

The effects of digitalisation on the economy

Entreprenörskapsforum (26 March
2019)

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Deputy Governor

My speech today

Digitalisation:
Increase productivity?
Where are we now?

Societal changes due to
technology shift

Changed conceptual
framework for monetary
policy

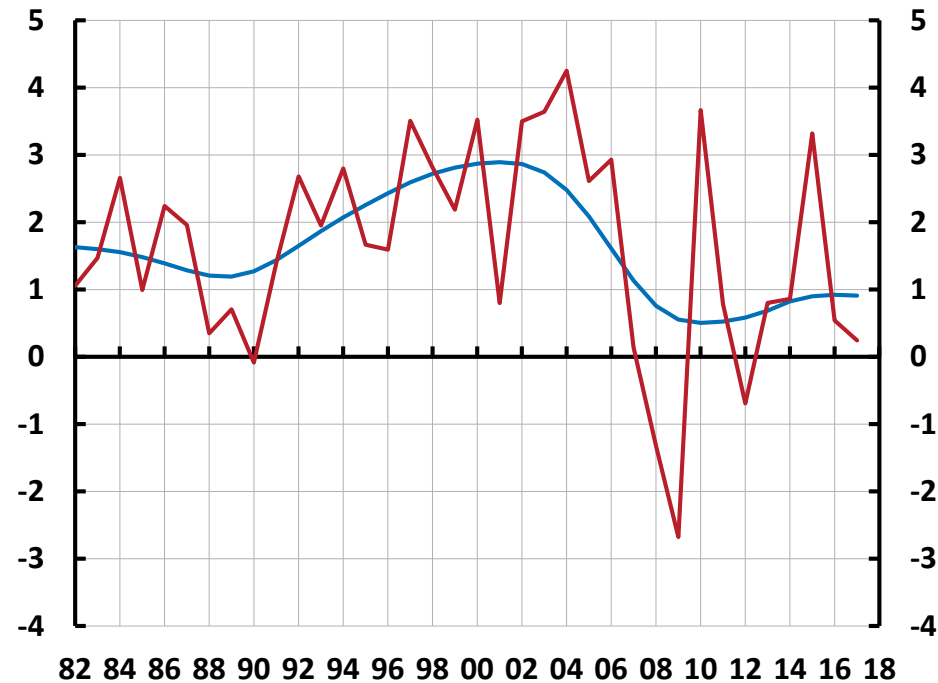
**“You can see the computer age everywhere
but in the productivity statistics”***



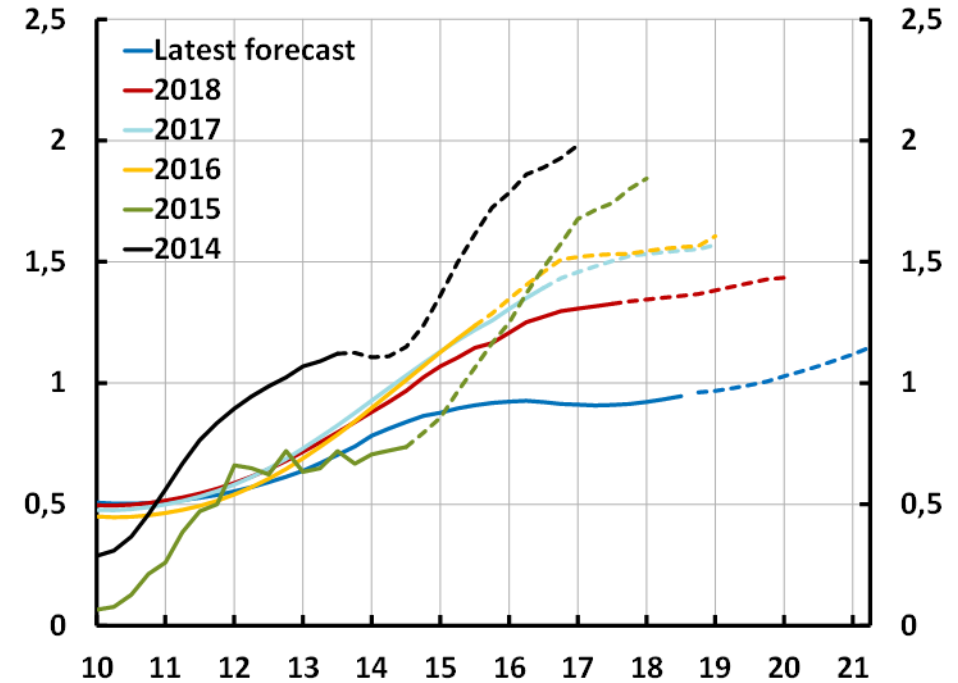
*Robert Solow (1987), “We’d better watch out”, New York Times Book Review,
12 July 1987, p. 36.

Low productivity in recent years

Falling productivity trend...



...and downward revisions to our forecasts



Note. Annual percentage change. The productivity trend is calculated as the GDP trend divided by the trend in hours worked. The GDP trend is calculated with the aid of a production function and the trend for hours worked is assessed by the Riksbank. The forecasts refer to productivity trends and are the forecasts made prior to the monetary policy meetings in February each year.

Sources: Statistics Sweden and the Riksbank

Are we in the installation or deployment phase?



Installation phase

- Creative destruction
- Exploring new markets
- Growth in a couple of sectors and companies

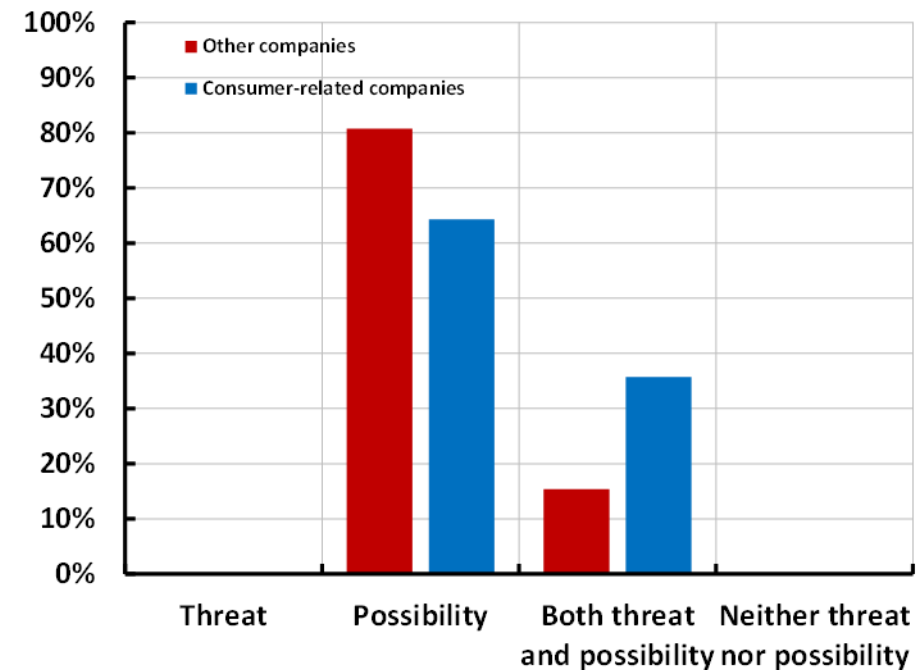


Deployment phase

- Creative build-up
- Markets consolidated
- Broad acceptance and major benefits for the entire economy

Note. Percentage of responses.

