

# Belgium: Automation-induced shifts in the labour market

Technological progress is gaining strength. Even though most people see the benefits of this, there is also some concern for the negative effects on the labour market. Automation could make some human labour redundant, leading to higher unemployment. In this study, we investigate if automation has already hit the Belgian job market

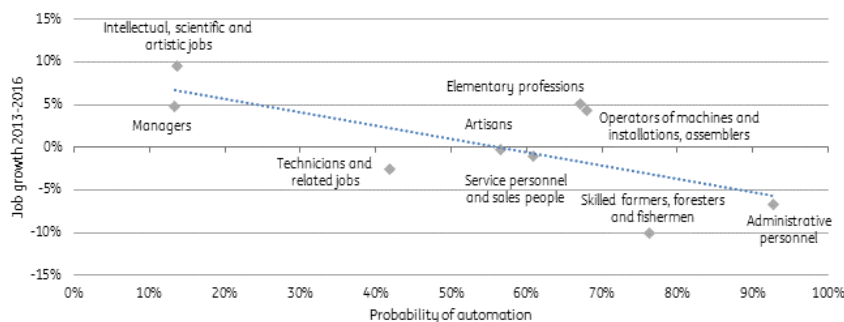


## A negative relationship

Our new study (read the full study in [French](#) or in [Dutch](#)) shows that there is already an effect of automation on the Belgian labour market. We looked at job growth of all jobs in Belgium (based on the ISCO classification) over the period 2013-2016 and linked it with the probability of automation of that particular job. The analysis shows that there is indeed a negative relationship.

Job growth was lower for the job categories with a high degree of automation, such as administrative jobs, and higher for job categories that are less automatable, such as managers. On a more disaggregated level, job growth for accountants, a profession that faces high automation risk, was much weaker than growth of jobs with a low probability of automation, such as social workers.

## Growth of jobs with a high probability of automation did less well



*Note to the graph: The probability of automation of the job categories is a weighted average of the individual jobs within that category. The estimated relationship equals:  $\text{Job growth} = 0.09 - 0.16 * \text{probability of automation}$ . The estimated relationship using all jobs (we have data for 300 jobs) is very similar:  $\text{Job growth} = 0.09 - 0.13 * \text{probability of automation}$ . Source: Baert and Ledent (2015) (See this study here in [French](#) or in [Dutch](#)) and FOD economie.*

## Technology also creates jobs

Even though the above finding sometimes causes fear, automation does not necessarily lead to higher unemployment as technological change also creates jobs. In that way, job losses can be compensated. An app developer or a drone operator are examples of jobs that didn't really exist only a couple of years ago. Moreover, it is important to recognise that our analysis does not take these new jobs fully into account. The definition of jobs is fixed in our sample period and so it is impossible for new categories to enter the analysis. When the database gets revised, new categories could be added.

In addition to the emergence of new jobs, automation can also lead to stronger economic activity and so higher demand for human labour. As new technology increases productivity, wages should also increase. The increased spending power, in turn, stimulates demand and therefore production that uses human labour.

## The importance of adaptability and social skills

So our study shows that automation is already causing a shift in the Belgian labour market and we expect that this trend will strengthen. How can people prepare themselves for this?

Due to the constant change of our technological possibilities, it will become increasingly important that people remain active in the labour market and don't drop out of it. It may be stating the obvious, but having the right education and (re-)training will be vital. Adaptability and the will to change will therefore be an asset in the job market.

In addition, we must continue to recognise the importance of strong social skills, such as teamwork and communication. Despite new technologies, and so a strong demand for people with technical skills, the importance of social skills does not disappear. It becomes even more important!

[Academic research](#) for the US shows that the share of jobs where strong social skills are important

grew by 12 percentage points between 1980 and 2012. Wages of such jobs also grew faster over that period.

