

# Skills forecasting... Why? and How?

*Vladimir Kvetan*

Thank you for your attention.

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**CEDEFOP**

European Centre for the Development  
of Vocational Training

**40**  
years

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## Conclusions

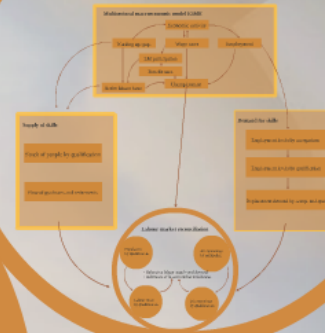
Having forecast is challenging but useful.

Permanent effort / than one time exercise

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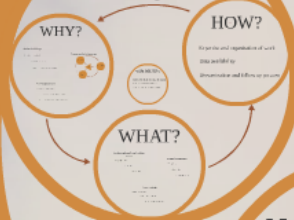


## Cedefop forecasting model



## Key elements

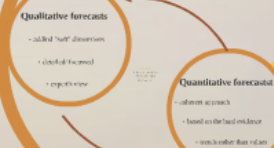
### Research questions



### Environment

Stakeholders  
Experts  
Statistical infrastructure  
Dissemination channels  
Know-how  
Organisation of LM

### Methods and tools



## Some results for Croatia



## Cedefop skills forecasts - 5 elements





# Key elements

## Research questions



## Environment

Stakeholders      Know-how

Experts      Organisation of LM

Statistical infrastructure

Dissemination channels

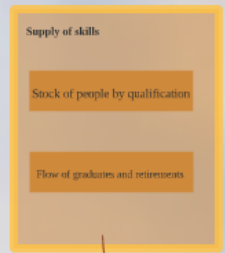
## Methods and tools

### Qualitative forecasts

- addind "soft" dimensions
- detailed/ focussed
- expert's view

### Quantitative forecastst

- coherent approach
- based on the hard evidence
- trends rather than values





# *Environment*

Stakeholders

Know-how

Experts

Organisation of LM

Statistical infrastructure

Dissemination channels

# Research questions

## WHY?

### Academic challenge

- How do labour markets work?
- How to integrate methods
- How to find a where academic recognition

### Policy-making support

- Create credible social evidence
- Promote better labour market relations
- Contribute to social economy and social progress

### Labour market information



### OUR BELIEFS

- Skills have the impact on people's life chances
- Skills are key for competitiveness
- Skills are important for shaping policies

## HOW?

Expertise and organisation of work

Data availability

Dissemination and follow up process

## WHAT?

### Produce evidence based findings

#### RESULTS

- Geographical entry
- Time frame
- Level of details

### Support communities

- Researchers
- Stakeholders
- Citizens and locations

### Create knowledge

- Data and information
- New methods and tools
- Initiatives and programmes

# Methods

# OUR BELIEFS

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# WHY?

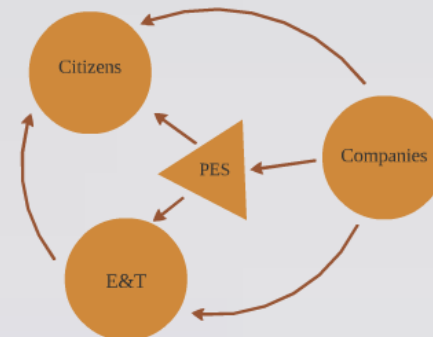
## Academic challenge

- How the labour market works?
- Area to test new methods
- Raise funds & achieve academic recognition

## Policy-making support

- create coordinated strategies
- prevent future labour market imbalances
- contribute to overall economic and social prosperity

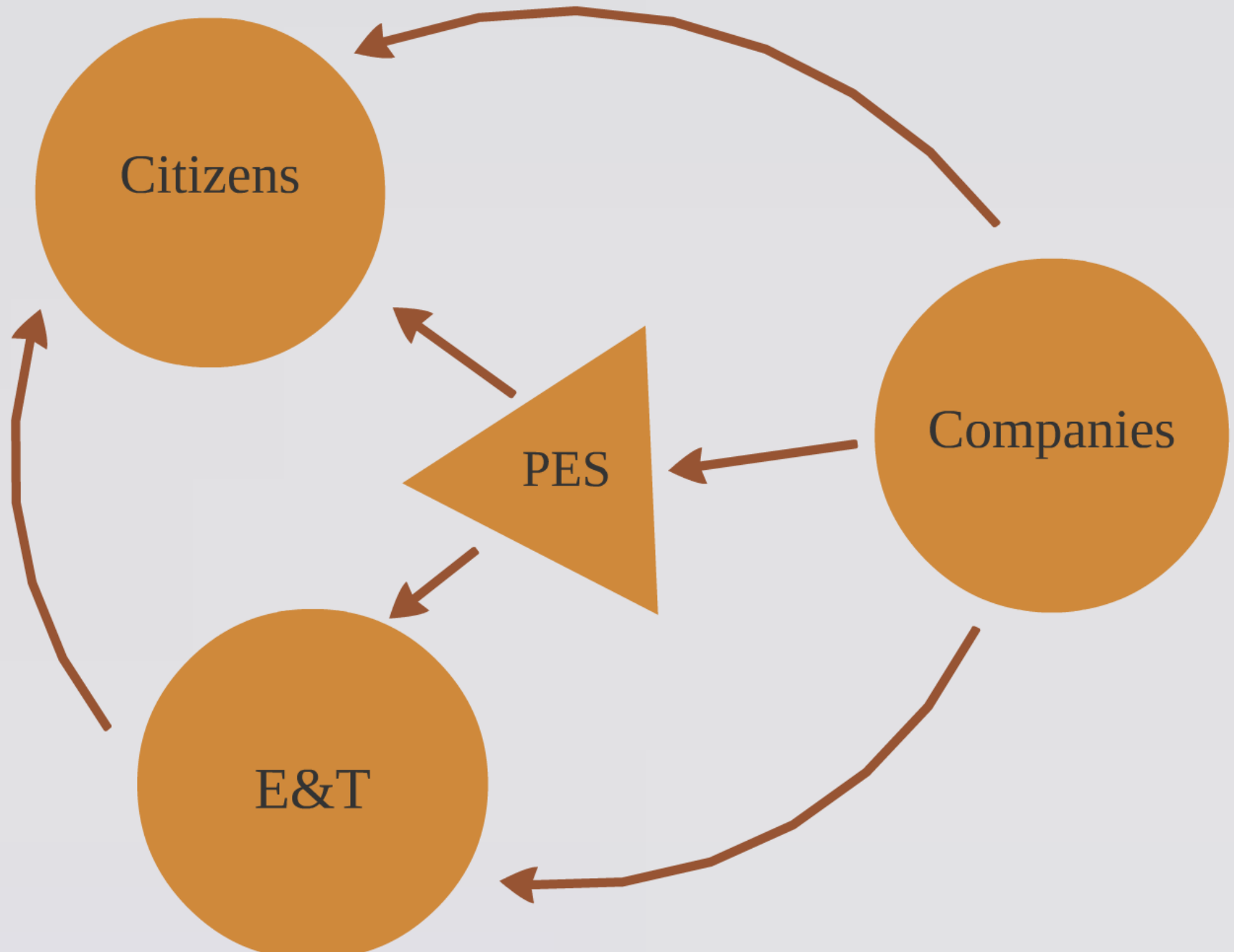
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# Academic challenge