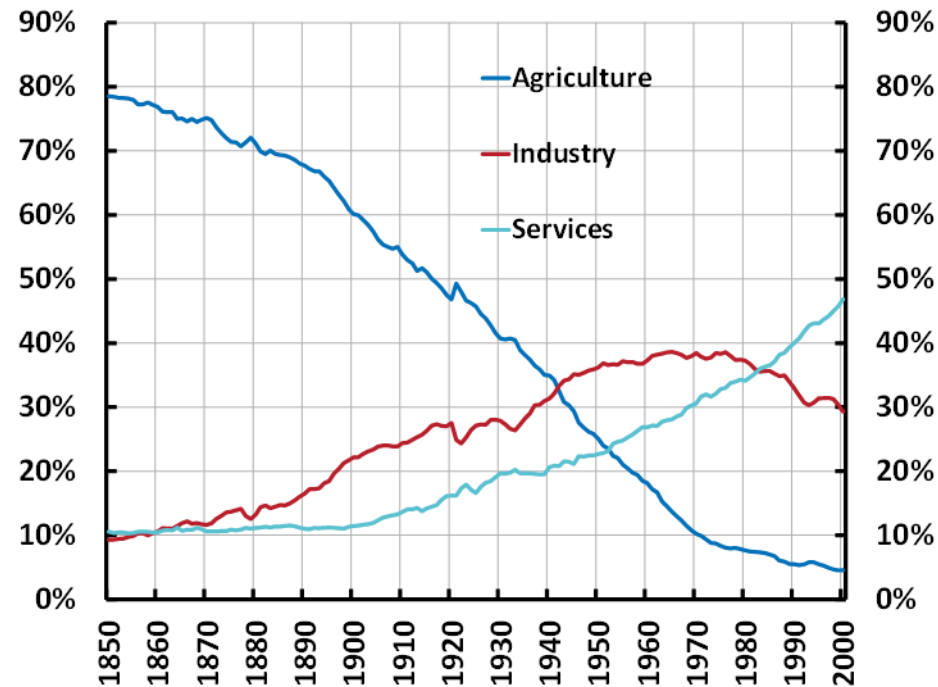
Digitalisation a possibility, mostly among industrial companies



Sources: Bart van Ark (2016) and the Riksbank's Business Survey in May 2018.

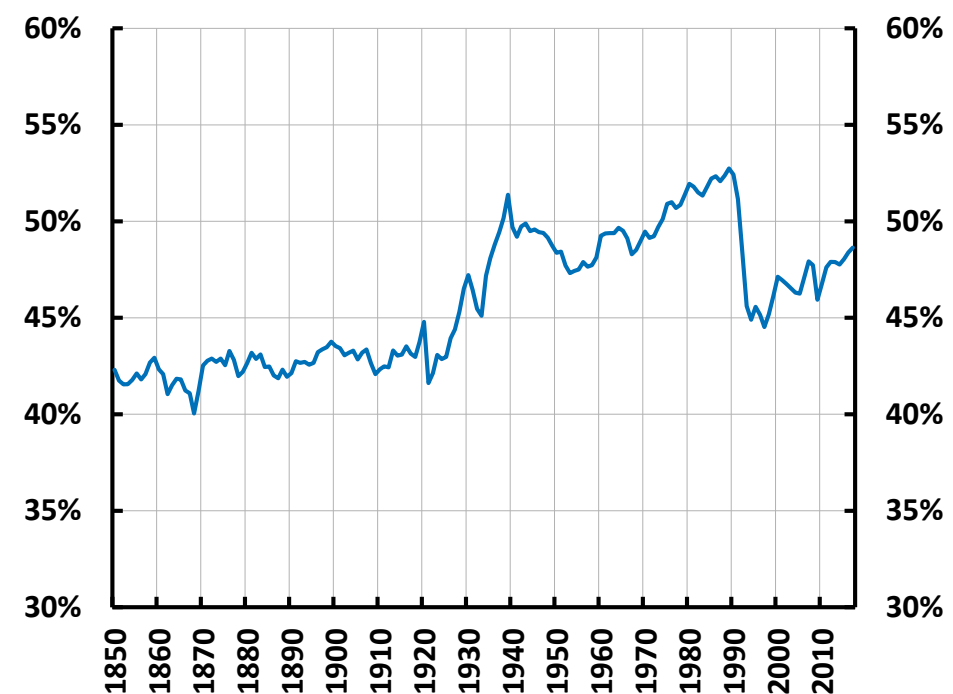
Major structural changes over time...

Major changes in the labour force...



Note. Percentage of employed and percentage employed in the population.