## Author

### **Alissa Lefebvre**

Economist

[alissa.lefebvre@ing.com](mailto:alissa.lefebvre@ing.com)

### **Deepali Bhargava**

Regional Head of Research, Asia-Pacific

[Deepali.Bhargava@ing.com](mailto:Deepali.Bhargava@ing.com)

### **Ruben Dewitte**

Economist

+32495364780

[ruben.dewitte@ing.com](mailto:ruben.dewitte@ing.com)

### **Kinga Havasi**

Economic research trainee

[kinga.havasi@ing.com](mailto:kinga.havasi@ing.com)

### **Marten van Garderen**

Consumer Economist, Netherlands

[marten.van.garderen@ing.com](mailto:marten.van.garderen@ing.com)

### **David Havrlant**

Chief Economist, Czech Republic

420 770 321 486

[david.havrlant@ing.com](mailto:david.havrlant@ing.com)

### **Sander Burgers**

Senior Economist, Dutch Housing

[sander.burgers@ing.com](mailto:sander.burgers@ing.com)

### **Lynn Song**

Chief Economist, Greater China

[lynn.song@asia.ing.com](mailto:lynn.song@asia.ing.com)

### **Michiel Tukker**

Senior European Rates Strategist

[michiel.tukker@ing.com](mailto:michiel.tukker@ing.com)

### **Michal Rubaszek**

Senior Economist, Poland

[michal.rubaszek@ing.pl](mailto:michal.rubaszek@ing.pl)

**This is a test author**

**Stefan Posea**

Economist, Romania

[tiberiu-stefan.posea@ing.com](mailto:tiberiu-stefan.posea@ing.com)

**Marine Leleux**

Sector Strategist, Financials

[marine.leleux2@ing.com](mailto:marine.leleux2@ing.com)

**Jesse Norcross**

Senior Sector Strategist, Real Estate

[jesse.norcross@ing.com](mailto:jesse.norcross@ing.com)

**Teise Stellema**

Research Assistant, Energy Transition

[teise.stellema@ing.com](mailto:teise.stellema@ing.com)

**Diederik Stadig**

Sector Economist, TMT & Healthcare

[diederik.stadig@ing.com](mailto:diederik.stadig@ing.com)

**Diogo Gouveia**

Sector Economist

[diogo.duarte.vieira.de.gouveia@ing.com](mailto:diogo.duarte.vieira.de.gouveia@ing.com)

**Marine Leleux**

Sector Strategist, Financials

[marine.leleux2@ing.com](mailto:marine.leleux2@ing.com)

**Ewa Manthey**

Commodities Strategist

[ewa.manthey@ing.com](mailto:ewa.manthey@ing.com)

**ING Analysts**

**James Wilson**

EM Sovereign Strategist

[James.wilson@ing.com](mailto:James.wilson@ing.com)

**Sophie Smith**

Digital Editor

[sophie.smith@ing.com](mailto:sophie.smith@ing.com)

**Frantisek Taborsky**

EMEA FX & FI Strategist

[frantisek.taborsky@ing.com](mailto:frantisek.taborsky@ing.com)

**Adam Antoniak**

Senior Economist, Poland  
[adam.antoniak@ing.pl](mailto:adam.antoniak@ing.pl)

**Min Joo Kang**  
Senior Economist, South Korea and Japan  
[min.joo.kang@asia.ing.com](mailto:min.joo.kang@asia.ing.com)

**Coco Zhang**  
ESG Research  
[coco.zhang@ing.com](mailto:coco.zhang@ing.com)

**Jan Frederik Slijkerman**  
Senior Sector Strategist, TMT  
[jan.frederik.slijkerman@ing.com](mailto:jan.frederik.slijkerman@ing.com)

**Katinka Jongkind**  
Senior Economist, Services and Leisure  
[Katinka.Jongkind@ing.com](mailto:Katinka.Jongkind@ing.com)

**Marina Le Blanc**  
Sector Strategist, Financials  
[Marina.Le.Blanc@ing.com](mailto:Marina.Le.Blanc@ing.com)

**Samuel Abettan**  
Junior Economist  
[samuel.abettan@ing.com](mailto:samuel.abettan@ing.com)

**Franziska Biehl**  
Economist, Germany  
[Franziska.Marie.Biehl@ing.de](mailto:Franziska.Marie.Biehl@ing.de)

**Rebecca Byrne**  
Senior Editor and Supervisory Analyst  
[rebecca.byrne@ing.com](mailto:rebecca.byrne@ing.com)

**Mirjam Bani**  
Sector Economist, Commercial Real Estate & Public Sector (Netherlands)  
[mirjam.bani@ing.com](mailto:mirjam.bani@ing.com)

