Labor Market Imperfections: Unemployment, Discrimination and Mobility
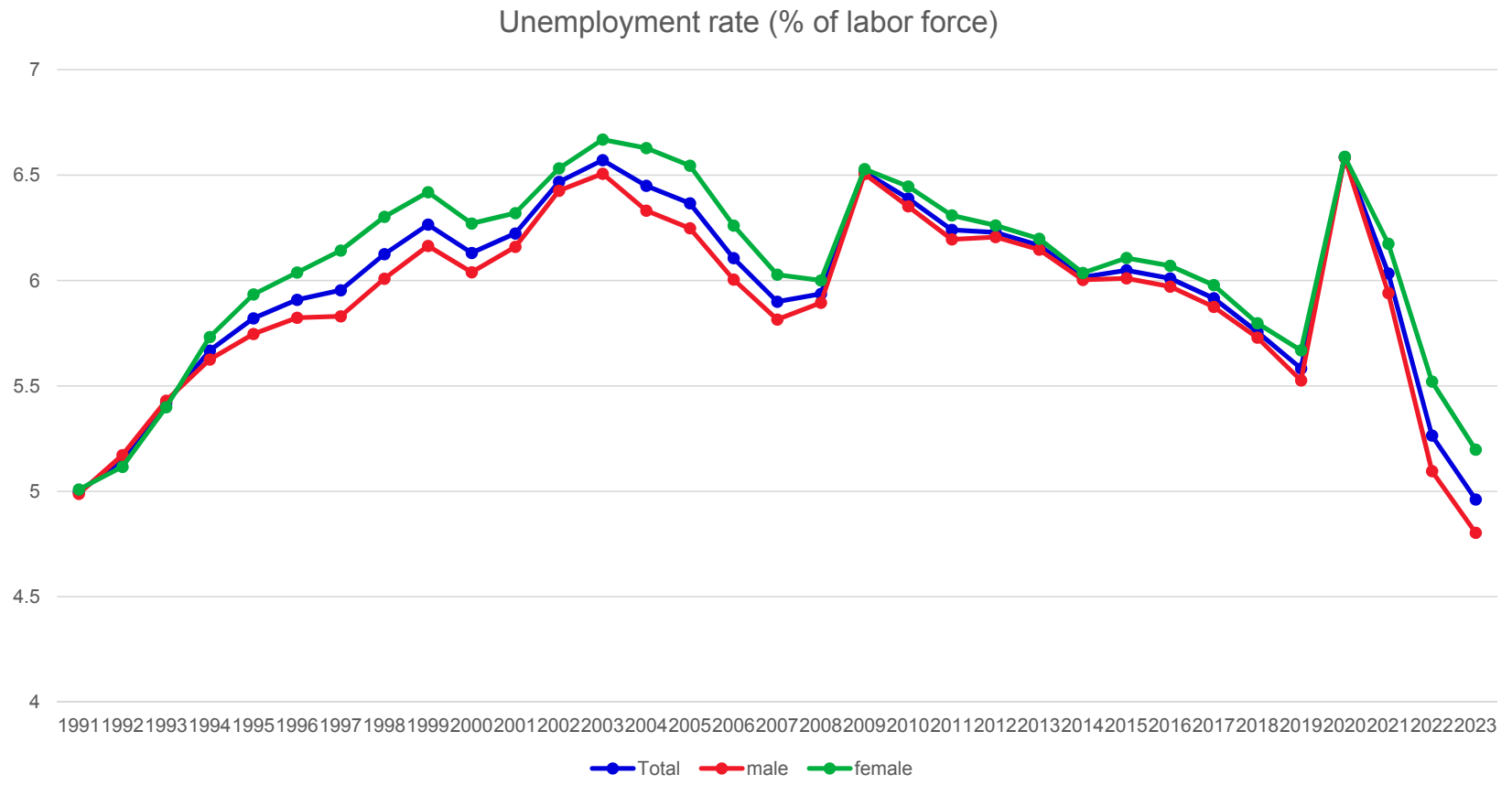
Dinara Alpysbayeva

Dinara.Alpysbayeva@econ.muni.cz
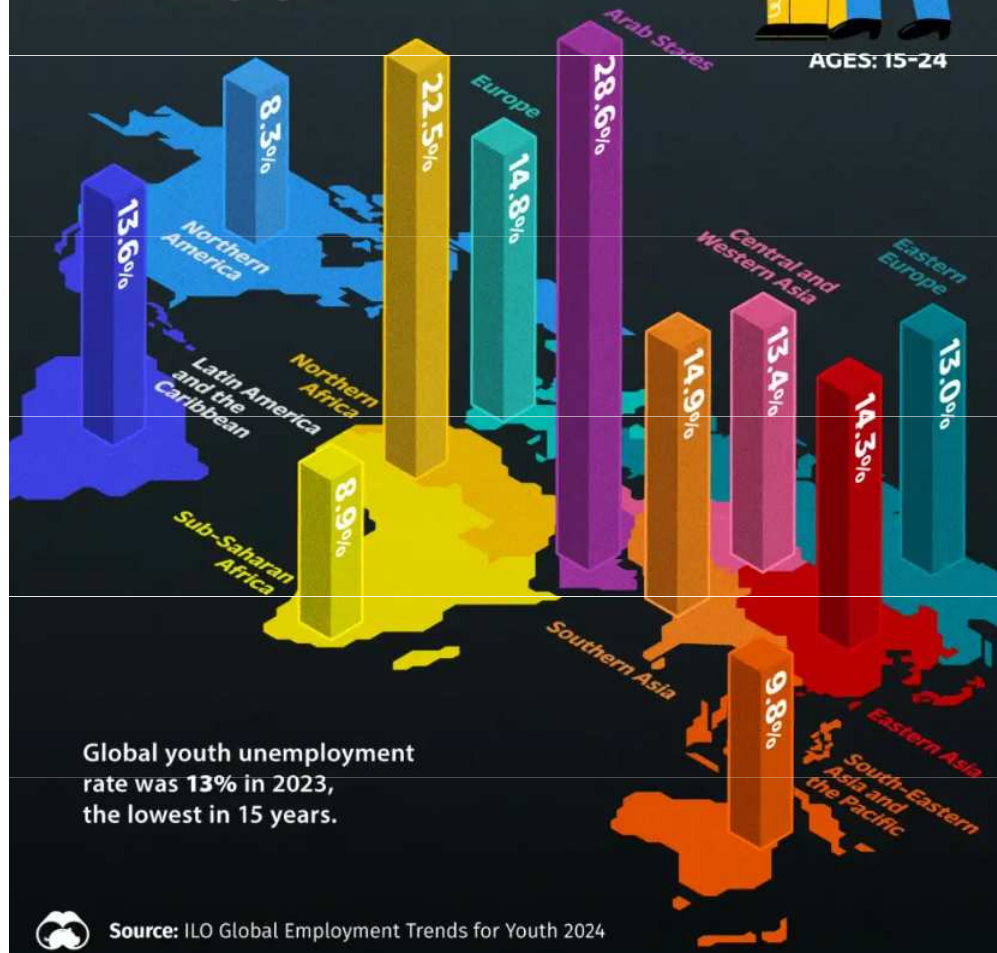
Unemployment rate (% of labor force)

Adapted from World Bank Open Data (https://data.worldbank.org/). *Source*: International Labour Organization

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Learning Objectives

– Understand the concept of labor market imperfections and their impact on unemployment.

– Explore the role of discrimination and mobility in labor market outcomes.

– Analyze policy interventions aimed at addressing these imperfections.

– Evaluate the implications for economic welfare and social equity.

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Outline

- Definition of Labor Market Imperfections and link to Unemployment

- Definition of Unemployment and its types

- Discrimination and Labor Markets

- Mobility and Labor Markets

- Policies and Implications

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Labor Market Imperfections

- These are deviations from the ideal conditions of a perfectly competitive labor market. In a perfect market, workers and jobs would match perfectly based on supply and demand, wages would adjust freely, and there would be full employment. However, in reality, various imperfections, such as wage rigidity, information asymmetry, discrimination, and barriers to mobility, prevent this ideal situation.

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Examples of Sources of Imperfections

Wage Rigidity

• Minimum wage laws, union-negotiated wages can prevent wages from adjusting downward during periods of low demand.

Imperfect Information

• Job seekers may not know all available job opportunities, and employers may not have complete information about all potential candidates.

Discrimination

• Biases in hiring and wage-setting processes that disadvantage certain groups based on race, gender, age, or other characteristics.

Mobility Barriers

• Geographic, social, or economic factors that limit workers' ability to move to regions or industries where jobs are available.

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Link to Unemployment

– Labor market imperfections contribute to various types of unemployment by preventing the market from clearing efficiently. For example, wage rigidity can lead to higher unemployment during economic downturns because wages cannot fall to levels that would clear the labor market. Discrimination and mobility barriers can prevent certain groups from accessing jobs, increasing their risk of unemployment.