- How the labour market works?
  - Area to test new methods
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# Labour market information





# Policy-making support

- create coordinated strategies
  - prevent future labour market imbalances
- contribute to overall economic and social prosperity

# WHAT?

## **Produce evidence based findings**

### **RESULTS**

- Geographical entity
- Time frame
- Level of details

## **Support communities**

- Researchers
- Stakeholders
- Citizens and locations

## **Create knowledge**

- Data and information
- New methods and tools
- Initiatives and programmes

# Produce evidence based findings

## RESULTS

- Geographical entity
  - Time frame
    - Level of details



# Create knowledge

- Data and information
  - New methods and tools
    - Initiatives and programmes

# Support communities

- Researchers
  - Stakeholders
    - Citizens and locations

# HOW?

Expertise and organisation of work

Data availability

Dissemination and follow up process



**HOW OFTEN???**

**HOW MUCH???**

#### Support communities

- Researchers
- Stakeholders
- Citizens and decision

Knowledge

Tools and tools

Objectives and purposes

# *Methods and tools*

## **Qualitative forecasts**

- addind "soft" dimensions
- detailed/ focussed
- expert's view

#### Common elements

- Understanding past projecting future
- There is no "wrong" perspective
- Need to go the detail

## **Quantitative forecastst**

- coherent approach
- based on the hard evidence
- trends rather than values



# Qualitative forecasts

- addind "soft" dimensions
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## *Common elements*

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## *Common elements*

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# Cedefop skills forecasts - 5 elements

```
graph TD; Data((Data)) --- Results((Results)); Modelling((Modelling approach)) --- Results; Assumptions((Assumptions)) --- Results; CountryInputs((Country experts inputs)) --- Results;
```

## Data

- Harmonised
- Standard classifications
- Cross country comparable

## Modelling approach

- Developed by leading research institutions
  - Modular approach
- Combination of econometric and I/O techniques

## Results

- 33 countries
- Demand by sector, occupation and qualification
- Supply by age groups gender and qualification
- Replacement needs

## Country experts inputs

- comments on methodology
- validation of key assumptions
  - validation of results

## Assumptions

- Eurostat population projections
- Ameco short term forecast by DG ECFIN
- Country specific information

# Data

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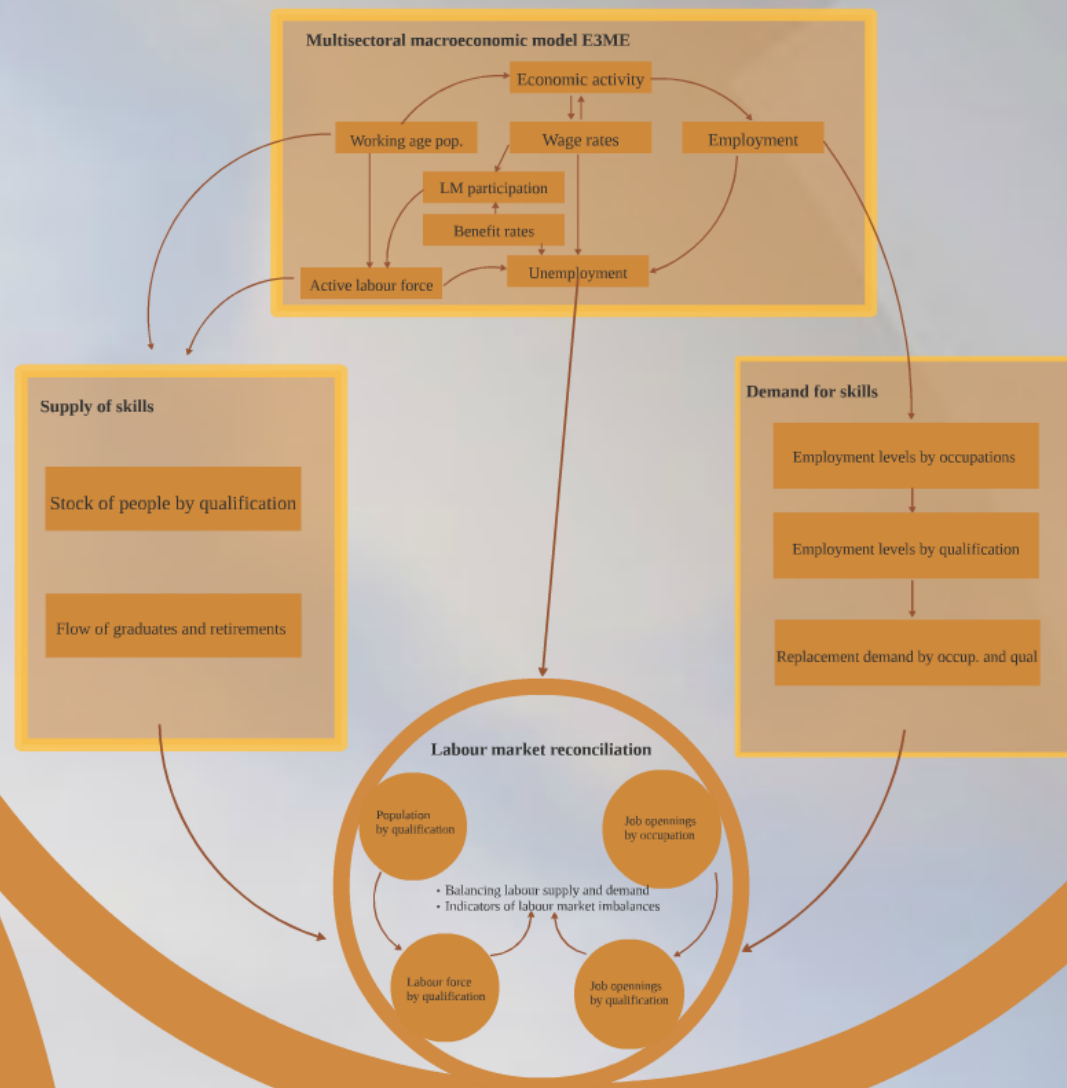
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# Cedefop forecasting model