**Timothy Rahill**  
Credit Strategist  
[timothy.rahill@ing.com](mailto:timothy.rahill@ing.com)

**Leszek Kasek**  
Senior Economist, Poland  
[leszek.kasek@ing.pl](mailto:leszek.kasek@ing.pl)

**Oleksiy Soroka, CFA**

Senior High Yield Credit Strategist  
[oleksiy.soroka@ing.com](mailto:oleksiy.soroka@ing.com)

**Antoine Bouvet**

Head of European Rates Strategy  
[antoine.bouvet@ing.com](mailto:antoine.bouvet@ing.com)

**Jeroen van den Broek**

Global Head of Sector Research  
[jeroen.van.den.broek@ing.com](mailto:jeroen.van.den.broek@ing.com)

**Edse Dantuma**

Senior Sector Economist, Industry and Healthcare  
[edse.dantuma@ing.com](mailto:edse.dantuma@ing.com)

**Francesco Pesole**

FX Strategist  
[francesco.pesole@ing.com](mailto:francesco.pesole@ing.com)

**Rico Luman**

Senior Sector Economist, Transport and Logistics  
[Rico.Luman@ing.com](mailto:Rico.Luman@ing.com)

**Jurjen Witteveen**

Sector Economist  
[jurjen.witteveen@ing.com](mailto:jurjen.witteveen@ing.com)

**Dmitry Dolgin**

Chief Economist, CIS  
[dmitry.dolgin@ing.de](mailto:dmitry.dolgin@ing.de)

**Nicholas Mapa**

Senior Economist, Philippines  
[nicholas.antonio.mapa@asia.ing.com](mailto:nicholas.antonio.mapa@asia.ing.com)

**Egor Fedorov**

Senior Credit Analyst  
[egor.fedorov@ing.com](mailto:egor.fedorov@ing.com)

**Sebastian Franke**

Consumer Economist  
[sebastian.franke@ing.de](mailto:sebastian.franke@ing.de)

**Gerben Hieminga**

Senior Sector Economist, Energy  
[gerben.hieminga@ing.com](mailto:gerben.hieminga@ing.com)

**Nadège Tillier**

Head of Corporates Sector Strategy  
[nadege.tillier@ing.com](mailto:nadege.tillier@ing.com)

**Charlotte de Montpellier**  
Senior Economist, France and Switzerland  
[charlotte.de.montpellier@ing.com](mailto:charlotte.de.montpellier@ing.com)

**Laura Straeter**  
Behavioural Scientist  
+31(0)611172684  
[laura.Straeter@ing.com](mailto:laura.Straeter@ing.com)

**Valentin Tataru**  
Chief Economist, Romania  
[valentin.tataru@ing.com](mailto:valentin.tataru@ing.com)

**James Smith**  
Developed Markets Economist, UK  
[james.smith@ing.com](mailto:james.smith@ing.com)

**Suvi Platerink Kosonen**  
Senior Sector Strategist, Financials  
[suvi.platerink-kosonen@ing.com](mailto:suvi.platerink-kosonen@ing.com)

**Thijs Geijer**  
Senior Sector Economist, Food & Agri  
[thijs.geijer@ing.com](mailto:thijs.geijer@ing.com)

**Maurice van Sante**  
Senior Economist Construction & Team Lead Sectors  
[maurice.van.sante@ing.com](mailto:maurice.van.sante@ing.com)

**Marcel Klok**  
Senior Economist, Netherlands  
[marcel.klok@ing.com](mailto:marcel.klok@ing.com)

**Piotr Poplawski**  
Senior Economist, Poland  
[piotr.poplawski@ing.pl](mailto:piotr.poplawski@ing.pl)

**Paolo Pizzoli**  
Senior Economist, Italy, Greece  
[paolo.pizzoli@ing.com](mailto:paolo.pizzoli@ing.com)

**Marieke Blom**  
Chief Economist and Global Head of Research  
[marieke.blom@ing.com](mailto:marieke.blom@ing.com)

**Raoul Leering**

Senior Macro Economist

[raoul.leering@ing.com](mailto:raoul.leering@ing.com)