Labor Market Surplus From Price Floor
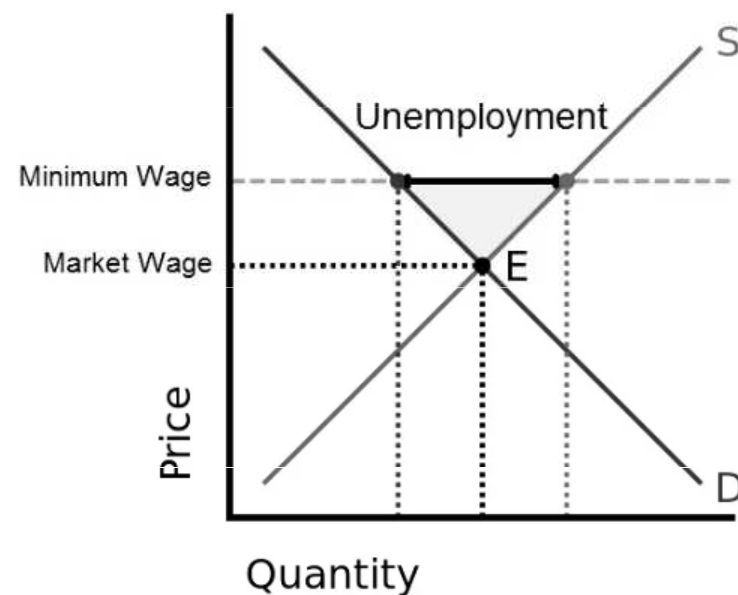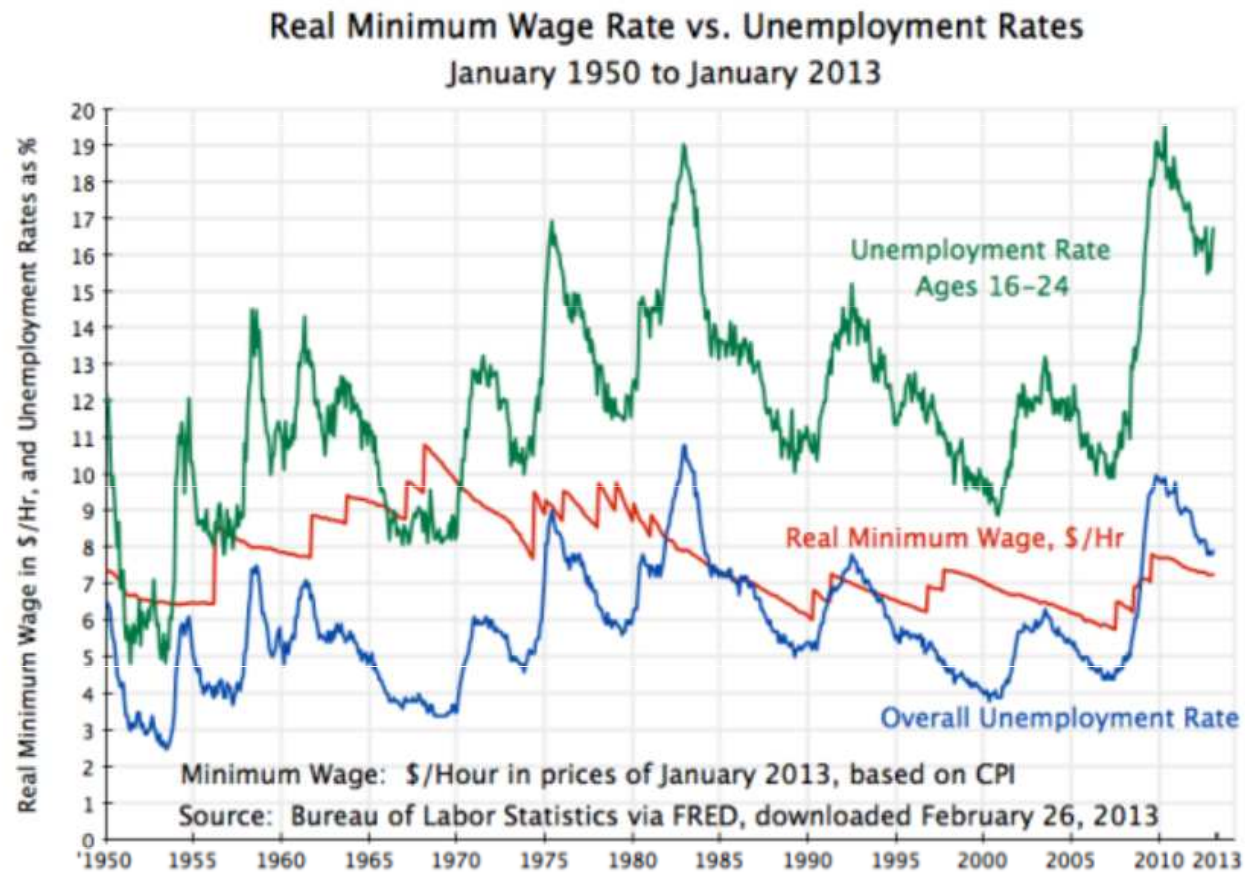
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Does the theory hold in practice?

Real Minimum Wage Rate vs. Unemployment Rates
January 1950 to January 2013

Unemployment Rate
Ages 16–24

Real Minimum Wage, $/Hr

Overall Unemployment Rate

Minimum Wage: $/Hour in prices of January 2013, based on CPI
Source: Bureau of Labor Statistics via FRED, downloaded February 26, 2013

Source: https://aneconomicsense.org/2013/03/06/the-impact-of-increasing-the-minimum-wage-on-unemployment-no-evidence-of-it/

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Does the theory hold in practice?

Real Minimum Wage Rate vs. Unemployment Rates
January 1950 to January 2013

Source: https://aneconomicsense.org/2013/03/06/the-impact-of-increasing-the-minimum-wage-on-unemployment-no-evidence-of-it/

- Not necessarily
- Depends on 'presentation'
- Be critical
- More on wages and rigidity in coming lectures

The Young and the Jobless

Teen unemployment rates and minimum wage, 2007-2010

Source: Bureau of Labor Statistics

Source: https://www.coordinationproblem.org/2010/03/the-minimum-wage-and-unemployment.html

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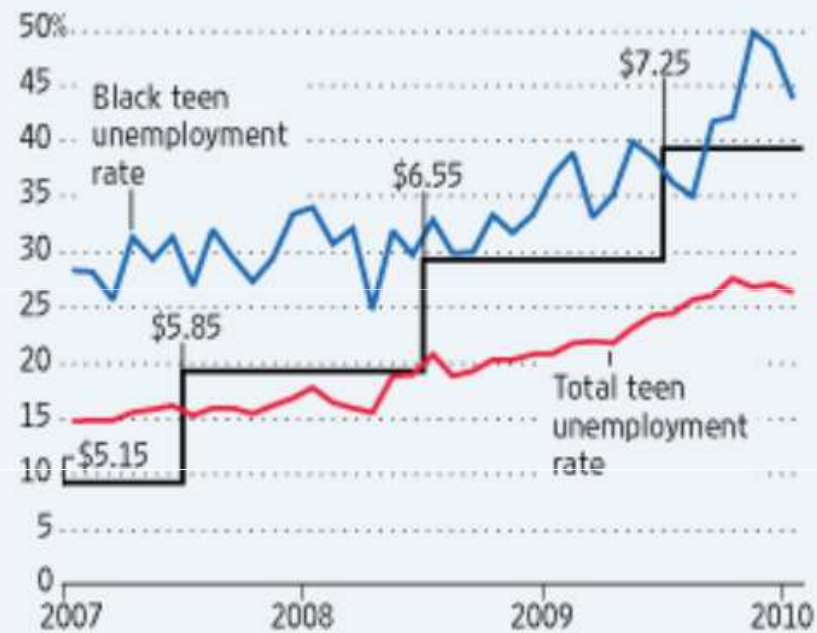
What Is Unemployment?

– a situation where a person actively searches for employment but is unable to find work;

– key measure of the health of the economy;

    – A low unemployment rate represents a strong economy while a high unemployment rate represents a weak economy.

– The most frequently used measure of unemployment is the unemployment rate;

    – calculated by dividing the number of unemployed people by the number of people in the labor force

        The labour force or workforce or economically active population, includes both employed (employees and self-employed) and unemployed people, <u>but not</u> the economically inactive, such as pre-school children, school children, students and pensioners.

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Types of Unemployment

Frictional

- It is a natural form of unemployment
- Short-lived
- Occurs when people voluntarily change jobs
  - reflecting the time it takes for people to find new employment that matches their skills and preferences.
- Least problematic from an economic standpoint

Cyclical

- the variation in the number of unemployed workers over the course of economic upturns and downturns
- rises during recessionary periods and declines during periods of economic growth

Structural

- occurs when there is a mismatch between the skills of the labor force and the skills demanded by employers.
- can be due to technological changes, shifts in consumer demand, or other long-term changes in the economy

Institutional?

- results from long-term or permanent institutional factors and incentives in the economy.
- Government policies, such as high minimum wage floors, generous social benefits programs, and restrictive occupational licensing laws
- Labor market phenomena, e.g., discriminatory hiring

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Figure 4. Employment in the goods-producing and service-providing industries, in thousands, seasonally adjusted, 1964–2013

Goods-producing
industries
(thousands)

Service-providing
industries
(thousands)

Goods-producing
industires

Service-providing
industries
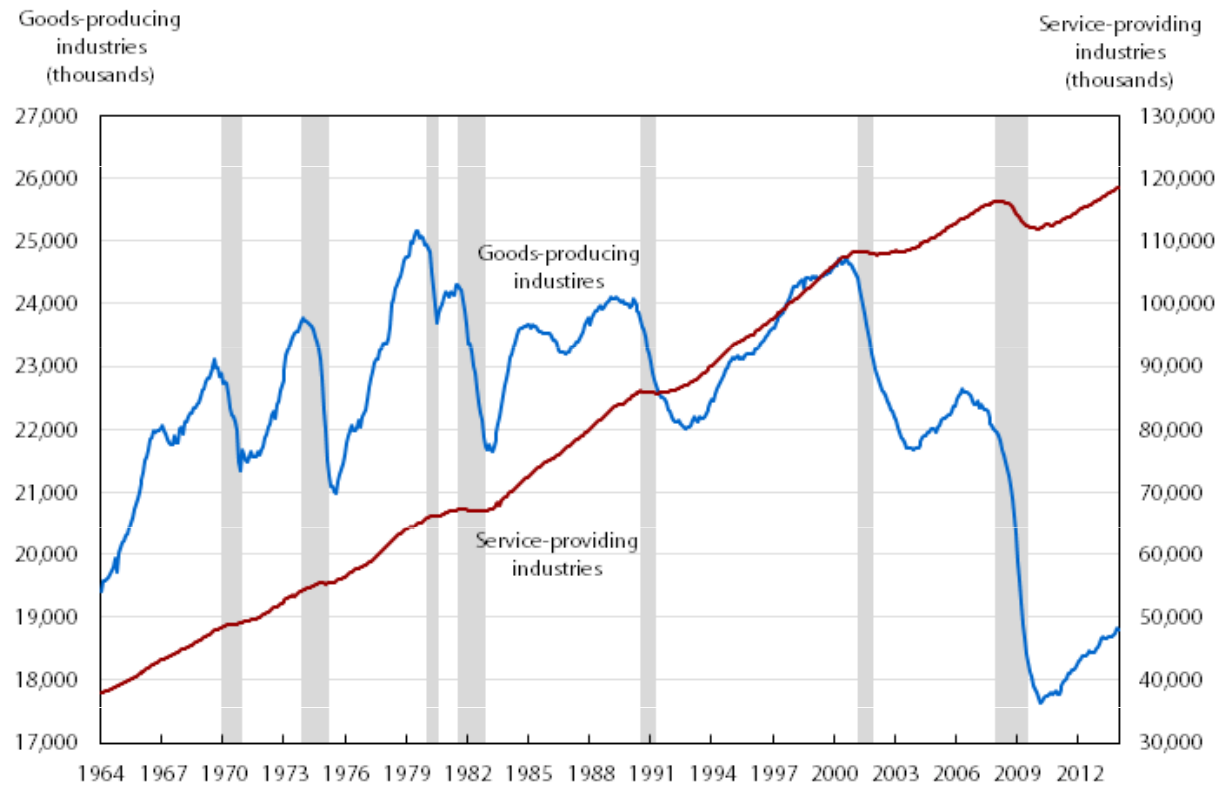
Note: Shaded areas represent recessions as determined by the National Bureau of Economic Research.
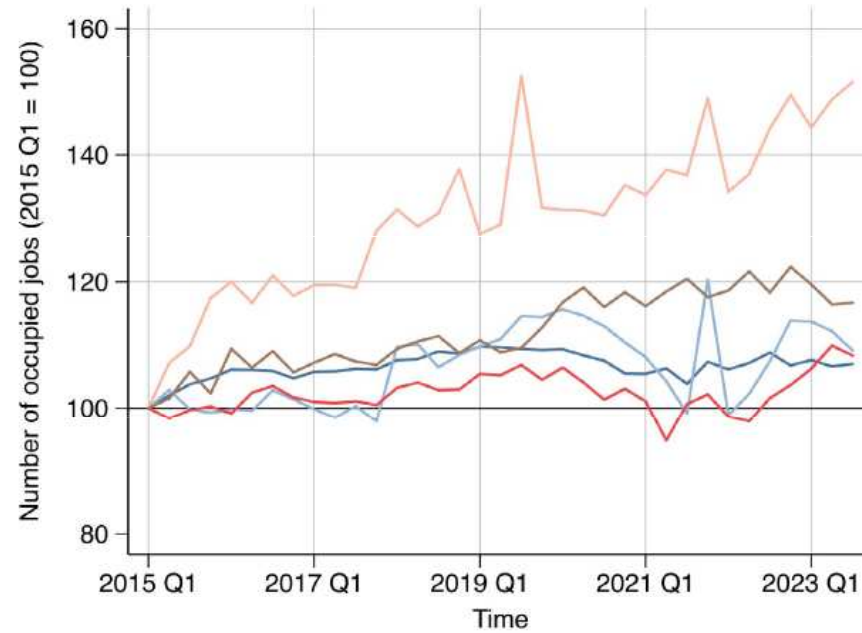Source: U.S. Bureau of Labor Statistics, Current Employment Statistics.