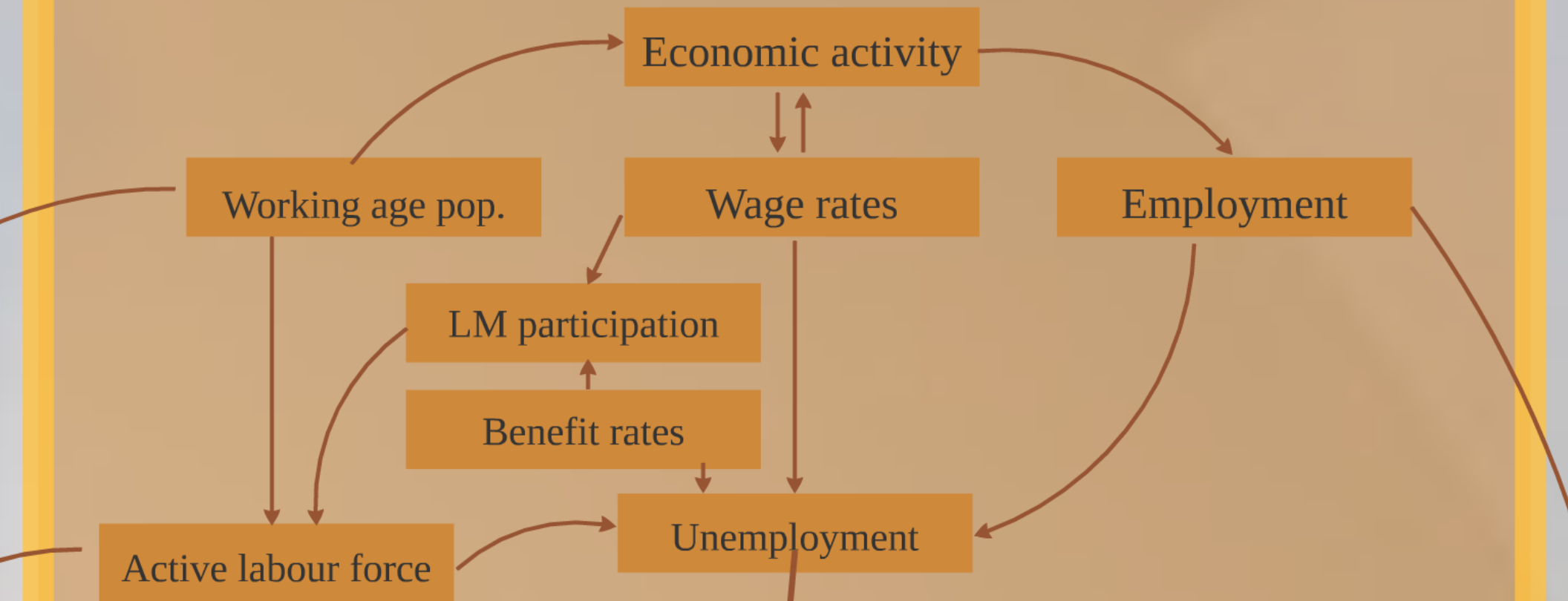
ment

Know-how

organisation of LM

# model

## Multisectoral macroeconomic model E3ME



Demand for skills



## **Demand for skills**

```
graph TD; A[Demand for skills] --> B[Employment levels by occupations]; B --> C[Employment levels by qualification]; C --> D[Replacement demand by occup. and qual];
```