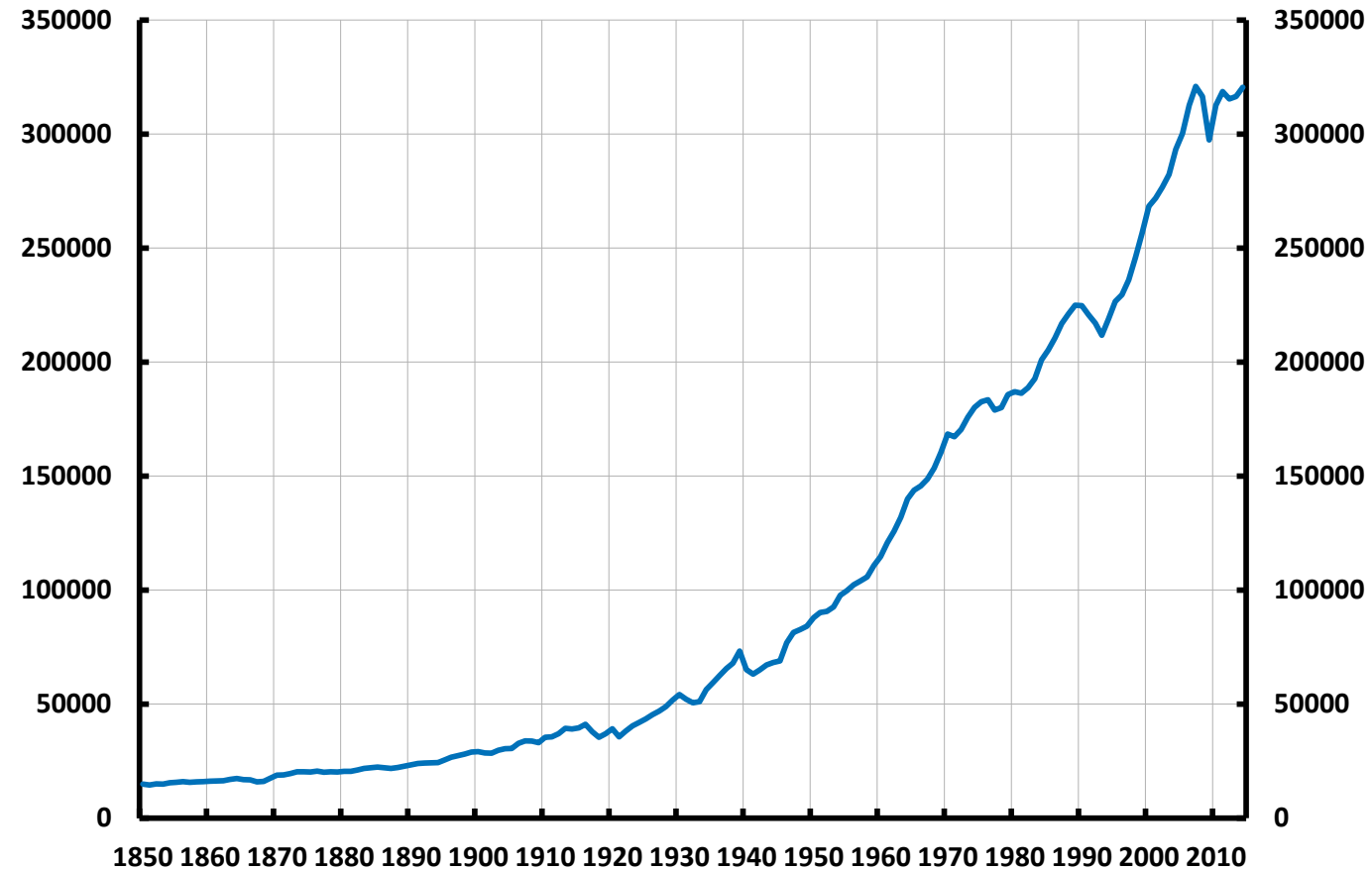
...but employment rate has been high



Sources: Edvinsson, R, (2005) 'Growth, Accumulation, Crisis: With New Macroeconomic Data for Sweden', Almqvist & Wiksell International; Stockholm. Edvinsson, R (2014), 'The Gross Domestic Product of Sweden within present borders, 1620–2012', in Historical Monetary and Financial Statistics for Sweden, Volume II: House Prices, Stock Returns, National Accounts, and the Riksbank Balance Sheet, 1620–2012 (eds. Rodney Edvinsson, Tor Jacobson and Daniel Waldenström) Sveriges Riksbank and Ekerlids and Statistics Sweden.

...with steady increases in welfare

Real GDP per capita



Note. SEK, year 2000 prices.

Source: Edvinsson, R (2014), 'The Gross Domestic Product of Sweden within present borders, 1620–2012', in Historical Monetary and Financial Statistics for Sweden, Volume II: House Prices, Stock Returns, National Accounts, and the Riksbank Balance Sheet, 1620–2012 (eds. Rodney Edvinsson, Tor Jacobson and Daniel Waldenström) Sveriges Riksbank

However, clear challenges in the short term...

- Changeovers look simple in data terms
- Overall improvements are not frictionless at individual level

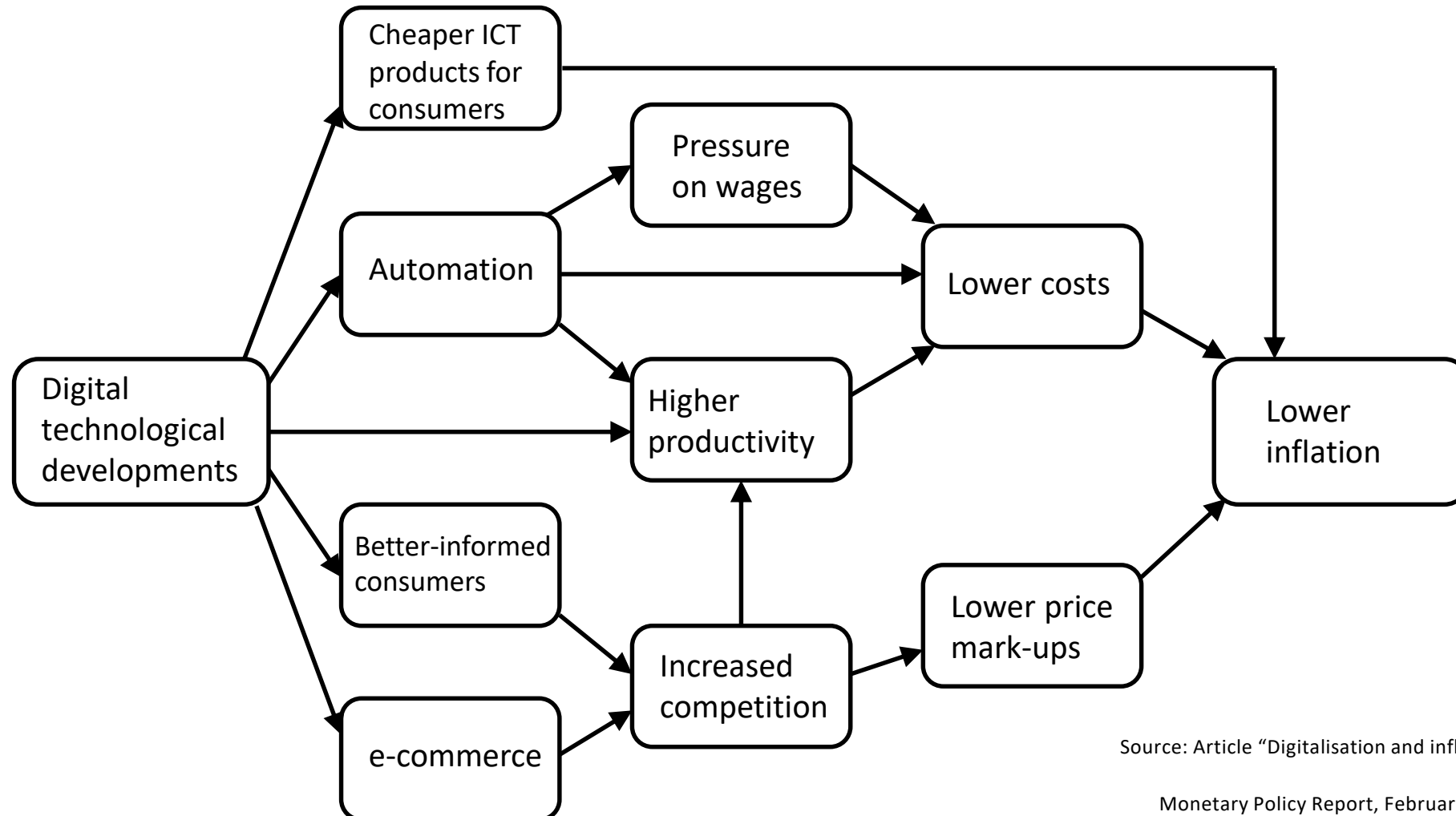


...but they can be tackled

- Embrace life-long learning
- The transfer system is the primary tool for managing economic redistribution
- If necessary, some markets can be regulated to safeguard efficiency and competition in the interests of the general public