- Cyclical (un)employment
  - drop in employment during recessions
- Structural (un)employment
  - declining employment trend in industries, increasing trend in trade/services

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► Figure AII.2. Indexed number of occupied jobs in selected economic activities, Germany, 2015–2023

- B–E. Industry (except construction)
- F. Construction
- G–I. Wholesale and retail trade, transport, accommodation and food service activities
- J. Information and communication
- O–Q. Public administration, defence, education, human health and social work activities

Selected economic activities. Index: 2015q1=100. Source: Eurostat

Note: Index – 2015 Q1 = 100.

Source: Eurostat, author's calculations.

• Structural change
    • Increase in demand in IT

Source: Feist, Lisa. Imbalances between supply and demand: Recent causes of labour shortages in advanced economies. No. 115. ILO Working Paper, 2024.

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Unemployment rate of women by age, race and Hispanic ethnicity

Source: https://www.dol.gov/agencies/wb/data/latest-annual-data/employment-rates

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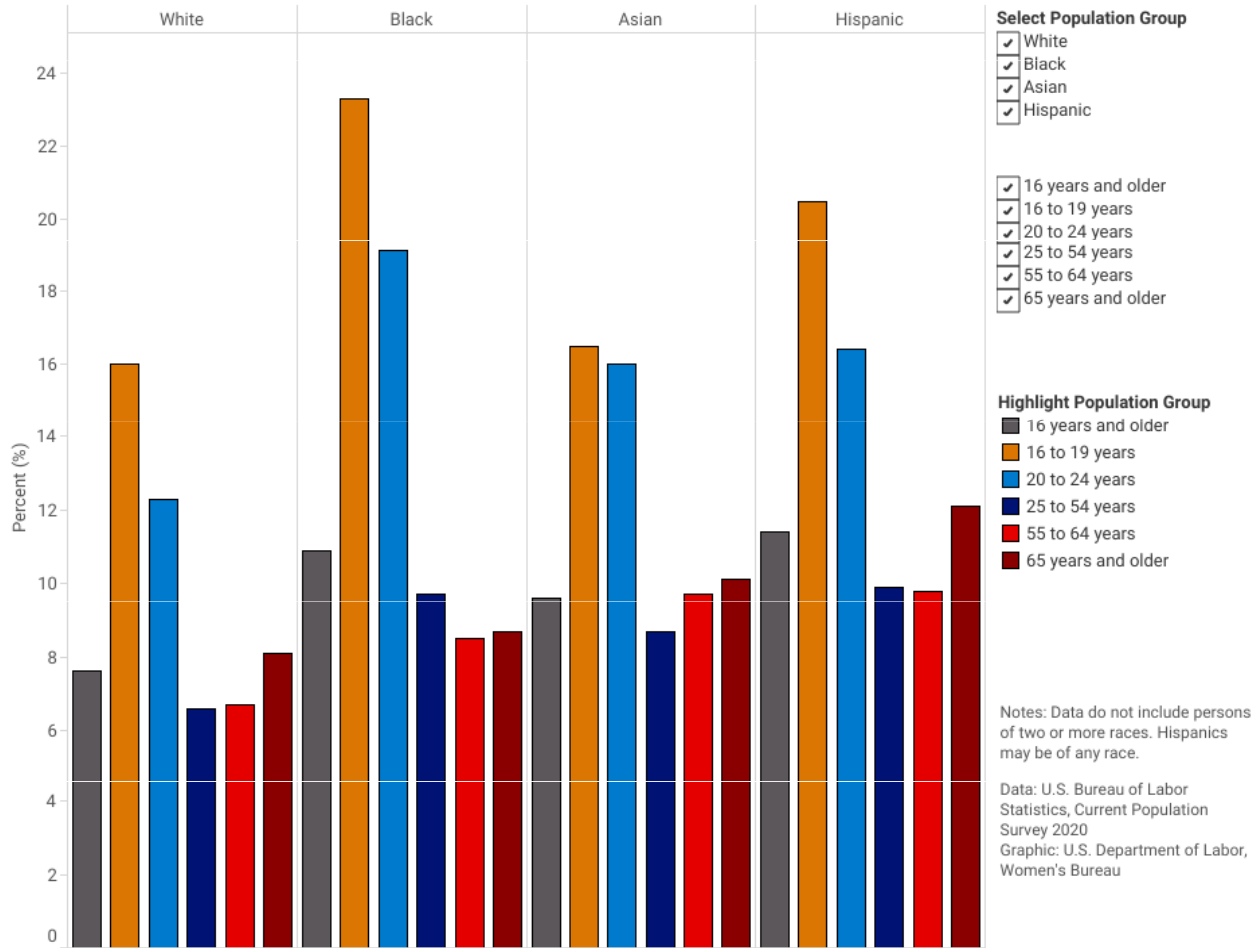
Unemployment rates of mothers and fathers by age of youngest child

Source: https://www.dol.gov/agencies/wb/data/latest-annual-data/employment-rates

Discrimination

Gender

Racial

Age/Tenure

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Gender Discrimination

People outside the labour force not seeking employment, by sex and main reason, 2021
(age group 25-54, in % of total population)

Women / Men

EU, Italy, Romania, Greece, Ireland, Bulgaria, Croatia, Belgium, Denmark, Spain, Latvia, Germany, Poland, Cyprus, Finland, France, Czechia, Netherlands, Estonia, Slovakia, Austria, Malta, Luxembourg, Lithuania, Hungary, Portugal, Sweden, Slovenia, Norway, Switzerland

Legend:
- Other reasons — These include education or training, retirement, awaiting recall to work (lay-off), no suitable job is available, other personal reasons and not stated.
- Own illness or disability
- Other family reasons
- Care responsibilities
- Care responsibilities or other family reasons

Data reliability flags are available in the article's Excel file.

Source: https://ec.europa.eu/eurostat/web/products-eurostat-news/-/ddn-20220622-1

ec.europa.eu/eurostat

Employment rate of people aged 20-64 in the EU
(2002-2020, %)

In 2020

78.1%
66.8%

● Men
● Both sexes
● Women

ec.europa.eu/eurostat

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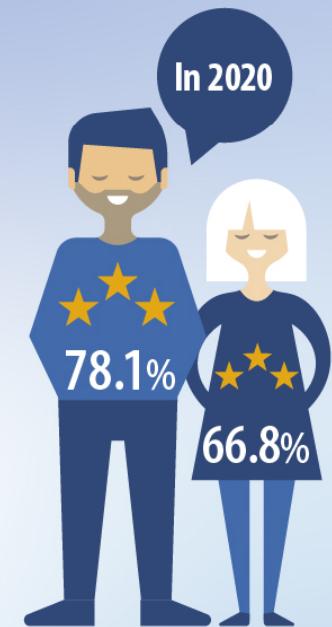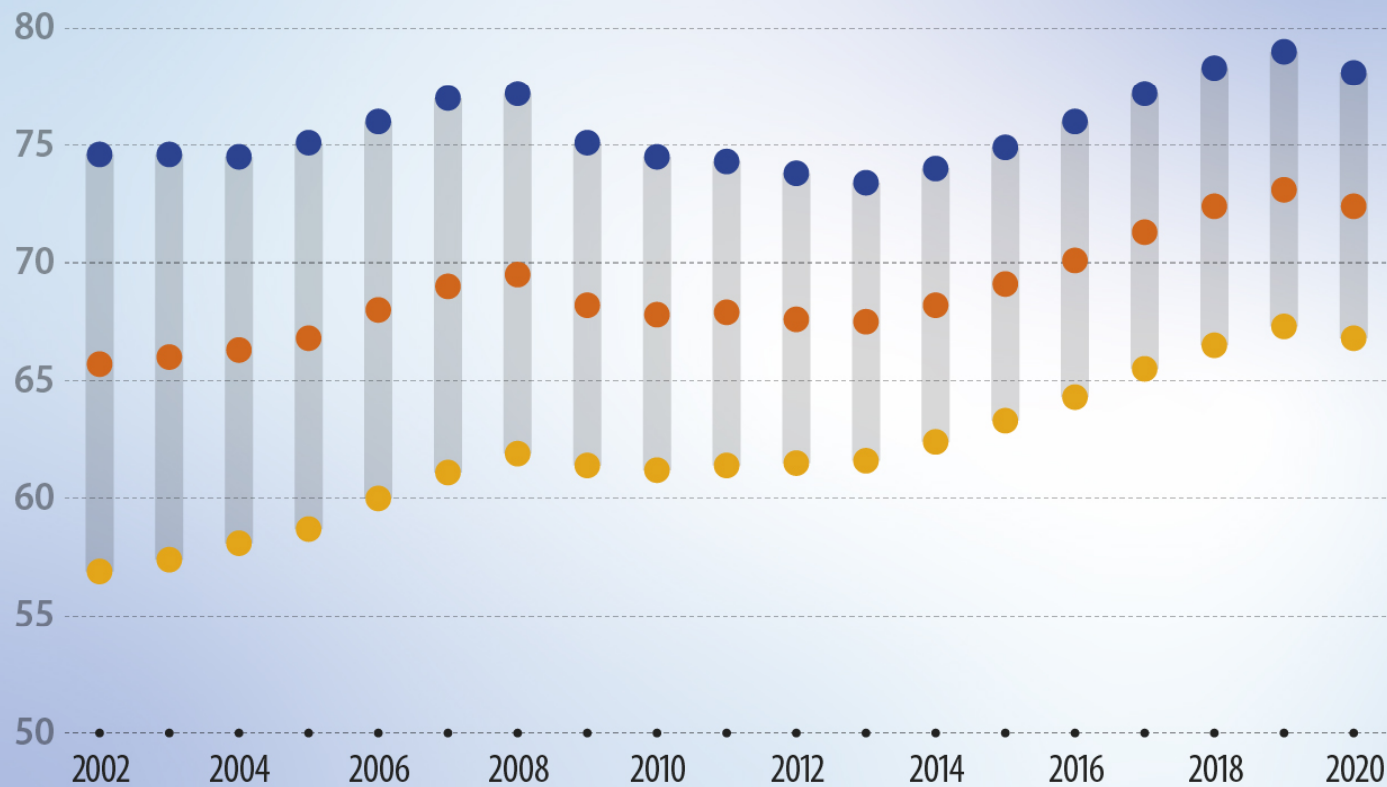
Gender Discrimination

– When women and men have equal rights, opportunities and responsibilities in all spheres of life, such as in education, decision-making, political and economic participation and health, gender equality is achieved. To date, no country has fully achieved gender equality (Cavalcanti und Tavares 2016).