Employment levels by occupations

Employment levels by qualification

Replacement demand by occup. and qual

## Supply of skills

Stock of people by qualification

Flow of graduates and retirements

## Labour market reconciliation

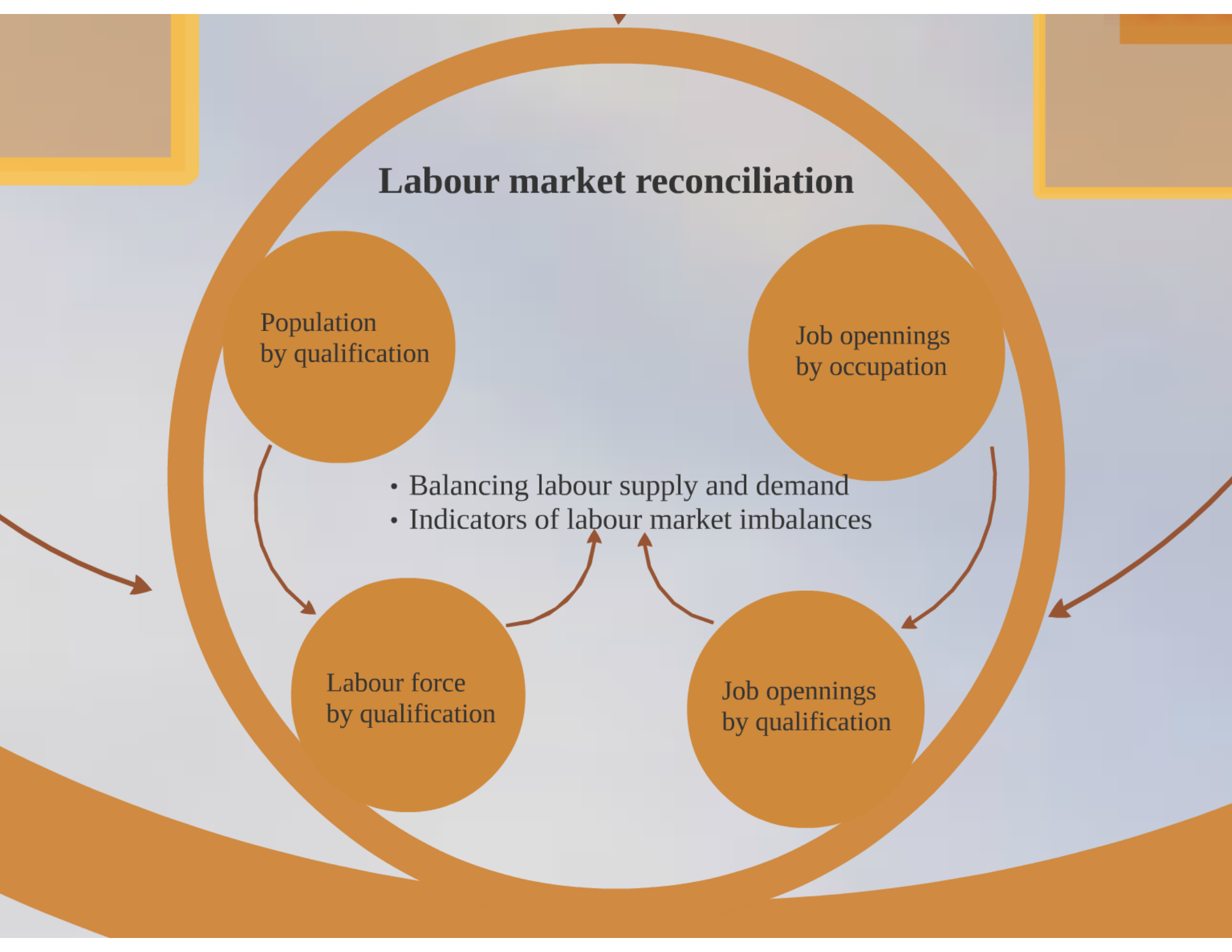
Population  
by qualification

Job opennings  
by occupation

- Balancing labour supply and demand
- Indicators of labour market imbalances

Labour force  
by qualification

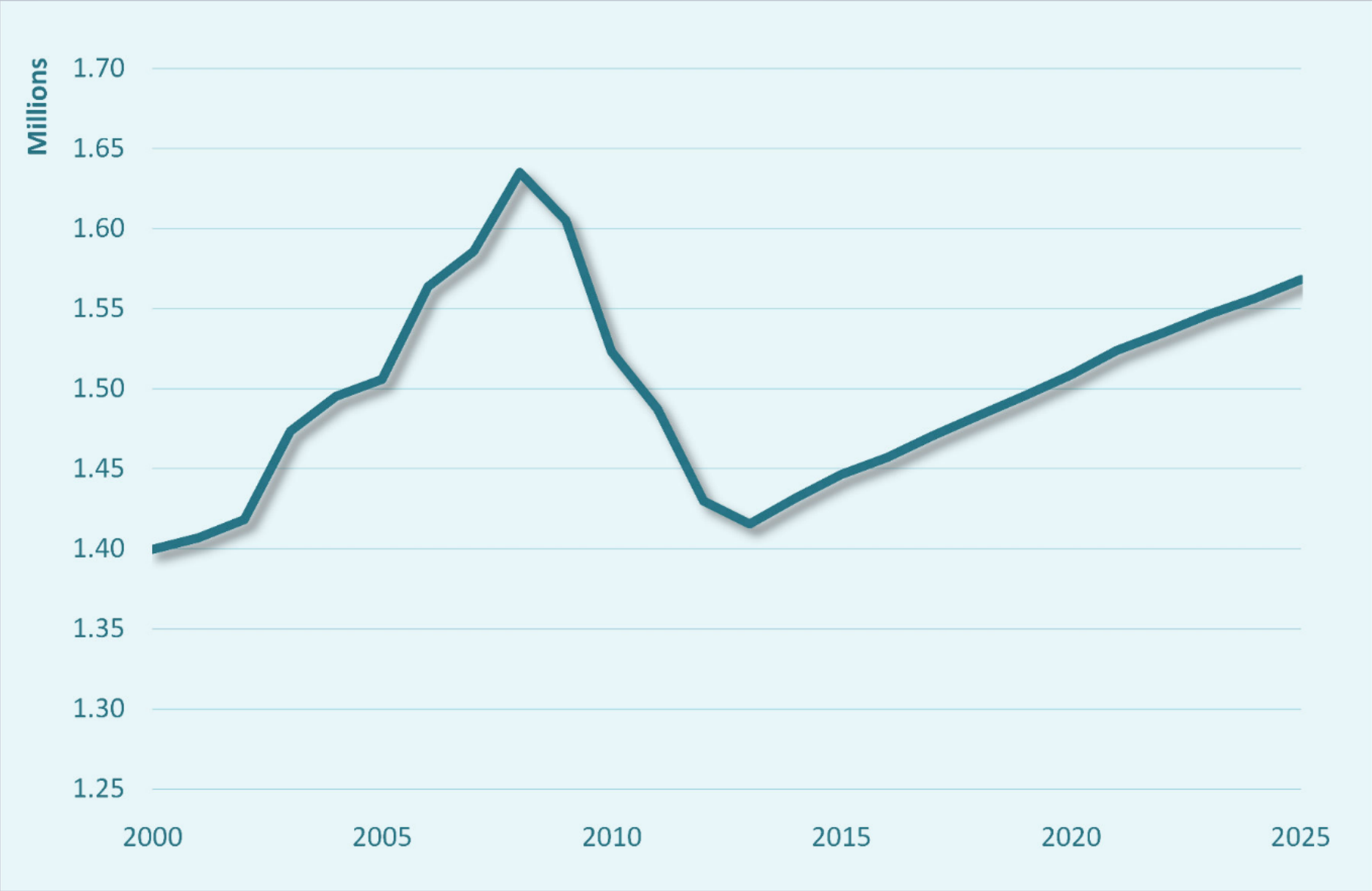
Job opennings  
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# Some results for Croatia