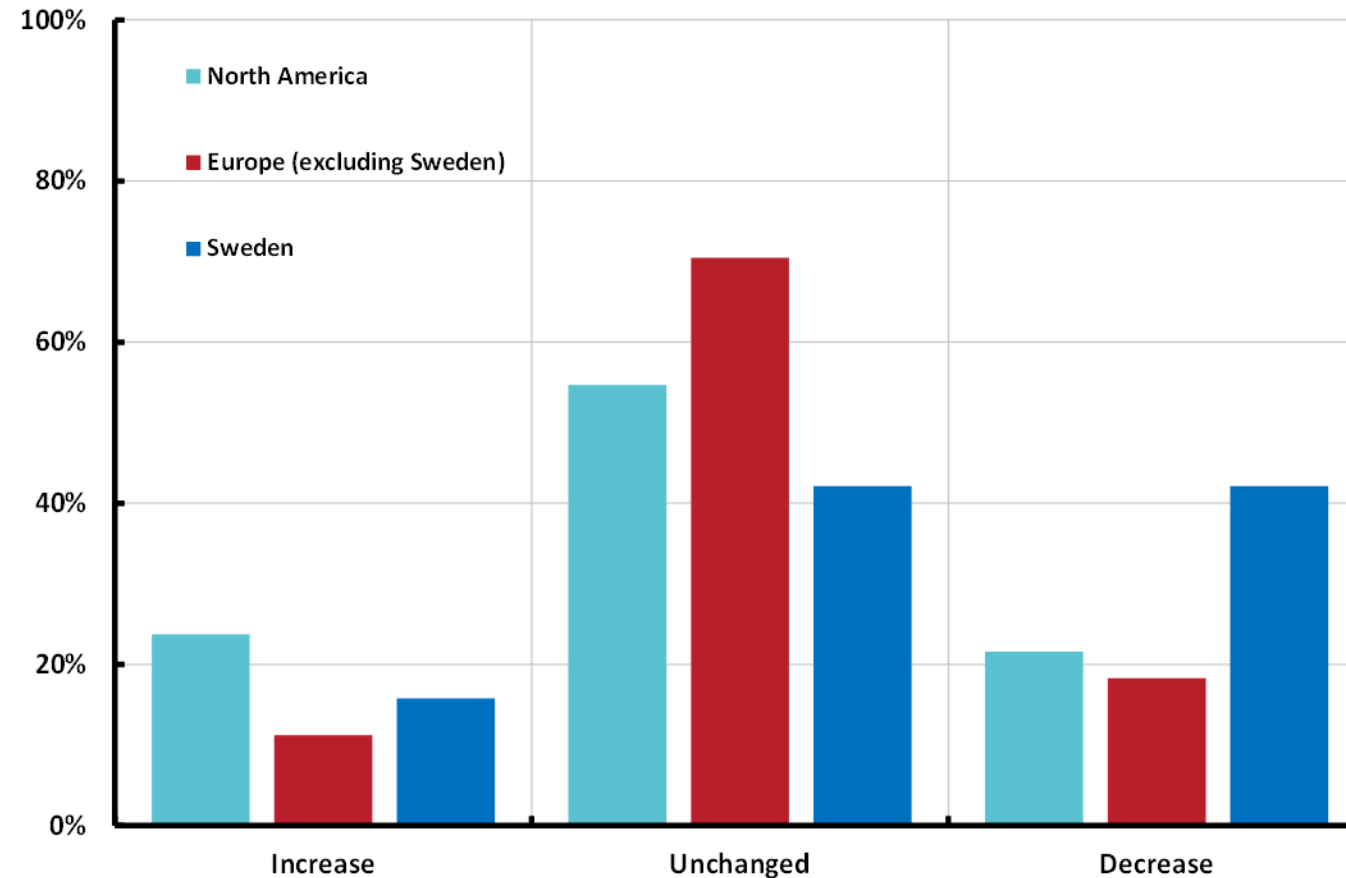
How digitalisation can affect inflation



Source: Article "Digitalisation and inflation"

Monetary Policy Report, February 2015

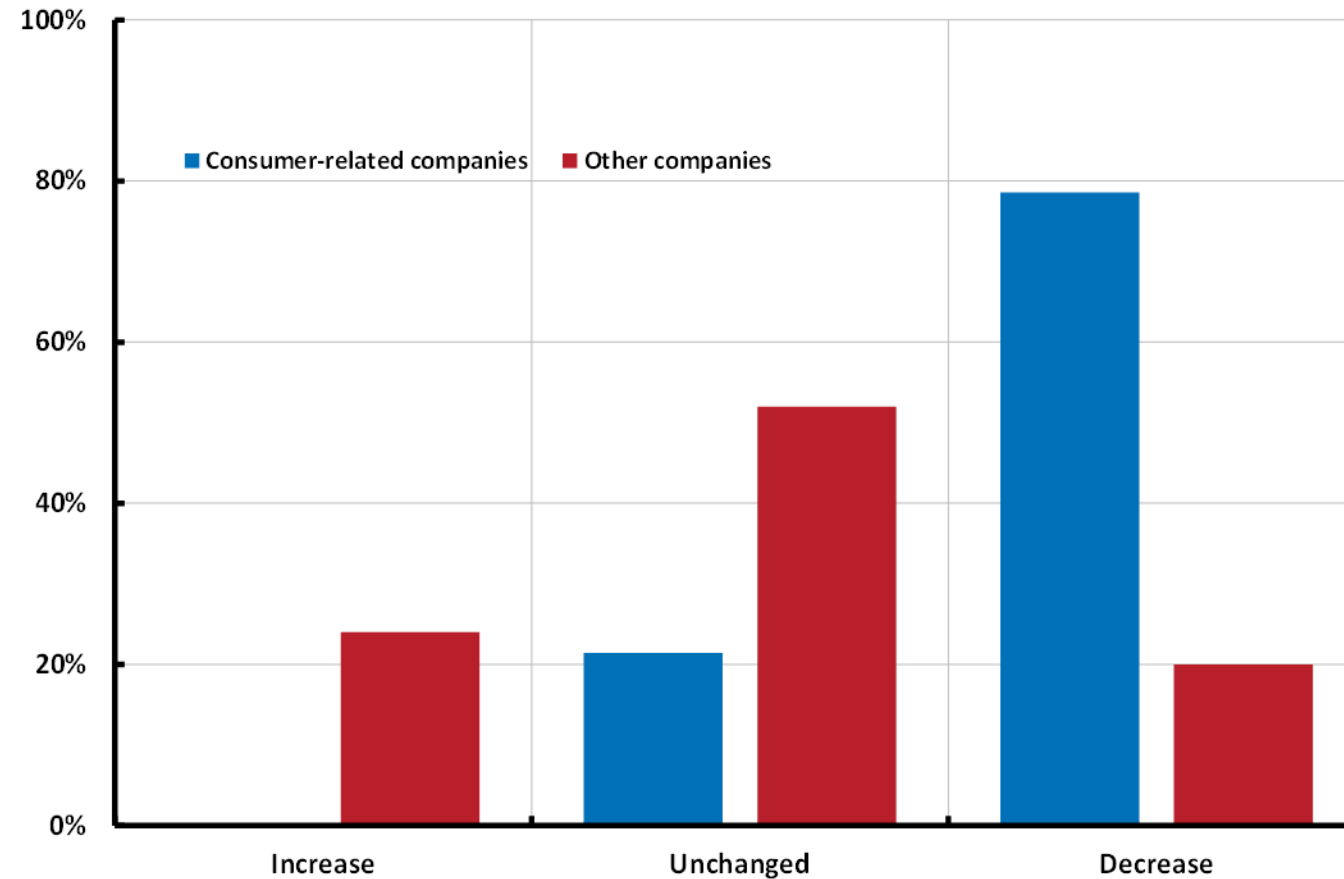
Often lower employment is expected in Swedish companies...