– women are overrepresented in low-paid, low-skilled jobs and in precarious employment arrangements (Kidder und Raworth 2004).

– Despite women's rising level of education, labour market participation and access to decent work for women and men are unequally distributed. Women's limited access to decent work is linked to gender stereotypes, social norms and division of labour.

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Employment rate of women and men with and without children by educational attainment level and by working pattern, EU, 2021

(in % of people aged 25-54)
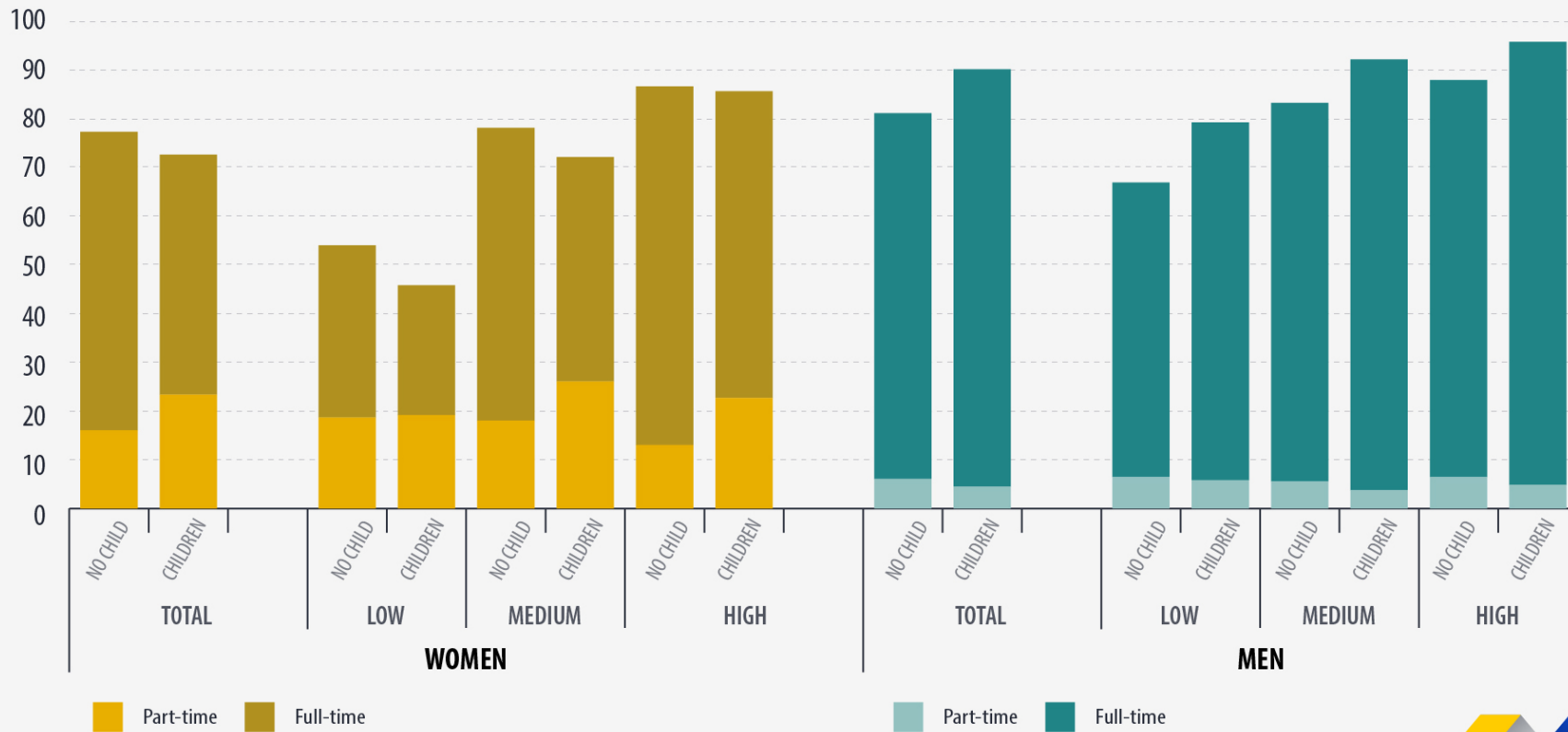
Example: Malaysia

Figure 1: Number of student enrolments according to field of study and gender in Higher Education Institutions (HEIs) in Malaysia, 2014
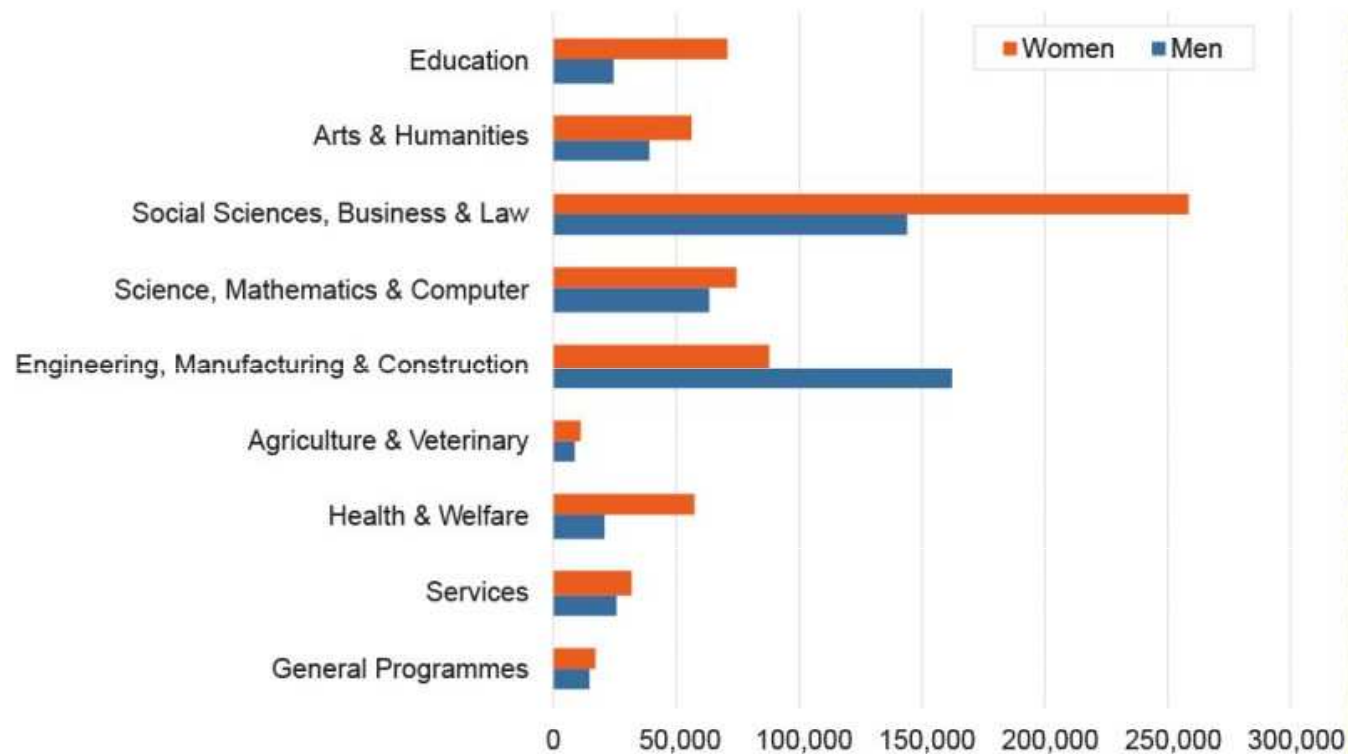
Source: National Education Statistics, Ministry of Higher Education, Malaysia.
Note: The HEI category includes public universities, private higher education institutions, polytechnics and community colleges.

Source: What widens the gender pay gap? By Negin Vaghefi. https://penanginstitute.org/wp-content/uploads/2018/04/april_27_2018_updated1_download.pdf

Figure 2: Employment by occupation and gender in Malaysia, 2016

Source: Labour Force Survey Report, Department of Statistics, Malaysia.

Note: Occupation is classified according to the Malaysia Standard Classification of Occupations (MASCO) 2013.

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Figure 4: Proportion of women on top management teams across 13 Asian countries
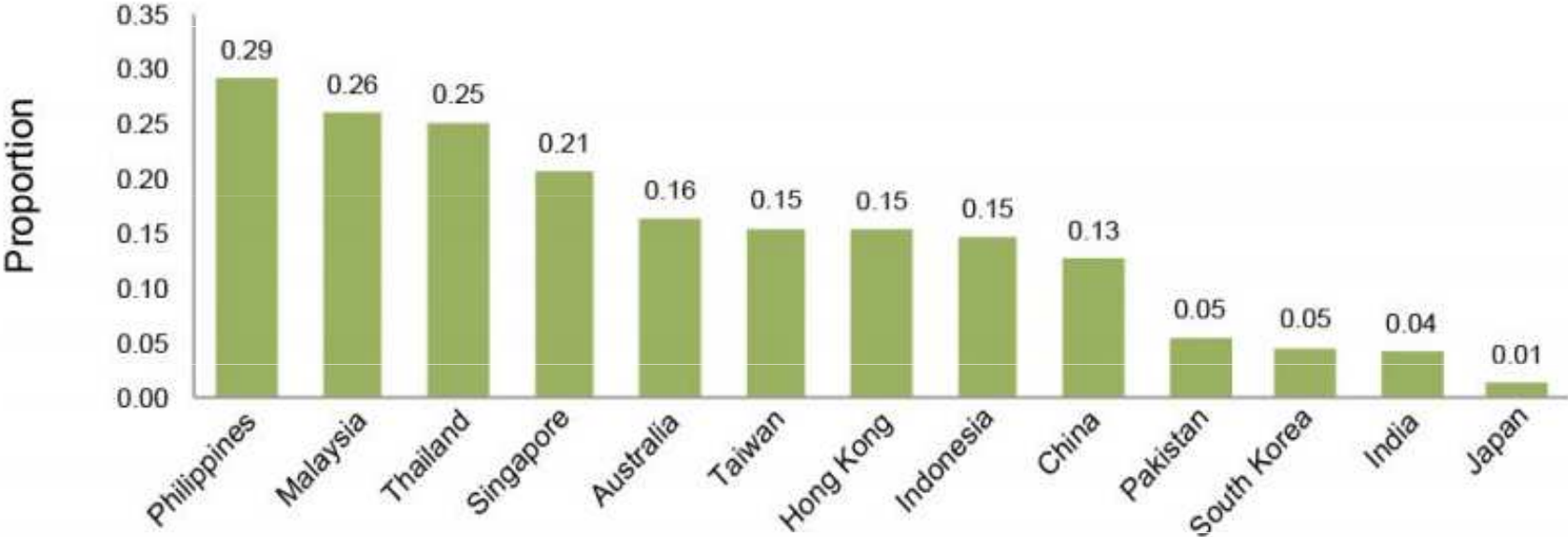
Source: Penang Institute's calculations based on S&P Capital IQ database of public-listed companies.