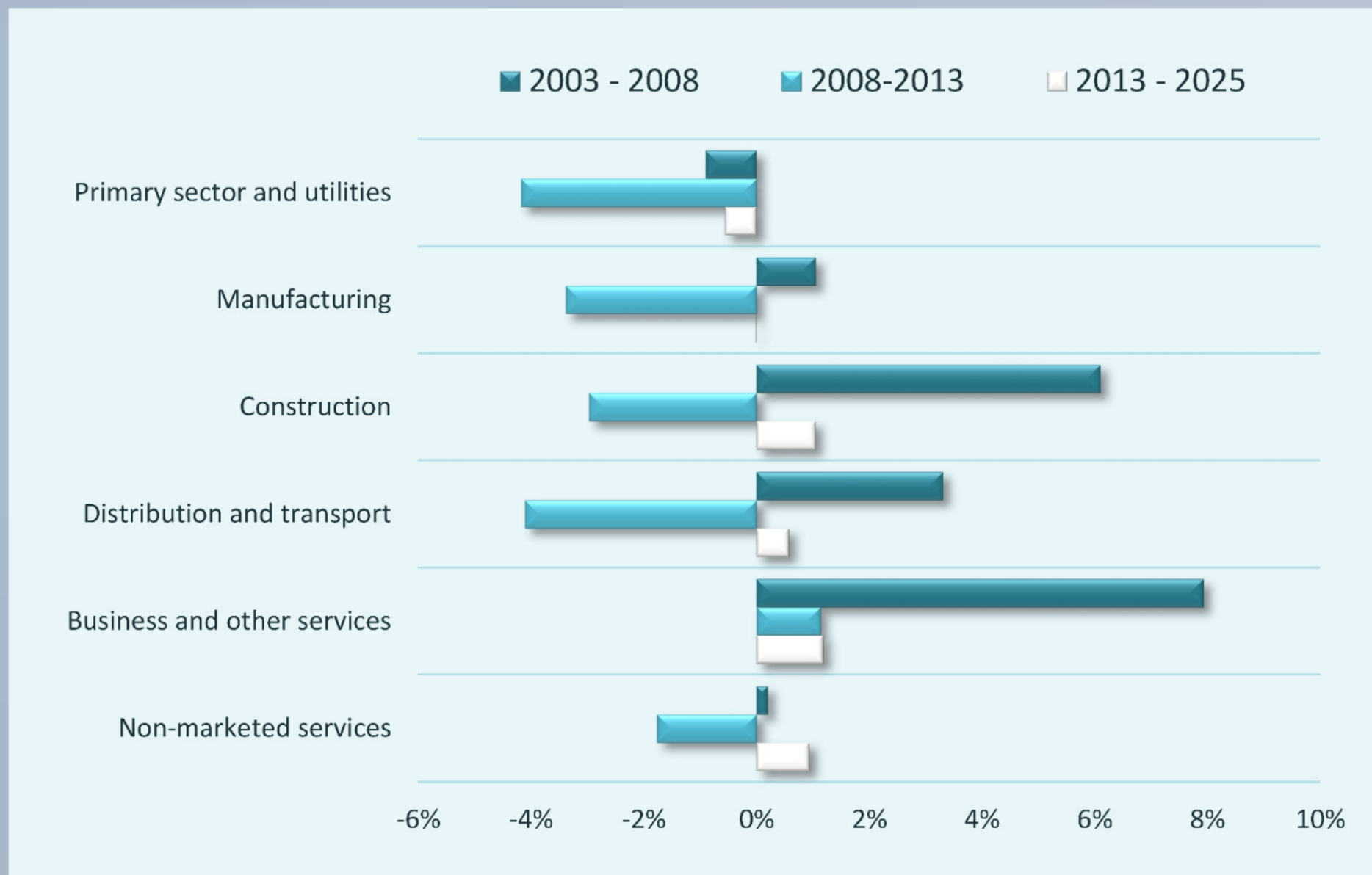


# Past and forecast employment, Croatia, (millions)



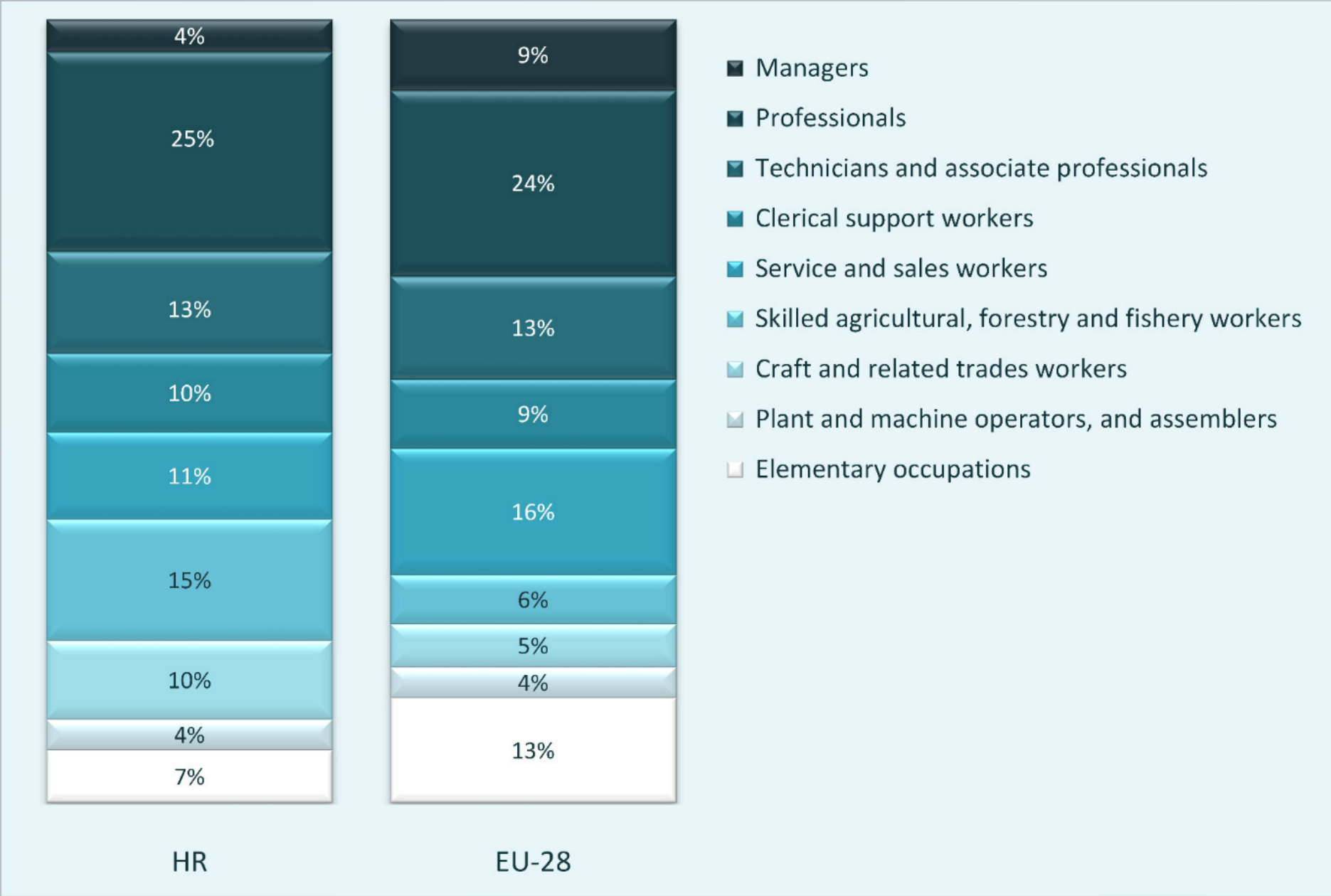
Source: Cedefop skills forecasts (2015)