Note. Response frequency, per cent. Consumer-related companies are those selling goods or services to private individuals. The question was: *How do you think the use of digital technology will affect the number of employees in your company over the coming three years?*

Sources: The Riksbank's Business Survey in May 2018 and Fudurich et al, "Adoption of digital technologies: Insights from a global survey initiative", to be published as Staff Analytical Note, Bank of Canada

...and primarily among consumer-related companies

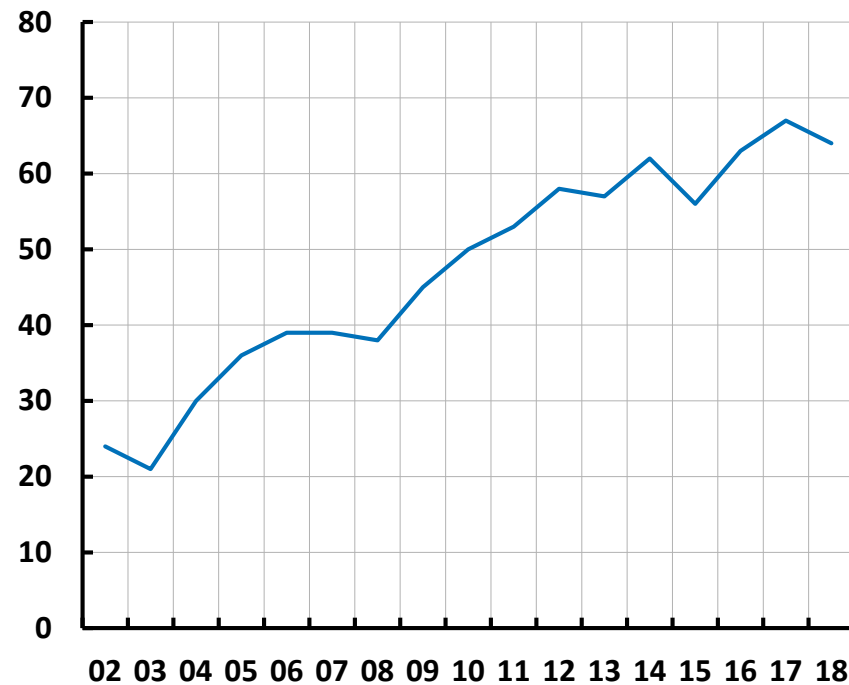


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Source: The Riksbank's business survey in May 2018

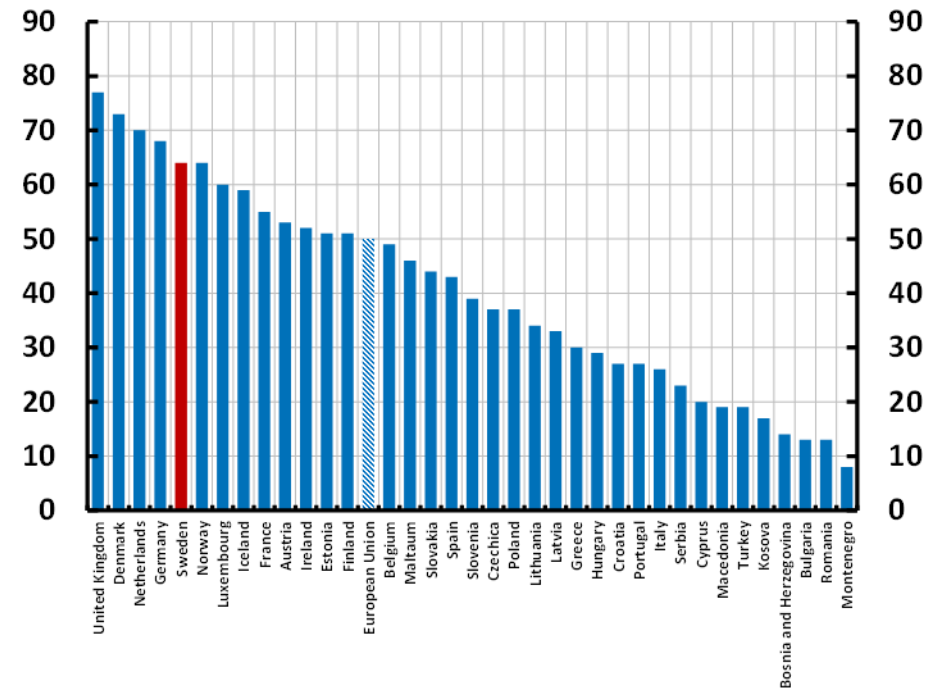
We are buying things online more often

Rising percentage have bought goods or services online...



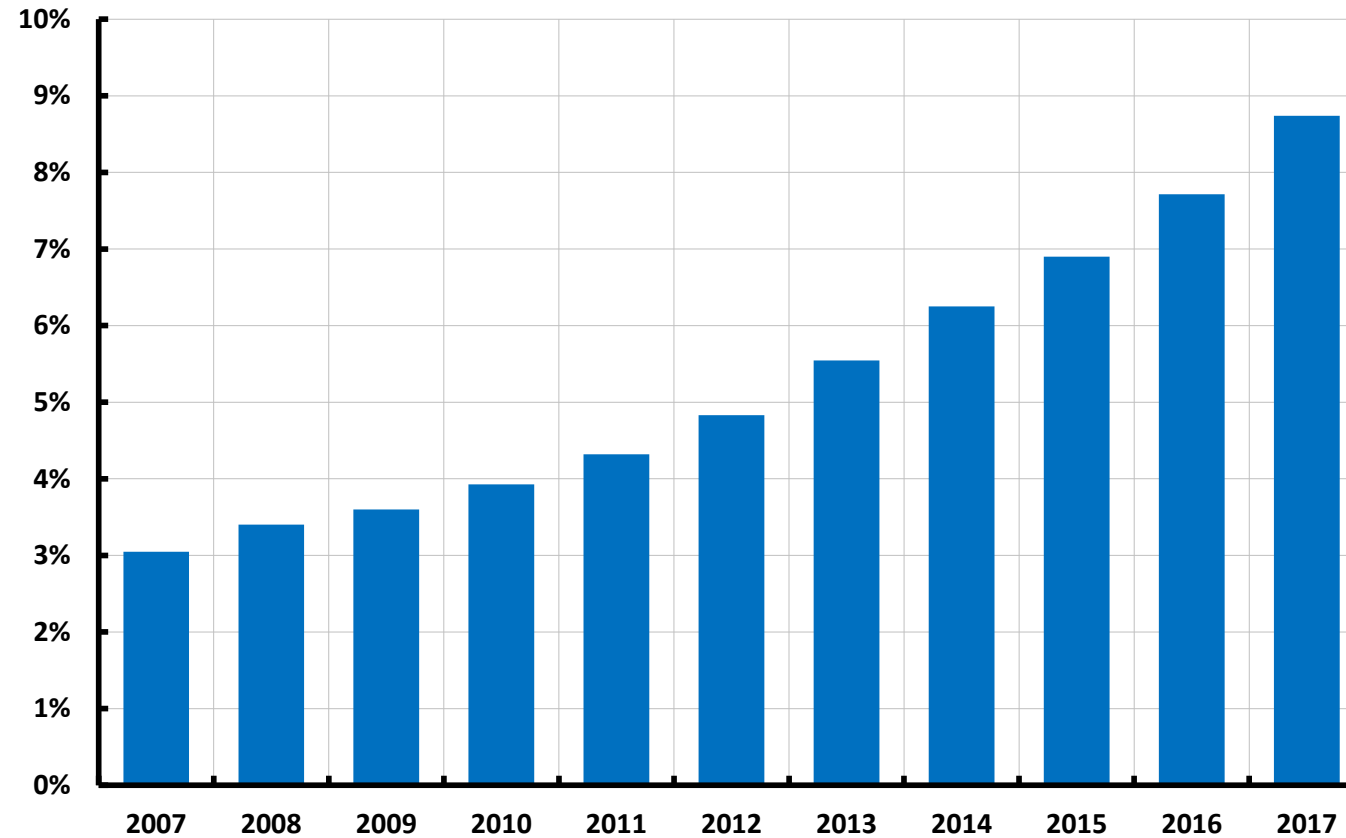
Note. Refers to percentage of population that have bought a product or service online in the past three months.