Source: What widens the gender pay gap? By Negin Vaghefi. https://penanginstitute.org/wp-content/uploads/2018/04/april_27_2018_updated1_download.pdf

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Underrepresentation of women in managerial positions

– the glass ceiling phenomenon, socio-cultural barriers, and workplace dynamics. Despite equal qualifications, women face invisible barriers that hinder their career advancement, often linked to family obligations and childcare responsibilities (Tešanović et al., 2024).

– Sociocultural factors, gender roles, and perceived discrimination contribute to the challenges women encounter in attaining leadership roles (Barbara & Chircop, 2024).

– The lack of flexibility in work arrangements further exacerbates these issues, making it difficult for women to balance professional and personal responsibilities (Barbara & Chircop, 2024).

– Systemic issues such as myths and stereotypes about women's capabilities persist, necessitating a cultural shift to improve gender equity in management (Cordova-Buiza, 2023).

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How to solve it?

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Racial Discrimination

(recap)

EMPLOYMENT POPULATION RATIO FOR WHITE AND BLACK AMERICANS

1980 - 2023, SEASONALLY ADJUSTED
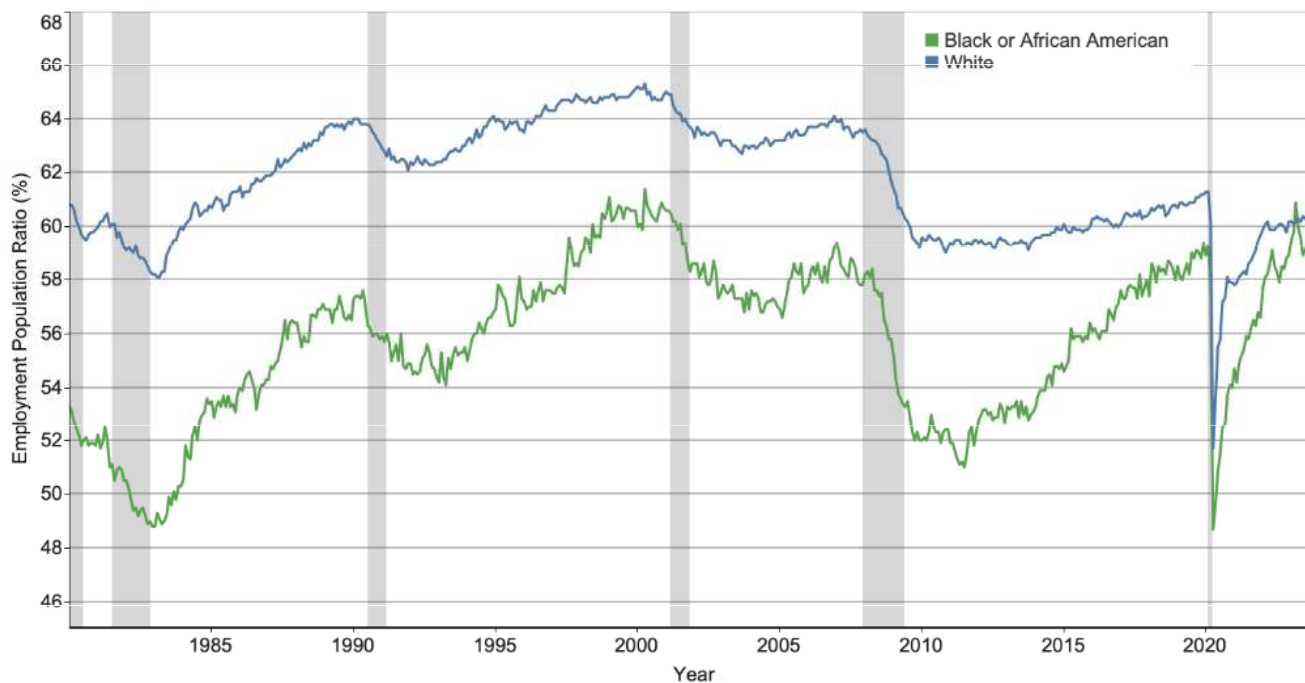
Source: U.S. Bureau of Labor Statistics, St. Louis FRED

Note: Employment-population ratios are seasonally adjusted. Shaded areas indicate a recession. Americans under age 16 and those who are in the military or imprisoned are excluded from calculations.

EconoFact: econofact.org

Source: https://econofact.org/is-black-employment-catching-up-with-white-employment

Racial discrimination

– Systemic discrimination, educational disparities, and labor market dynamics.

– Research indicates that Black individuals face significantly higher unemployment rates compared to Whites, largely due to a higher risk of job loss and lower labor force participation, which remains largely unexplained by observable characteristics (Cajner et al., 2017).

– Racialized groups in Canada encounter barriers such as name-based discrimination, leading to lower callback rates for job interviews (Ng, 2020).

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Age Discrimination

OECD employment-to-population ratio by country, 2022

Legend: United Kingdom, Sweden, United States, OECD, Spain, Germany, France, Czech Republic, Romania
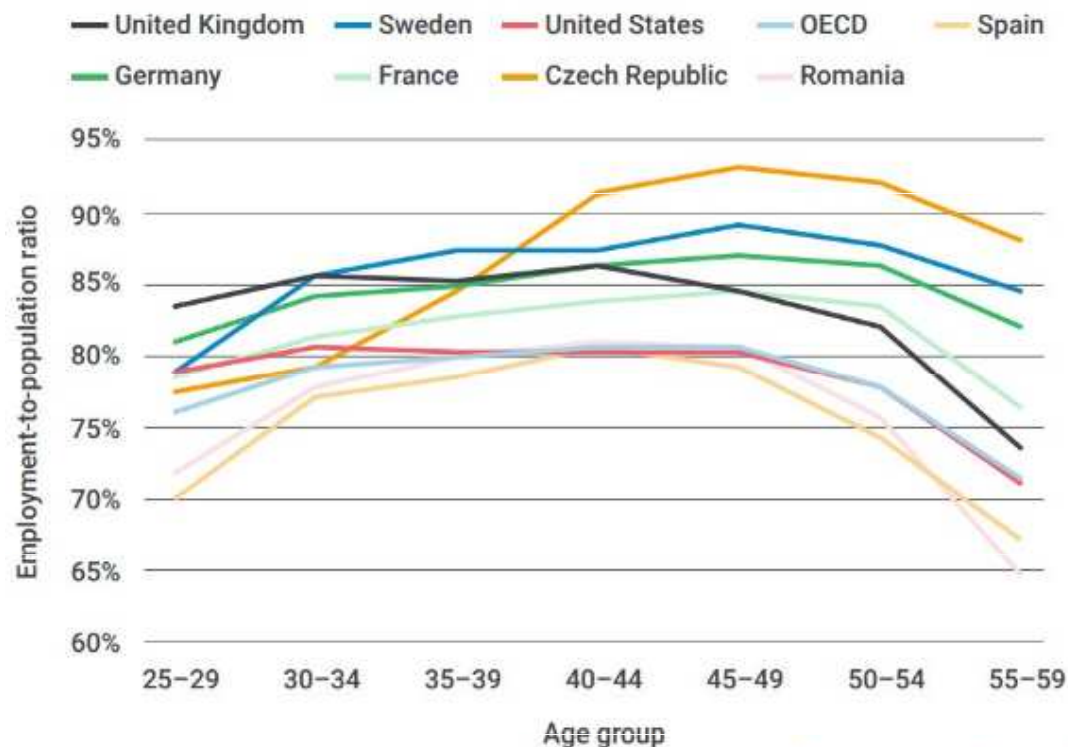
The share of population employed declines as men and women age, with a steep drop after age 50

Shared by Nicolas BEHBAHANI — OECD — Generation

Source: https://www.linkedin.com/pulse/age-performance-paradox-employees-aged-45-over-less-likely-behbahani-ii7ce/

Employer perceptions of job candidate strengths, by candidate age

Legend:
- Have relevant job experience
- Have good soft skills
- Have relevant educational background
- Have good knowledge of tech skills
- Have well-prepared application documents
- Have a persona that is a fit for the industry
- Have good referrals
- Have a persona that is a fit for workplace culture
- Do well on the interview
- Have a persona that is a fit with team dynamics

% of respondents

Age group 30–44: 58, 52, 48, 51, 54, 53, 52, 58, 54, 54

Age group 45+: 28, 21, 30, 35, 27, 32, 30, 26, 27, 27

n=1,510 employers

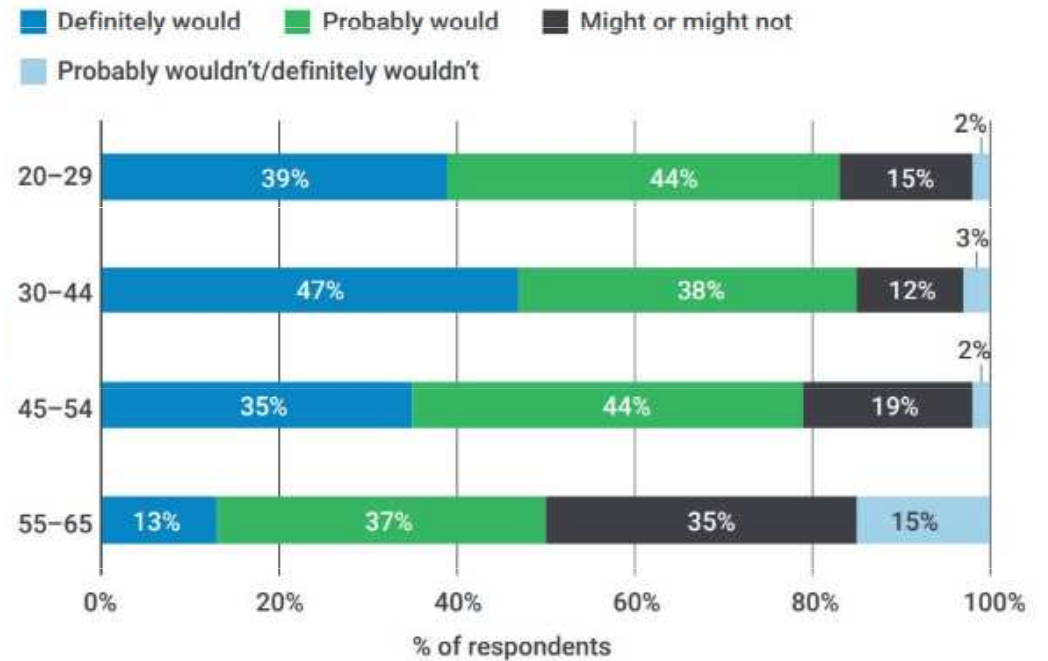**Note:** Respondents were asked, "Think about the applicants you have reviewed for entry- and intermediate-level positions. Which candidates are the most likely to..." followed by ten different potential candidate job strengths. Respondents were able to select only one age group (20–29 year olds, 30–44 year olds, 45–54 year olds, 55–65 year olds) as the response for each portion of the question. Data for 45+ displayed above is the sum of responses from respondents where 45–54 year olds and 55–65 year olds were selected as the most likely group to display the respective traits.

