-commerce, through better informed consumers and through the development of automation. Although digitalisation doubtlessly has a deflationary effect, its impact on the global economy is still insignificant.

International trends

Changes in the production, consumption and employment situation in certain major international economies compared with peer expectations and the previous period.

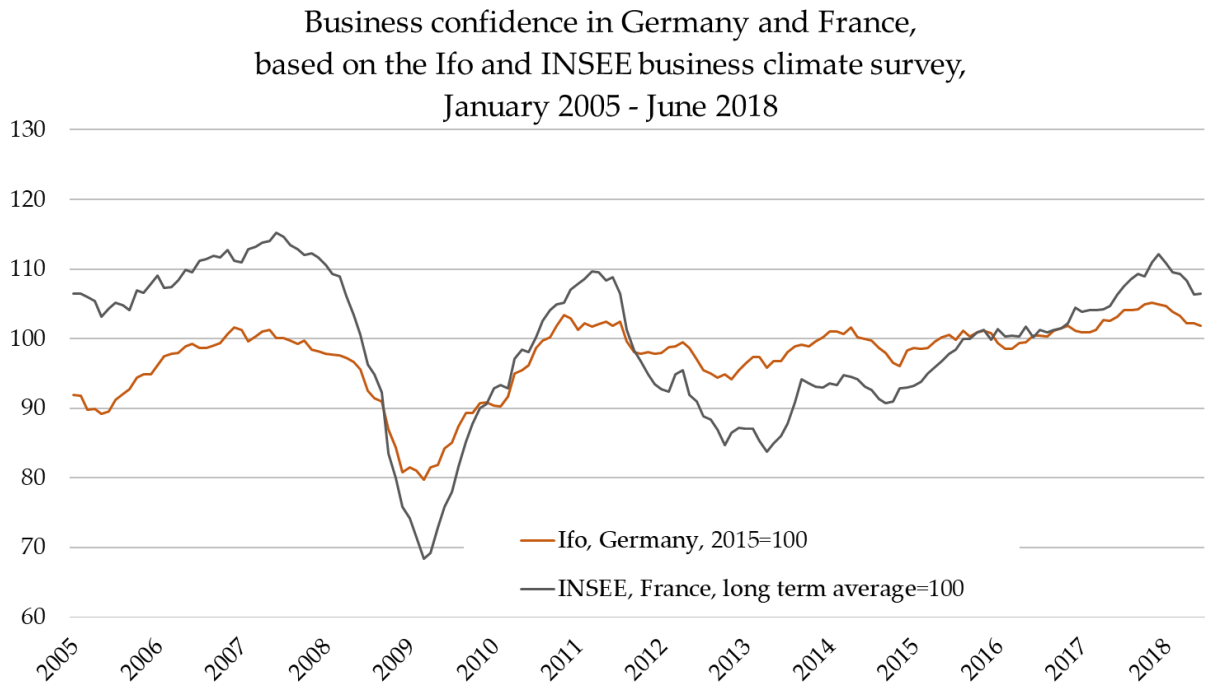
		Period in review	Actual data	Expectations	Previous period
Germany	Unemployment Rate	(Jun)	**5.2%**	**5.2%**	**5.2%**
	Manufacturing Purchasing Managers Index	(Jun)	**55.9**	**55.9**	**55.9**
	IFO Business Climate Index[1]	(Jun)	**101.8**	**101.9**	**102.2**
France	INSEE Business Climate Index[2]	(Jun)	**106**		**106**
USA	Unemployment Rate	(Jun)	**4.0%**	**3.8%**	**3.8%**
	CB Consumer Confidence Index	(Jun)	**126.4**	**127.6**	**128.8**
	Manufacturing Purchasing Managers Index	(Jun)	**55.4**	**54.6**	**54.6**
China	Manufacturing Purchasing Managers Index	(Jun)	**51**	**51.1**	**51.1**

[1] https://www.cesifo-group.de/ifoHome/facts/Survey-Results/Business-Climate/

[2] http://www.insee.fr/en/themes/indicateur.asp?id=105

The rest of the data source: http://worldeconomiccalendar.com

The German economy slightly underperformed compared to the expectations in June. The unemployment rate and the manufacturing purchasing manager index (PMI) stagnate at the same level as in May and performed as expected in June. However, the IFO business climate index decreased compared to last month and was slightly below the expectations. The French INSEE business climate index stagnates at the same level as in May. In the United States, the CB consumer confidence index performed worse than in the last month and was below the expectations. The manufacturing PMI increased compared to last month and was higher than the expectations. The unemployment rate was slightly higher than in the last month and the expectations. The Chinese manufacturing PMI slightly decreased and was below the expectations in June.



Sources: www.cesifo.de, www.insee.fr

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