...high profitability in a European perspective



Source: Eurostat.

E-commerce has become increasingly important in Sweden

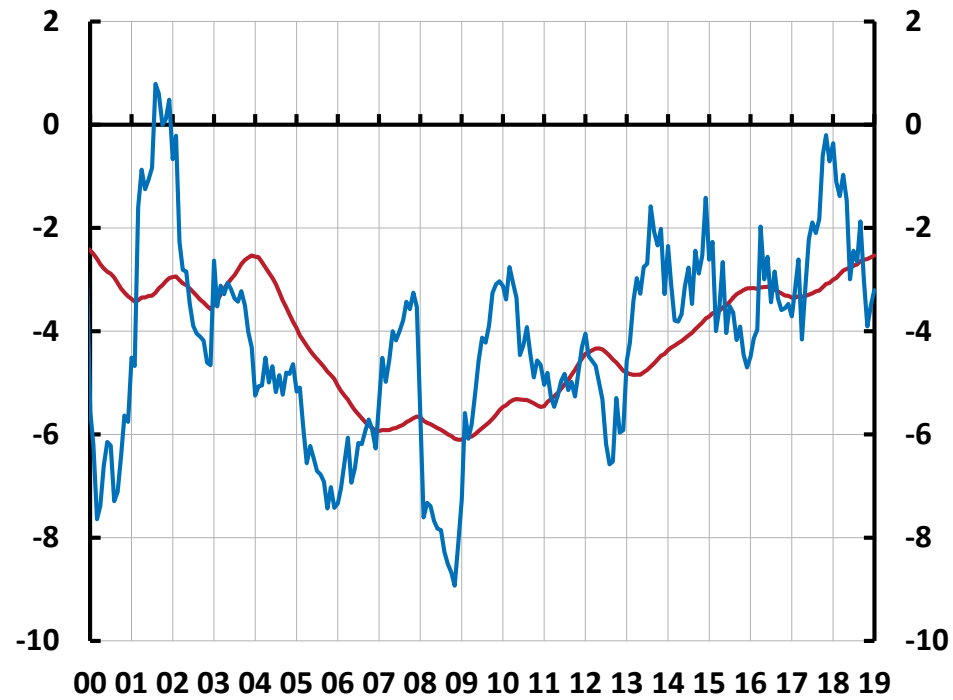


Note. Percentage of retail trade turnover

Sources: HUI Research and E-Barometern.

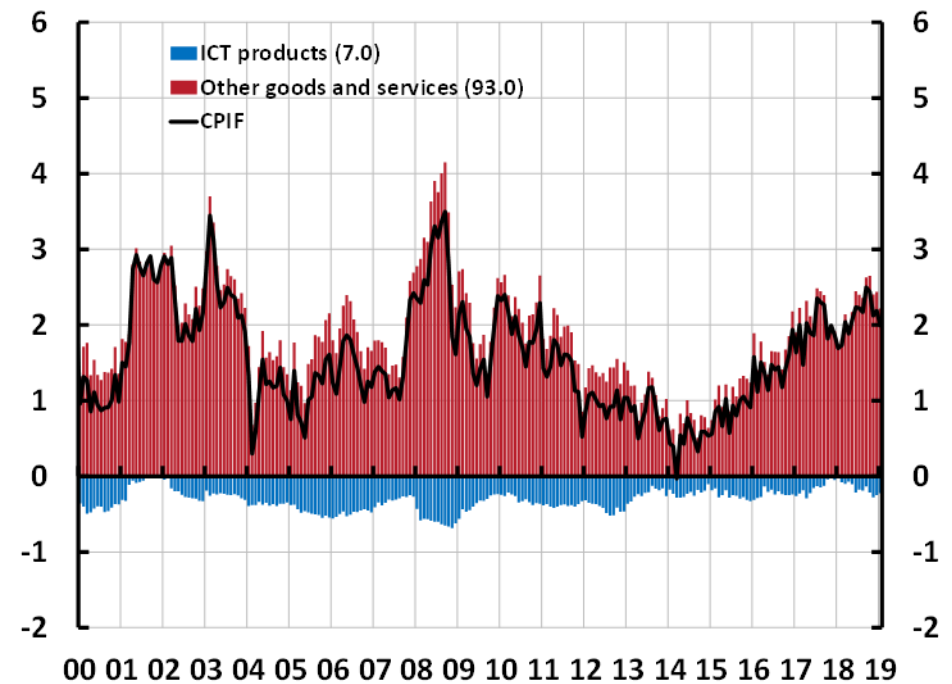
ICT goods - little affect on inflation

ICT goods not contributing more negatively to inflation now than before...



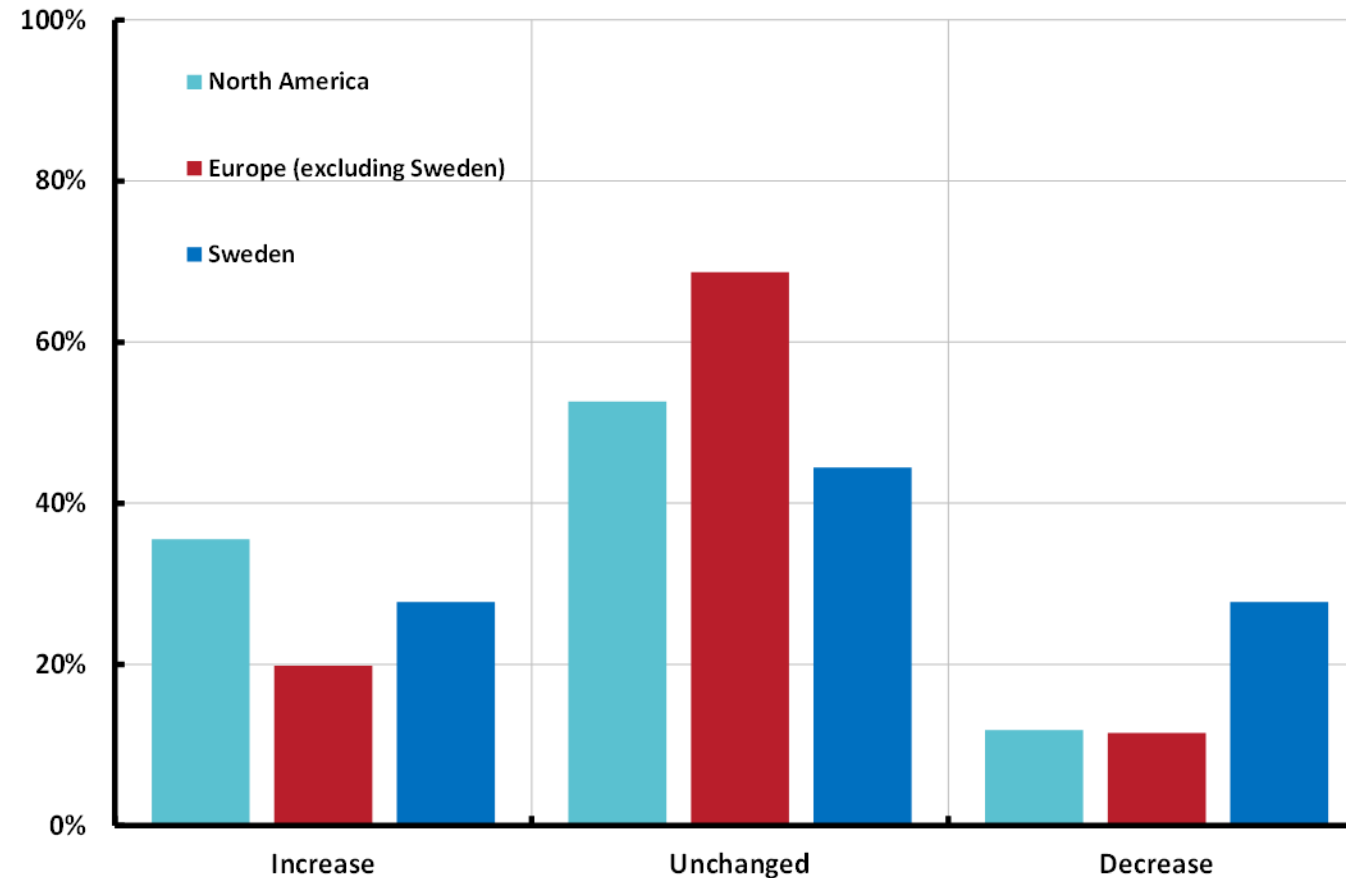
Note. Annual percentage change. The blue line represents ICT-related products, which include household appliances, telephony, TVs, cameras, CDs, DVDs, toys, books and newspapers. The red trend line is a three-year moving average.