Source: Generation & OECD (2023), survey of employers and employed/unemployed individuals.

Shared by Nicolas BEHBAHANI   OECD   Generation

Likelihood of hiring candidates for entry-level or intermediate roles, by candidate age

Legend:
- Definitely would
- Probably would
- Might or might not
- Probably wouldn't/definitely wouldn't

Age	Definitely would	Probably would	Might or might not	Probably wouldn't/definitely wouldn't
20–29	39%	44%	15%	2%
30–44	47%	38%	12%	3%
45–54	35%	44%	19%	2%
55–65	13%	37%	35%	15%

% of respondents

n=10 employers

Respondents were asked, "How likely would you hire these candidates for an entry-level or intermediate-level role at your organisation?" Respondents then evaluated four age groups on a 1–5 scale (from "definitely would" to "definitely wouldn't").

Source: Generation and OECD (2023), survey of employers and employed/unemployed individuals.

Shared by Nicolas BEHBAHANI   OECD   Generation

Likelihood of hiring candidates for entry-level or intermediate roles, by candidate age

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The Paradox

Employer perceptions of barriers to job candidate success on the job, by candidate age

Midcareer and older worker job performance, by area of job performance

Stereotypes and systemic biases

- Employers often harbor outdated views about older workers, perceiving them as less adaptable or overqualified, which leads to exclusion from job opportunities (Ventrell-Monsees, 2020; Linneman, 2022).
- Younger workers face discrimination due to assumptions about their job commitment and longevity (Leslie, 2022).
- Recruitment practices often favor younger candidates, reinforcing age biases (Davey, 2014).
- While age discrimination is prevalent, some employers recognize the reliability and productivity of older workers, indicating a potential shift in attitudes (Linneman, 2022).

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Mobility

Geographic

- Workers' ability to physically relocate to regions where jobs are available.
- Results in persistent regional unemployment disparities
- Factors: immigration restrictions; housing prices; infrastructure

Social

- Social and cultural factors that limit workers' ability to move
- Can result in employment segregation
- Factors: family responsibilities; discrimination, cultural expectations

Economic

- Financial factors that limit workers' ability to move
- Can result in employment segregation
- Factors: relocation costs; wage disparities; job insecurity

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What about occupational mobility and skill mismatch?

- Skill mismatch occurs when workers' qualifications, skills, or experience do not align with the requirements of the jobs available.

  - Economic Mobility: When workers' skills become obsolete (e.g., due to technological advancements) or industries shift, they may lack the resources (time, money, or access to retraining) to acquire new skills and shift into new sectors. Economic barriers, such as the cost of education or retraining programs, can limit workers' ability to adapt to new job requirements.

- Occupational Mobility refers to workers' ability to move up or down within the job ladder—from lower-level positions to more senior or skilled roles, or vice versa.

  - This type of mobility is tied to career progression and can be hindered by both social and economic barriers, such as access to education, workplace discrimination, or limited career development opportunities.

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Mobility

– The concept of mobility barriers is closely linked to **reallocation** and/or **misallocation** of labor.

– Labor reallocation refers to the movement of workers from less productive jobs, sectors, or regions to more productive ones.

– Labor misallocation occurs when workers are not employed in their most productive use or when there are inefficiencies in the labor market that prevent the optimal allocation of talent and resources.

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Why care?

– In countries or regions where labor mobility is restricted the allocation of labor is suboptimal, leading to slower economic growth.

– Conversely, countries with more flexible labor markets and fewer mobility barriers tend to experience higher productivity growth, as labor can be reallocated more efficiently.

– Applies not only to mobility restrictions, but in general – any sources of imperfections

Source: https://cepr.org/voxeu/columns/declining-business-dynamism-europe-role-shocks-market-power-and-responsiveness

→ Declining business dynamism

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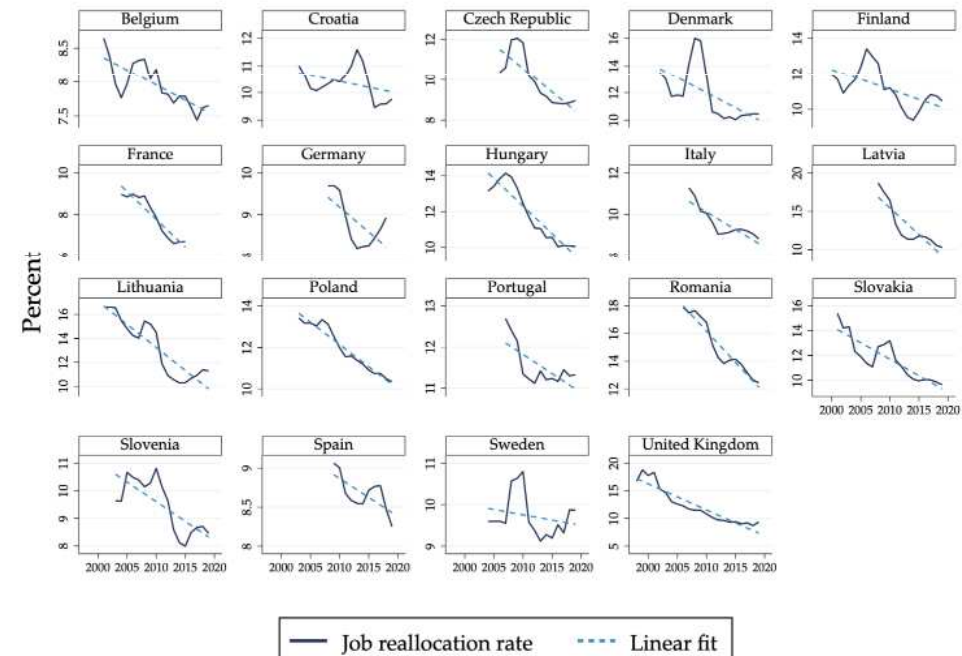
Example: COVID
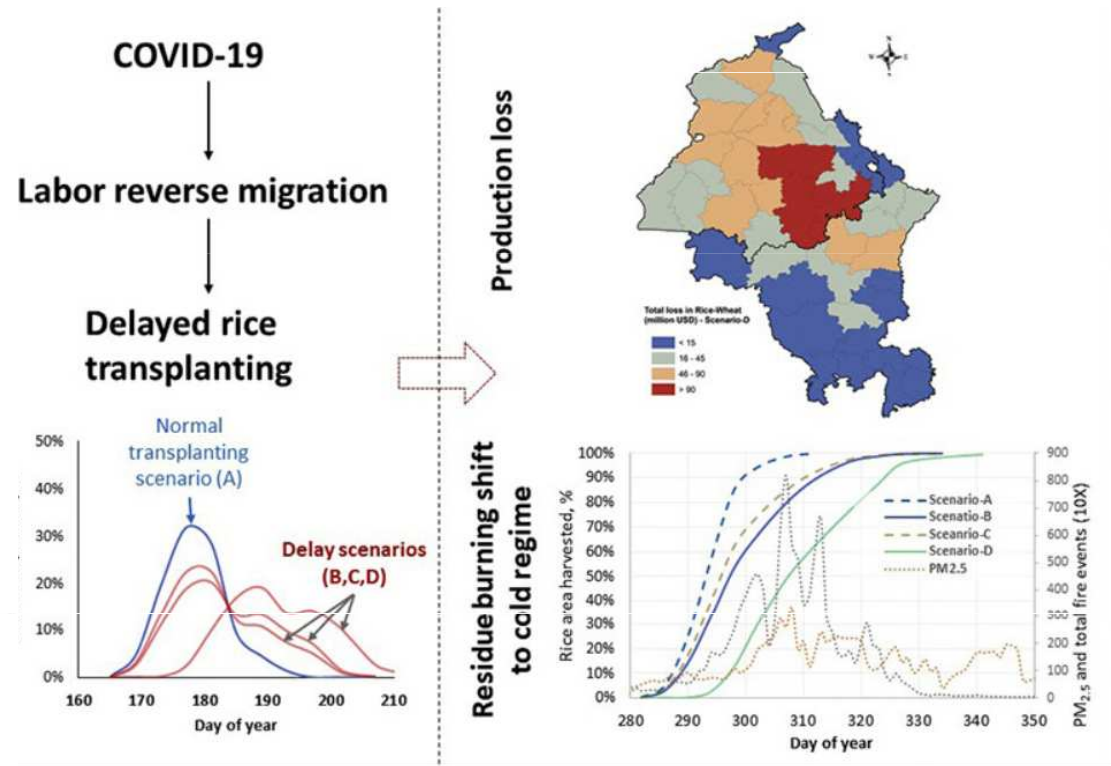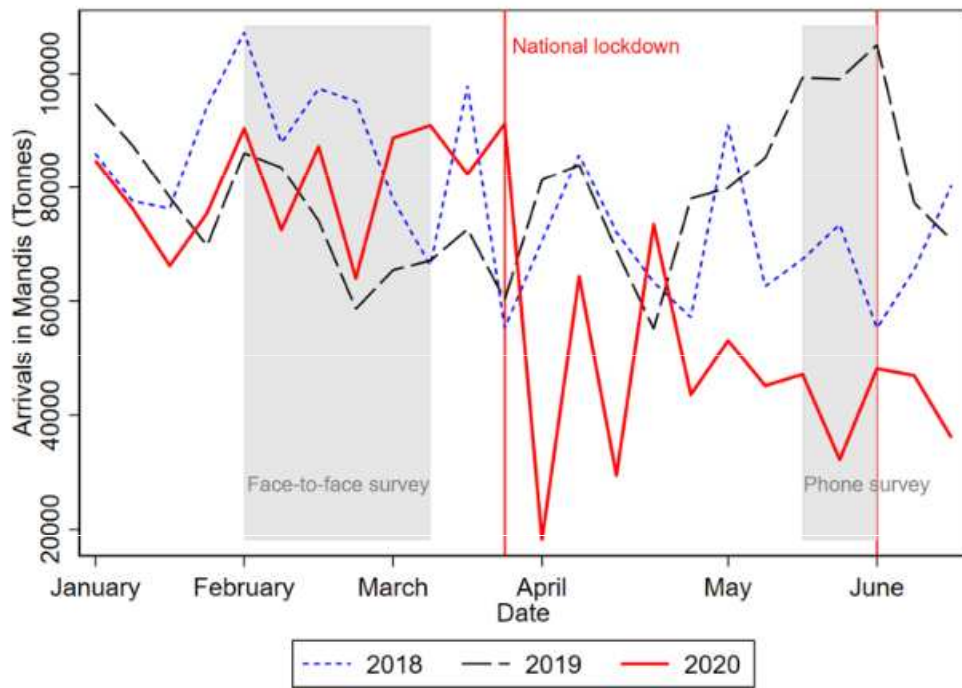
Preusse, V., Silva, M. S., Steinhübel, L., & Wollni, M. (2024). Covid-19 and agricultural labor supply: Evidence from the rural–urban interface of an Indian mega-city. *Agribusiness*, *40*(2), 391-415.