**Maarten Leen**

Head of Global IFRS9 ME Scenarios

[maarten.leen@ing.com](mailto:maarten.leen@ing.com)

**Maureen Schuller**

Head of Financials Sector Strategy

[Maureen.Schuller@ing.com](mailto:Maureen.Schuller@ing.com)

**Warren Patterson**

Head of Commodities Strategy

[Warren.Patterson@asia.ing.com](mailto:Warren.Patterson@asia.ing.com)

**Rafal Benecki**

Chief Economist, Poland

[rafal.benecki@ing.pl](mailto:rafal.benecki@ing.pl)

**Philippe Ledent**

Senior Economist, Belgium, Luxembourg

[philippe.ledent@ing.com](mailto:philippe.ledent@ing.com)

**Peter Virovacz**

Senior Economist, Hungary

[peter.virovacz@ing.com](mailto:peter.virovacz@ing.com)

**Inga Fechner**

Senior Economist, Germany, Global Trade

[inga.fechner@ing.de](mailto:inga.fechner@ing.de)

**Dimitry Fleming**

Senior Data Analyst, Netherlands

[Dimitry.Fleming@ing.com](mailto:Dimitry.Fleming@ing.com)

**Ciprian Dascalu**

Chief Economist, Romania

+40 31 406 8990

[ciprian.dascalu@ing.com](mailto:ciprian.dascalu@ing.com)

**Muhammet Mercan**

Chief Economist, Turkey

[muhammet.mercan@ingbank.com.tr](mailto:muhammet.mercan@ingbank.com.tr)

**Iris Pang**

Chief Economist, Greater China

[iris.pang@asia.ing.com](mailto:iris.pang@asia.ing.com)



**Sophie Freeman**

Writer, Group Research

+44 20 7767 6209

[Sophie.Freeman@uk.ing.com](mailto:Sophie.Freeman@uk.ing.com)

**Padhraic Garvey, CFA**

Regional Head of Research, Americas

[padhraic.garvey@ing.com](mailto:padhraic.garvey@ing.com)

**James Knightley**

Chief International Economist, US

[james.knightley@ing.com](mailto:james.knightley@ing.com)

**Tim Condon**

Asia Chief Economist

+65 6232-6020

**Martin van Vliet**

Senior Interest Rate Strategist

+31 20 563 8801

[martin.van.vliet@ing.com](mailto:martin.van.vliet@ing.com)

**Robert Carnell**

Regional Head of Research, Asia-Pacific

[robert.carnell@asia.ing.com](mailto:robert.carnell@asia.ing.com)

**Karol Pogorzelski**

Senior Economist, Poland

[Karol.Pogorzelski@ing.pl](mailto:Karol.Pogorzelski@ing.pl)

**Carsten Brzeski**

Global Head of Macro

[carsten.brzeski@ing.de](mailto:carsten.brzeski@ing.de)

**Viraj Patel**

Foreign Exchange Strategist

+44 20 7767 6405

[viraj.patel@ing.com](mailto:viraj.patel@ing.com)

**Owen Thomas**

Global Head of Editorial Content

+44 (0) 207 767 5331

[owen.thomas@ing.com](mailto:owen.thomas@ing.com)

**Bert Colijn**

Chief Economist, Netherlands

[bert.colijn@ing.com](mailto:bert.colijn@ing.com)

**Peter Vanden Houte**

Chief Economist, Belgium, Luxembourg, Eurozone

[peter.vandenhoute@ing.com](mailto:peter.vandenhoute@ing.com)

**Benjamin Schroeder**

Senior Rates Strategist

[benjamin.schroeder@ing.com](mailto:benjamin.schroeder@ing.com)

**Chris Turner**

Global Head of Markets and Regional Head of Research for UK & CEE

[chris.turner@ing.com](mailto:chris.turner@ing.com)

**Gustavo Rangel**

Chief Economist, LATAM

+1 646 424 6464

[gustavo.rangel@ing.com](mailto:gustavo.rangel@ing.com)

**Carlo Cocuzzo**

Economist, Digital Finance

+44 20 7767 5306

[carlo.cocuzzo@ing.com](mailto:carlo.cocuzzo@ing.com)