...and on the whole the contribution to the CPIF is small



Sources: Statistics Sweden and the Riksbank.

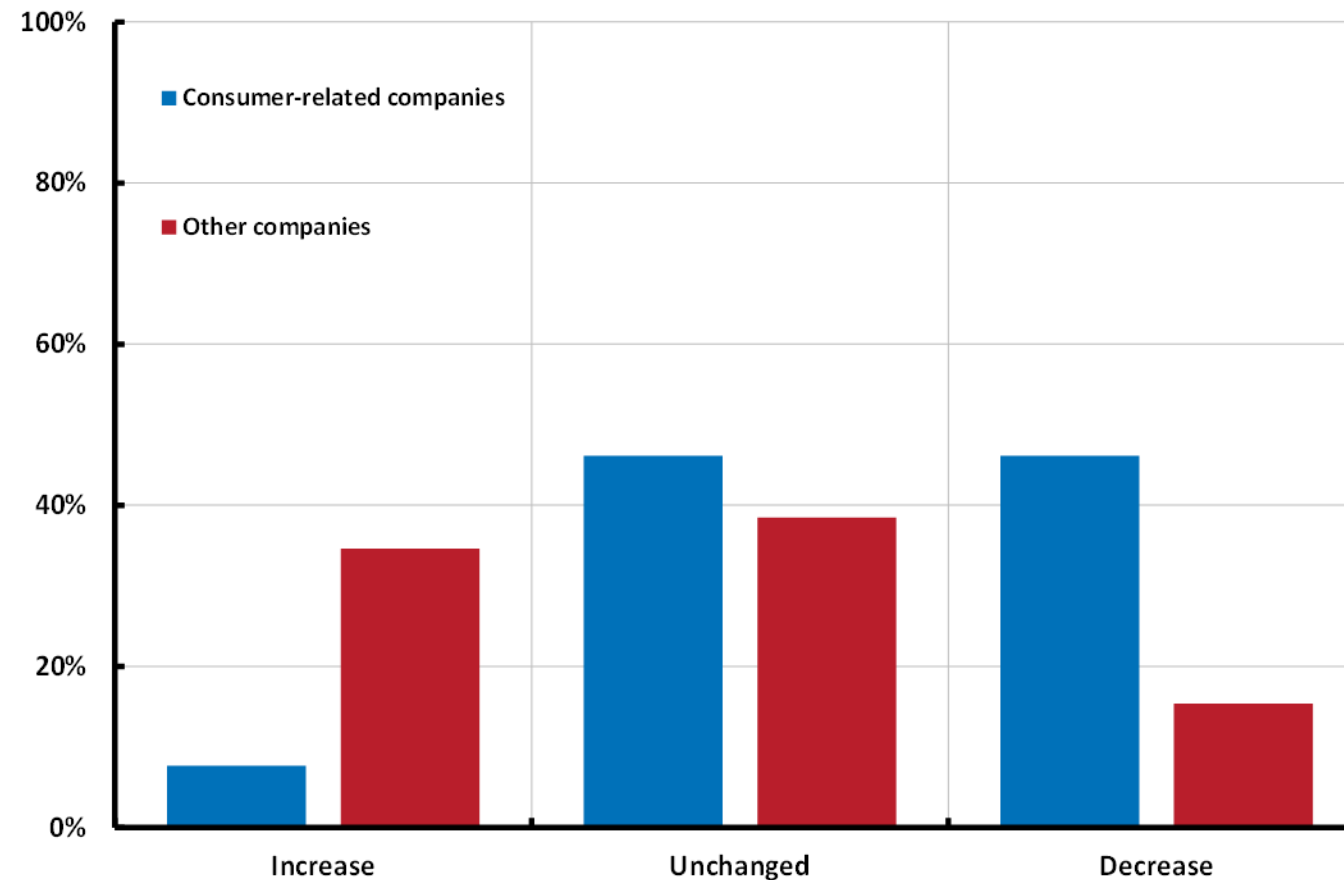
Similar effects on prices as in other countries expected...



Note. Response frequency, per cent. Consumer-related companies are those selling goods or services to private individuals. The question was: *How do you think the use of digital technology will affect the selling price of your goods and services over the coming three years?*

Sources: The Riksbank's Business Survey in May 2018 and Fudurich et al, "Adoption of digital technologies: Insights from a global survey initiative", to be published as Staff Analytical Note, Bank of Canada.