Shirsath, Paresh B., M. L. Jat, A. J. McDonald, Amit K. Srivastava, Peter Craufurd, D. S. Rana, A. K. Singh et al. "Agricultural labor, COVID-19, and potential implications for food security and air quality in the breadbasket of India." *Agricultural Systems* 185 (2020): 102954.

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Policies and Implications

Unemployment rate
Share of the labor force without work but available for and seeking employment.

Italy
France
Canada
United States
United Kingdom
Germany
Japan
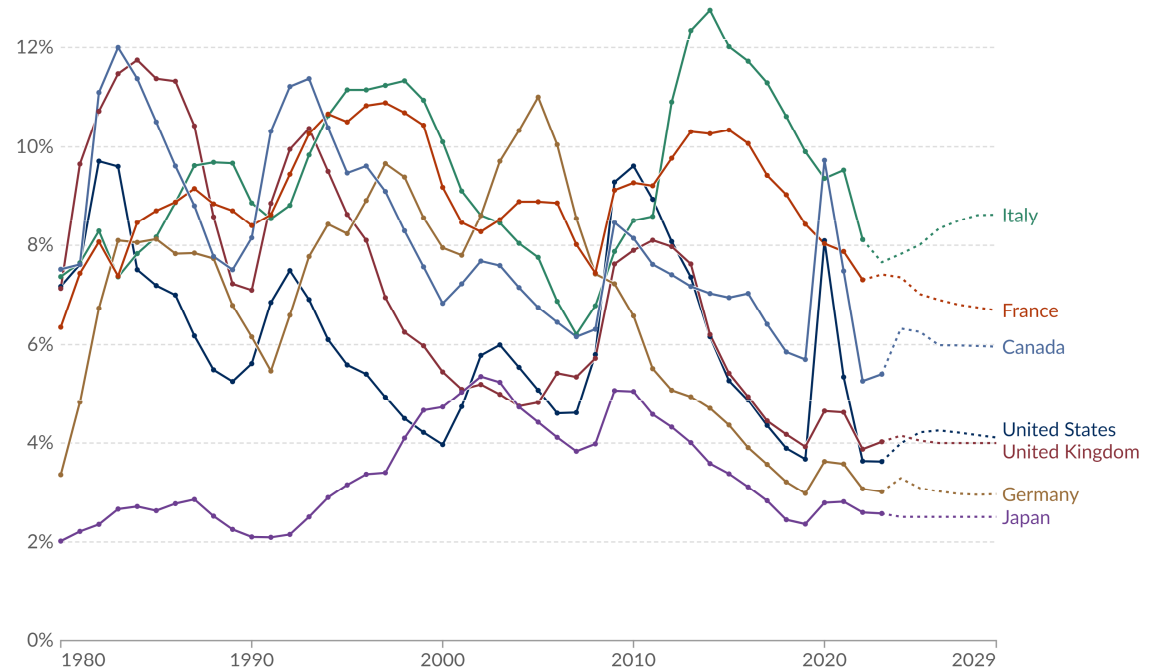
Data source: International Monetary Fund (2024)

OurWorldinData.org/economic-inequality | CC BY

Policies

- Training

- Harmonization of labor contracts

- Unemployment benefits

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Training

– Unemployed adults participating in labor market training experience increased employment rates, particularly with short (5-10 weeks) and long courses (over 30 weeks) outperforming semi-long courses (Torp, 2016).

– Training fosters employee efficiency, reducing costs and material wastage, which ultimately benefits organizations (Kumar, 2021).

– For older workers, training is crucial in preventing skills obsolescence, thereby aiding their retention in the workforce (Belloni et al., 2015).

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Training

	Total			Manufacturing			Nonmanufacturing			ACF, Lag Labor		
	OLS1	OLS2	ACF	OLS1	OLS2	ACF	OLS1	OLS2	ACF	Total	Manufacturing	Nonmanufacturing
Production function												
Labor	.785*	.747*	.764*	.802*	.767*	.791*	.780*	.735*	.751*	.810*	.731*	.839*
	(.001)	(.004)	(.008)	(.003)	(.007)	(.015)	(.001)	(.005)	(.017)*	(.026)	(.023)	(.018)
Capital	.165*	.123*	.088*	.178*	.151*	.129*	.163*	.115*	.081*	.070*	.109*	.059*
	(.001)	(.002)	(.004)	(.002)	(.005)	(.008)	(.001)	(.003)	(.004)	(.004)	(.007)	(.004)
Training	.460*	.315*	.243*	.403*	.300*	.215*	0.461*	0.301*	0.257*	.223*	.192*	.234*
	(.008)	(.010)	(.010)	.(.015)	(.016)	(.017)	(0.008)	(0.012)	(.013)	(.015)	(.016)	(.014)
β_T	.586*	.422*	.318*	.502*	.391*	.272*	.591*	.410*	.342*	.276*	.262*	.278*
	(.010)	(.014)	(.014)	(.019)	.(021)	(.022)	(.013)	(.017)	(.018)	(.015)	(.025)	(.019)
Wage equation												
Training (α_T)	.438*	.200*	.167*	.432*	.219*	.187*	.440*	.190*	.165*	.173*	.184*	.178*
	(.006)	(.006)	(.007)	(.009)	(.009)	(.011)	(.013)	(.007)	(.009)	(.009)	(.012)	(.013)
ln(K/L)			−.015*			.017*			−.022*	−.020*	.012*	−.030*
			(.002)			(.004)			(.002)	(.002)	(.003)	(.003)
TFP			.337*			.306*			.343*	.342*	.286*	.359*
			(.006)			(.008)			(.007)	(.007)	(.010)	(.008)
Wald test $\beta_T = \alpha_T$												
χ_1^2	361.6	333.6	127.1	19.1	89.4	14.1	245.0	231.6	113.0	35.7	18.7	17.4
p-value	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
Observations	804,293	73,930	73,930	123,834	23,345	23,345	677,764	50,585	50,585	63,134	20,041	43,093
Firms	135,865	13,757	13,757	18,422	3,878	3,878	117,021	9,879	9,879	12,520	3,587	8,933

Estimates for production function and wage equation, all sectors pooled together. *OLS1* refers to OLS estimation of both the production function on the full sample. *OLS2* refers to the same estimation equation, but for the subsample of firms reporting material costs. In *ACF*, we control for the endogeneity of inputs and training. The last three columns report results using lags of labor instead of current labor as instrument. Standard errors are computed using a block bootstrap procedure with 500 replications and are robust against heteroskedasticity and intragroup correlation. β_T is completed as the ratio of the training coefficient over the labor coefficient. *Significant at 5%.

– costly. Is it worth it?

$$y_{it} = \beta_0 + \beta_k k_{it} + \beta_l l_{it} + \beta_l \beta_T \overline{T}_{it} + \beta_l \beta_S \overline{S}_{it} + \omega_{it} + \varepsilon_{it}.$$

$$\overline{w}_{it} = w_0 + \alpha_T \overline{T}_{it} + \alpha_S \overline{S}_{it} + X_{it}\beta + \alpha_0 Z_{it} + \varepsilon_{it}.$$

The impact of training on productivity and wages: firm-level evidence. J Konings, S Vanormelingen. *Review of Economics and Statistics* 9 7 (2), 485-497, 2015.

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Training

TABLE 2.—IMPACT OF TRAINING ON PRODUCTIVITY AND WAGES

	Total			Manufacturing			Nonmanufacturing			ACF, Lag Labor		
	OLS1	OLS2	ACF	OLS1	OLS2	ACF	OLS1	OLS2	ACF	Total	Manufacturing	Nonmanufacturing
Production function												
Labor	.785*	.747*	.764*	.802*	.767*	.791*	.780*	.735*	.751*	.810*	.731*	.839*
	(.001)	(.004)	(.008)	(.003)	(.007)	(.015)	(.001)	(.005)	(.017)*	(.026)	(.023)	(.018)
Capital	.165*	.123*	.088*	.178*	.151*	.129*	.163*	.115*	.081*	.070*	.109*	.059*
	(.001)	(.002)	(.004)	(.002)	(.005)	(.008)	(.001)	(.003)	(.004)	(.004)	(.007)	(.004)
Training	.460*	.315*	.243*	.403*	.300*	.215*	0.461*	0.301*	0.257*	.223*	.192*	.234*
	(.008)	(.010)	(.010)	(.(015)	(.016)	(.017)	(0.008)	(0.012)	(.013)	(.015)	(.016)	(.014)
β_T	.586*	.422*	.318*	.502*	.391*	.272*	.591*	.410*	.342*	.276*	.262*	.278*
	(.010)	(.014)	(.014)	(.019)	(.021)	(.022)	(.013)	(.017)	(.018)	(.015)	(.025)	(.019)
Wage equation												
Training (α_T)	.438*	.200*	.167*	.432*	.219*	.187*	.440*	.190*	.165*	.173*	.184*	.178*
	(.006)	(.006)	(.007)	(.009)	(.009)	(.011)	(.013)	(.007)	(.009)	(.009)	(.012)	(.013)
ln(K/L)			−.015*			.017*			−.022*	−.020*	.012*	−.030*
			(.002)			(.004)			(.002)	(.002)	(.003)	(.003)
TFP			.337*			.306*			.343*	.342*	.286*	.359*
			(.006)			(.008)			(.007)	(.007)	(.010)	(.008)
Wald test $\beta_T = \alpha_T$												
χ^2_1	361.6	333.6	127.1	19.1	89.4	14.1	245.0	231.6	113.0	35.7	18.7	17.4
p-value	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
Observations	804,293	73,930	73,930	123,834	23,345	23,345	677,764	50,585	50,585	63,134	20,041	43,093
Firms	135,865	13,757	13,757	18,422	3,878	3,878	117,021	9,879	9,879	12,520	3,587	8,933

Estimates for production function and wage equation, all sectors pooled together. *OLS1* refers to OLS estimation of both the production function on the full sample. *OLS2* refers to the same estimation equation, but for the subsample of firms reporting material costs. In *ACF*, we control for the endogeneity of inputs and training. The last three columns report results using lags of labor instead of current labor as instrument. Standard errors are computed using a block bootstrap procedure with 500 replications and are robust against heteroskedasticity and intragroup correlation. β_T is completed as the ratio of the training coefficient over the labor coefficient. *Significant at 5%.

$$y_{it} = \beta_0 + \beta_k k_{it} + \beta_l l_{it} + \beta_l \beta_T \overline{T}_{it} + \beta_l \beta_S \overline{S}_{it} + \omega_{it} + \varepsilon_{it}.$$

– value added increases by 2.4% in response to an increase of 10 percentage points of the share of trained workers;

– the marginal product of a trained worker is around 32% (β_T = .243/.764) higher than the marginal product of an untrained worker – productivity premium

$$\overline{w}_{it} = w_0 + \alpha_T \overline{T}_{it} + \alpha_S \overline{S}_{it} + X_{it}\beta + \alpha_0 Z_{it} + \varepsilon_{it}.$$