## Employment trends by sector, average annual growth rate, 2003-2025, Croatia (%)



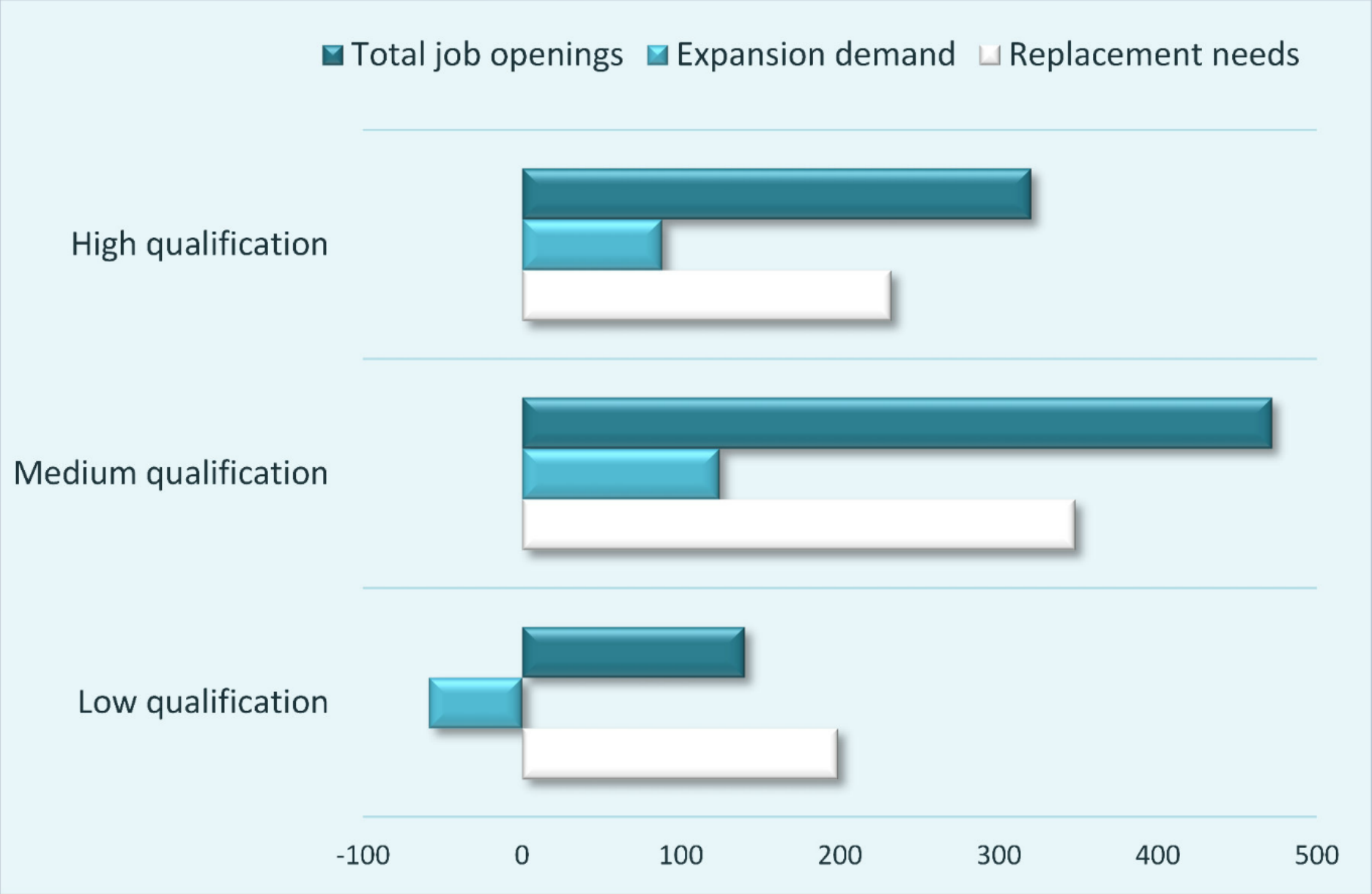
Source: Cedefop skills forecasts (2015)

# Distribution of total job opportunities by occupations, 2013-2025, Croatia, EU (%)



Source: Cedefop skills forecasts (2015)