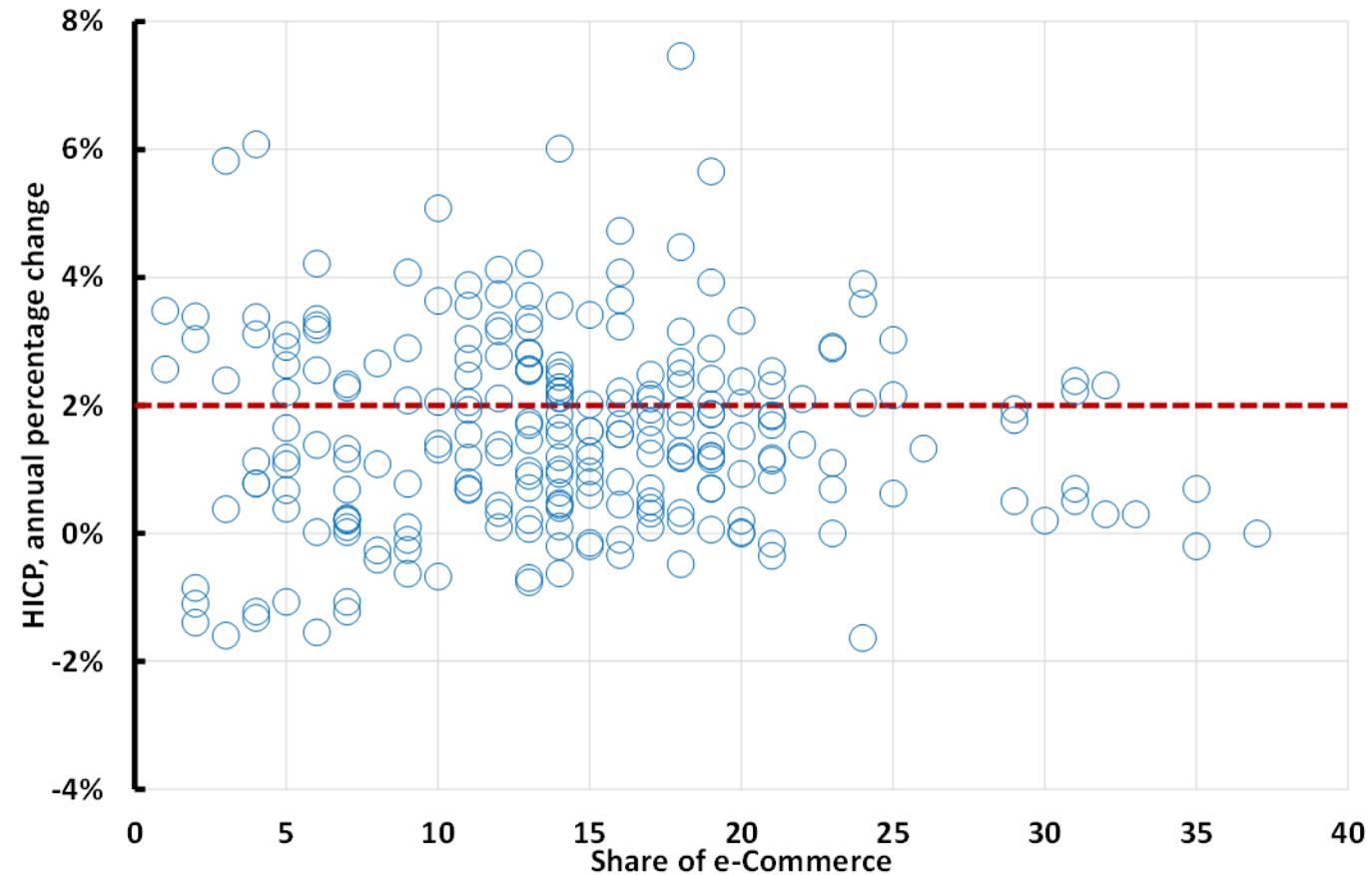
...but primarily lower consumer prices



Note. Response frequency, per cent. Consumer-related companies are those selling goods or services to private individuals. The question was: *How do you think the use of digital technology will affect the selling price of your goods and services over the coming three years?*

Source: The Riksbank's business survey in May 2018

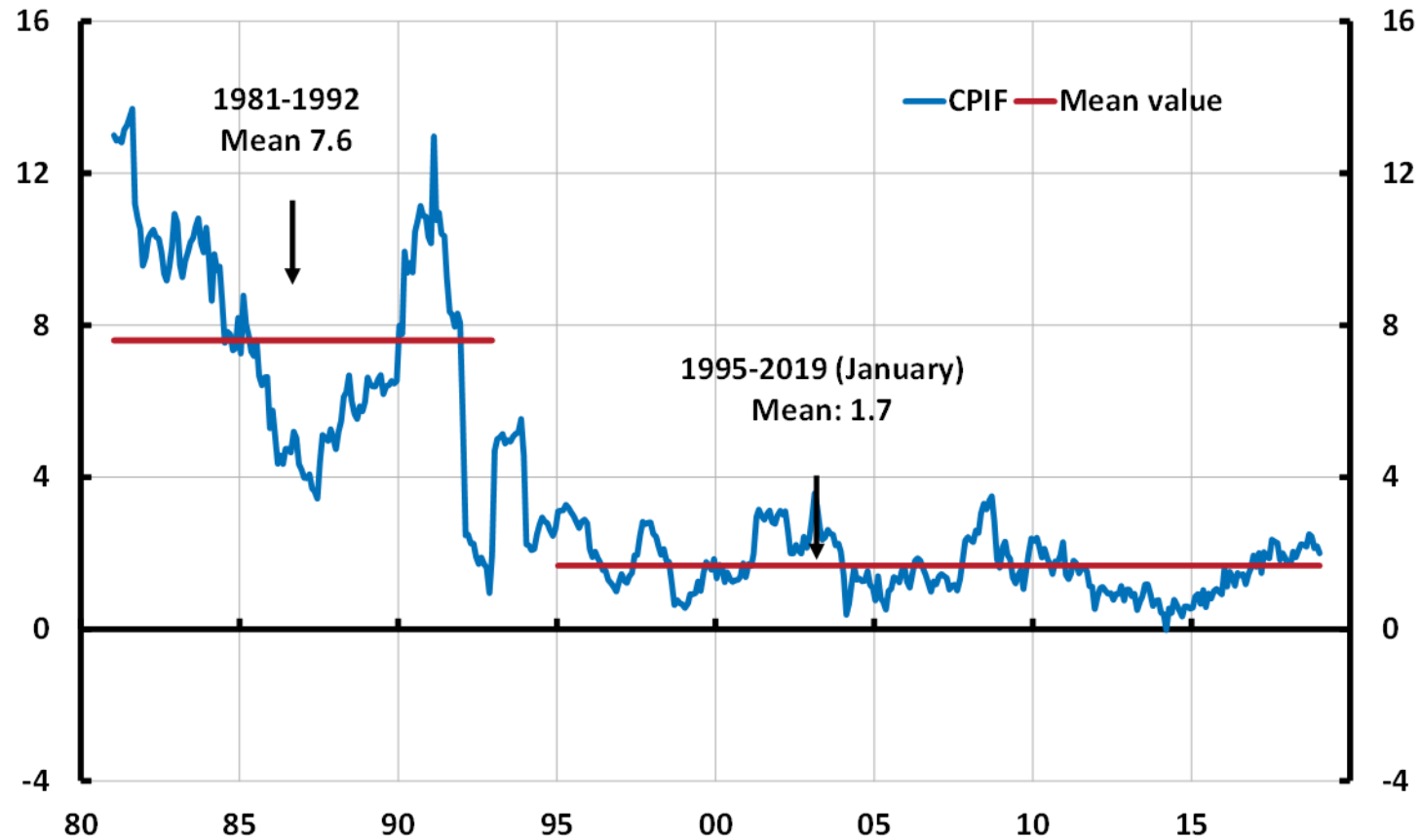
Inflation and e-commerce in Europe



Note. The y axis shows the annual percentage change in the HICP and the x axis shows the country's share of trade in the form of e-commerce. Each circle in the figure represents a country for one year. The countries included are Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Rumania, Slovakia, Slovenia, Spain, Sweden and the United Kingdom.

Source: Eurostat.

Credible inflation target an anchor for the economy



Note. Annual percentage change. The CPIF is formal target variable since 7 September 2017.

Source: Statistics Sweden

Summarising points

- Changes such as digitalisation are decisive to our welfare in the long run
- But transitions are never painless
- Can often be managed by other policy areas
- Clear game rules facilitate structural changes
- Reliable price stability, in terms of purchasing power, is one such game rule