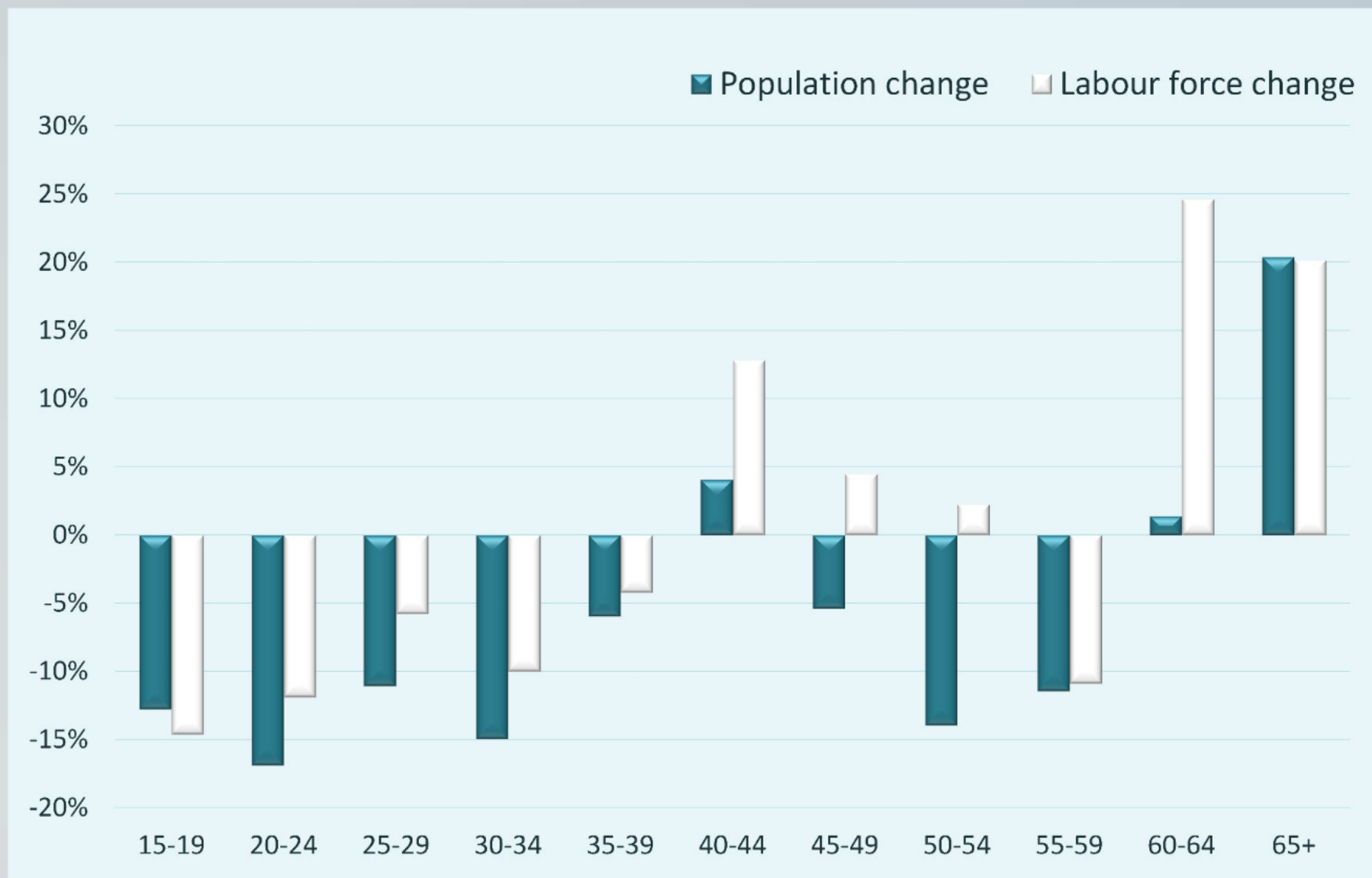
**Total job opportunities by qualification, 2013-2025, Croatia (thousands)**



Source: Cedefop skills forecasts (2015)

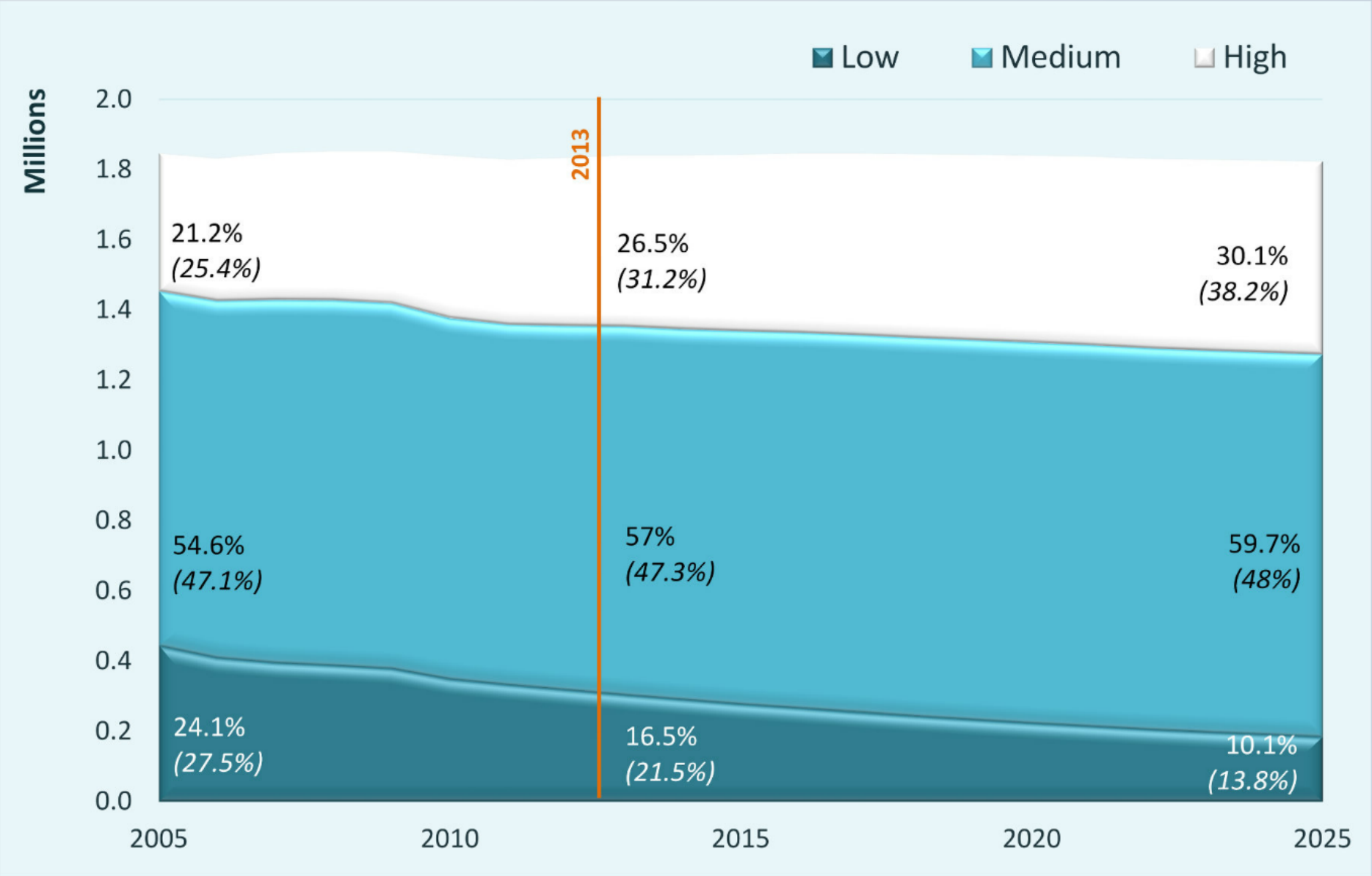


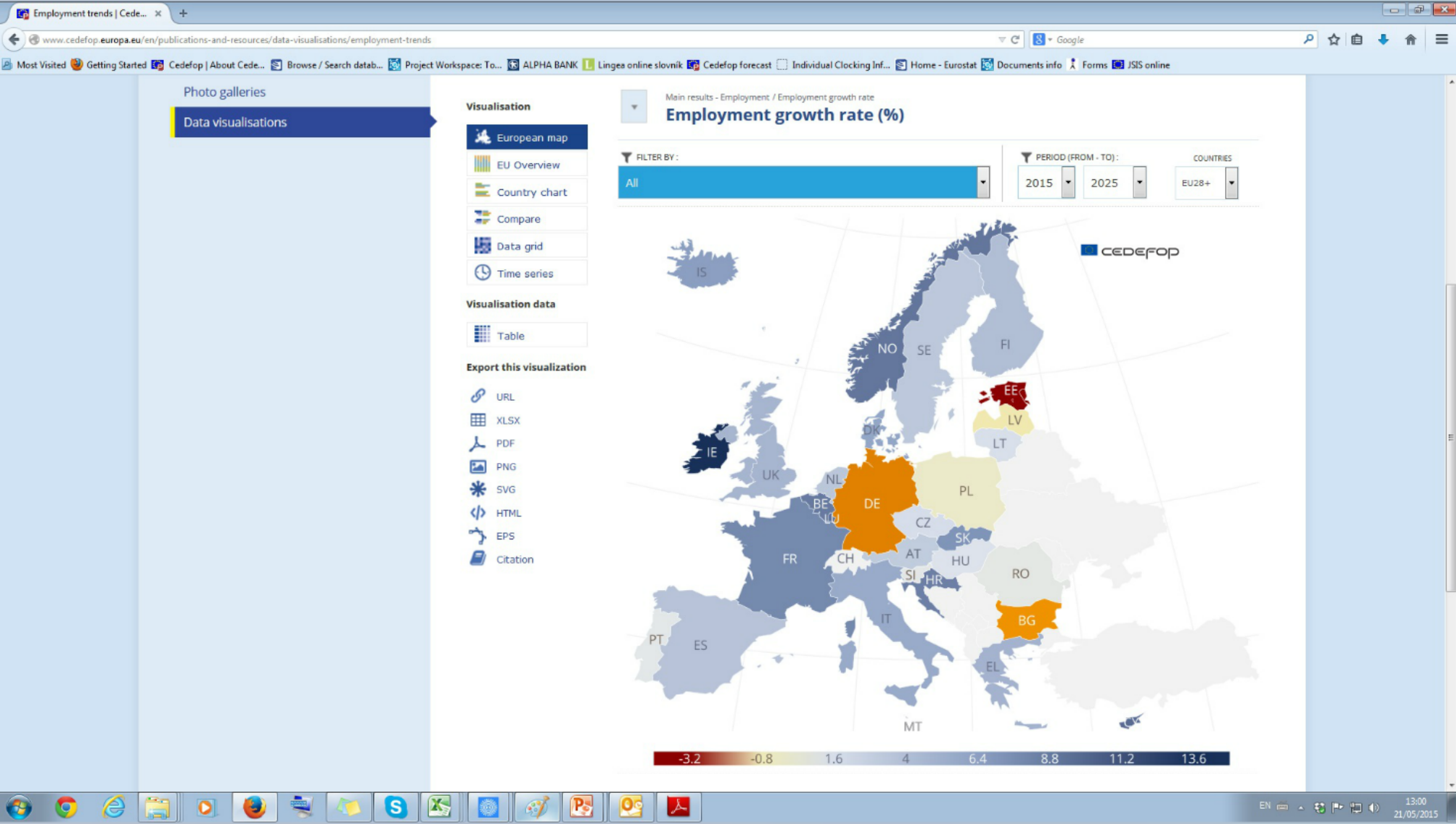
## Changes in working age population and labour force by age (2013 - 2025), Croatia (%)



Source: Cedefop skills forecasts 2015

# Labour force trends by qualification, 2005-2025, EU (%)





# euskillspanorama.cedefop.europa.eu

EU Skills Panorama - European ...

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 EU SKILLS PANORAMA

EU Skills Panorama

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- Sector
- Country
- Skills

Analytical Highlights

Useful Resources

Datasets and Indicators

Welcome to the  
**EU Skills Panorama**

Your central access point for data, information and intelligence on trends for skills and jobs across Europe



Occupation Sector Country Skills

**Featured news**

20/05/2015  
**Production in construction up by 0.8% in euro area**  
In March 2015 compared with February 2015, seasonally adjusted production in the construction sector rose by 0.8% in the euro area (EA19) and by 1.5% in the EU28, according to first estimates from Eurostat, the statistical office of the European Union. In February 2015, production in construction dropped by 1.6% and 0.8% respectively.

19/05/2015  
**Employment, Social Policy, Health and Consumer Affairs Council**  
The Employment, Social Policy, Health and Consumer Affairs Council is composed of employment, social protection, consumer protection, health and equal opportunities ministers, who meet around four times a year.

18/05/2015  
**Good employment and social protection practices - Commission report**  
The European Commission recently published a report in which it monitored good practices across Europe in

**Featured Analytical Highlights**

**Austria**  
Demand for medium and highly-skilled labour is forecast to increase; while demand for low-skilled workers is forecast to decrease.

**Belgium**  
Belgium faces a shift in employment towards service occupations and sectors, combined with a decrease of employment in the industrial and agricultural sectors affecting mostly middle-level jobs.

**Greece**  
Following a six-year recession, there are signs that the economy is recovering and employers in tourism, services and construction are planning to hire new employees.

**Latvia**  
In the medium term it is anticipated that there will be supply shortages in the segment of workers with medium and higher level vocational education.

EN 14:38 21/05/2015

## Conclusions

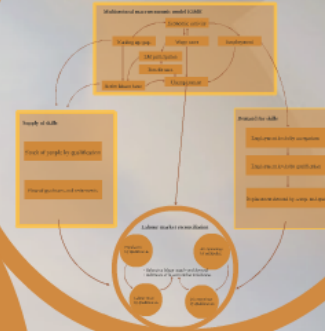
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## Key elements

### Research questions



### Environment

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### Methods and tools

#### Qualitative forecasts

- called 'soft' forecasts
- circular forecast
- expert view

#### Quantitative forecasts

- different approach
- based on the hard evidence
- results rather than values

## Some results for Croatia



## Cedefop skills forecasts - 5 elements



# *Conclusions*

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## Lessons learnt

### Strenghts

- Coherent set of results
- Based on the "hard" evidence
- Scenario analysis

### Limitations

- Data dependent
- Assumptions driven
- "Devil is in the detail"

How to read the results?



# Lessons learnt

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