– the wage premium for a trained worker in the Belgian private sector is equal to 17%

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Training

FIGURE 1.—IMPACT TRAINING ON PRODUCTIVITY AND WAGES
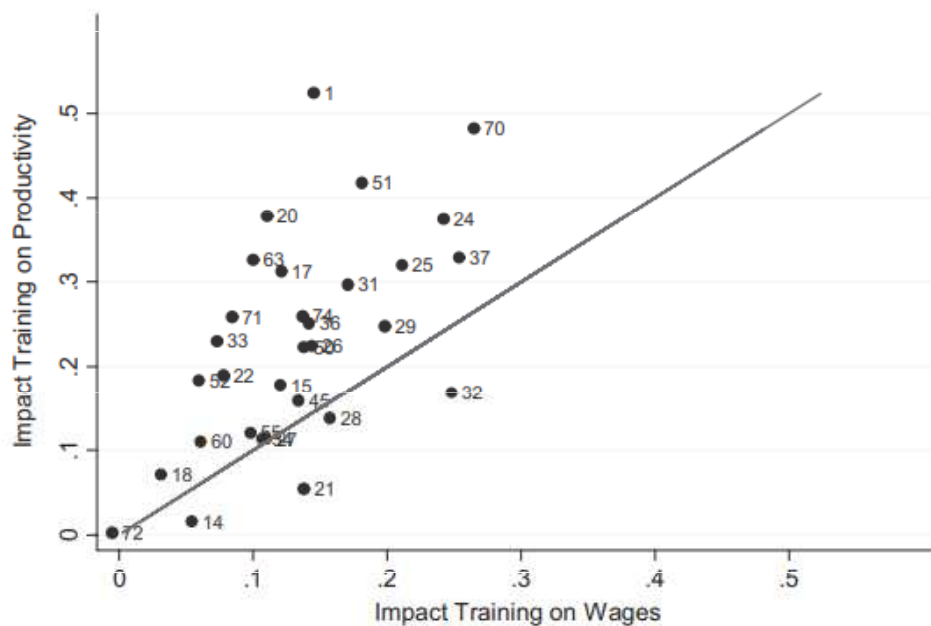
- Industry heterogeneity

- NACE Rev.2 two digit classification
- 45-degree line: return of training on productivity and wages is the same
  - (in theory) indifferent between training and not training

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Harmonization of labor contracts

– White vs. Blue-collar workers

– Belgium is characterized as a country with strong employment protection mechanisms; provided through the means of the advance notice periods upon dismissal and severance payments.

– However, the labor law in Belgium treated white- and blue-collar workers differently until 2014.

  – This distinction is observed not only in their working conditions and salaries but also in the notice periods and benefits, which were shorter and lower for blue-collar workers.

– in 2011, the Belgian Constitutional Court recognized the distinction as discriminatory urging the Government to eliminate it by July 8, 2013. One of the paragraphs of the Law on Employment Agreement, attempting to harmonize employment status, fixed the advance notice periods upon dismissal for both types of employees; abolished the trial period.

45   Alpysbayeva, D., & Vanormelingen, S. (2022). Labor market rigidities and misallocation: Evidence from a natural experiment. *Labour Economics*, 78, 102229.

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Harmonization of labor contracts

– Changes to the notice periods have a direct impact on labor adjustment costs through compensation in lieu of notice. In a situation of dismissal without an appropriate notice period, severance payment is equivalent to the amount of salary that would have been received during the notice period.

– It has been argued that since the compensation would be tax-exempt, employers will not bear additional costs resulting from this harmonization of the contracts. However, many employers believe it to substantially increase the labor cost, which will affect their hiring and firing behavior, i.e. the reallocation of labor.

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Harmonization of labor contracts

Table 4. Baseline model.

	Full		Restr.	
	(1)	(2)	(3)	(4)
share × policy	4.352***	4.139***	1.751***	1.616***
	(0.216)	(0.214)	(0.305)	(0.303)
Ind. Growth Rate		21.669***		13.053***
		(0.503)		(0.510)
Constant	35.716***	32.776***	31.690***	26.169***
	(0.188)	(0.170)	(0.189)	(0.144)
R^2	0.018	0.021	0.039	0.043
Obs.	1,594,551	1,557,888	591,570	572,177
Nr.Clust.	111,222	111,220	63,947	63,910

Clustered standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. All regressions include firm and year fixed effects. Columns (1) and (2) use the full sample. Columns (3) and (4) purge value-added from measurement error and therefore refers only to firms that report as well material costs.

$$RG_{it}^l = \beta_b \, share_i + \beta_p \, policy_t + \alpha \, share_i \times policy_t + \nu_i + \mu_t + \epsilon_{it},$$

– RG is real absolute gap for labor input
  – equivalent to aggregate productivity loss (Petrin and Sivadasan, 2013)

– After the policy, a firm with 90% blue-collar workers witnessed an increase in the gap (productivity loss) of 3311 euro relative to a firm with only 10% share of blue-collar workers.

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Unemployment benefits

– Unemployment benefits play a crucial role in shaping employment dynamics and job quality.

– They provide essential financial support to unemployed individuals, allowing them to meet basic needs.

– However, the design and generosity of these benefits can significantly influence labor market outcomes.

– the welfare gains are determined by individual's willingness to postpone consumption during employment for receiving payments to keep consumption during unemployment and weighted against the effects on job search incentives

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Unemployment benefits

Figure 1: Unemployment inflow and UI handling time
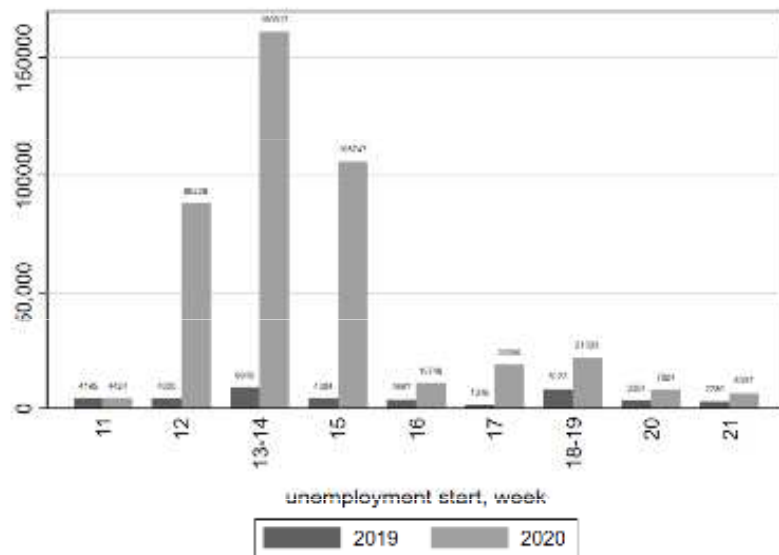
(a) Unemployment inflow
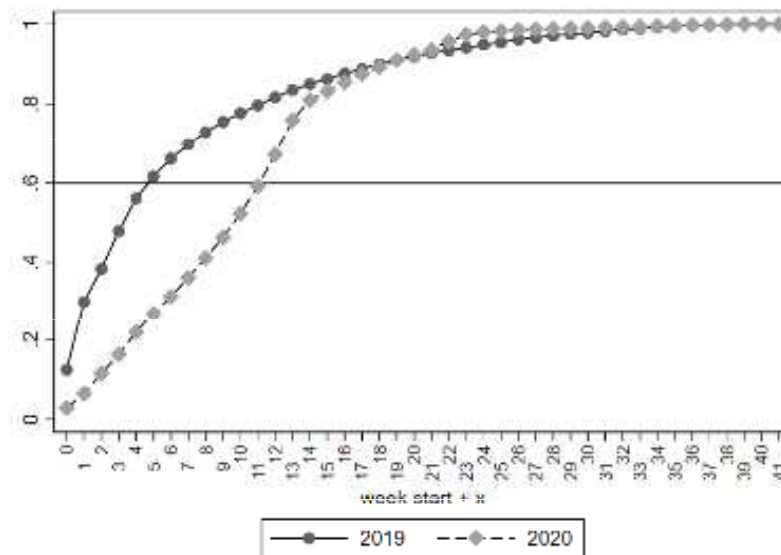
(b) Handling time of ordinary UI claims
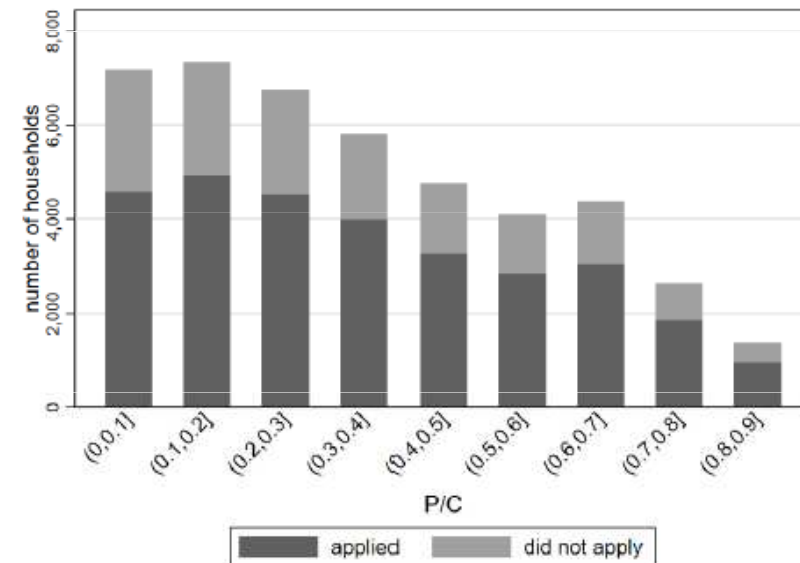
Unemployment benefits

– COVID-19 emergency support to cushion the hit of the crisis;

– Expand unemployment insurance system;

– Administrative delays;

– "Unemployment benefit in advance" - Norway
  – to secure income for laid-off and unemployed household during waiting period (delayed handling of UI applications).

– Who applied?

– Did it help in alleviating consumption drop?

Table 2: Advance payment application.

	(1)	(2)	(3)	(4)	(5)
ln(Deposits)	-0.0604***				
	(0.001)				
ln(UI Benefits)	0.0883***				
	(0.003)				
Liquidity constr (LC=1)		0.1975***		0.1462***	0.1445***
		(0.003)		(0.004)	(0.004)
Postponement (P/C)			0.3180***	0.0762***	0.0765***
			(0.007)	(0.009)	(0.009)
Excess Deposits (ED/C)			-0.0010***	-0.0009***	-0.0009***
			(0.000)	(0.000)	(0.000)
Family Dynasty Insurance					
ln(deposits parents + inlaws)		-0.0118***	-0.0119***	-0.0101***	-0.0101***
		(0.001)	(0.001)	(0.001)	(0.001)
ln(deposits siblings)		-0.0138***	-0.0124***	-0.0116***	-0.0109***
		(0.001)	(0.001)	(0.001)	(0.001)
Financial literacy					
Financial education	0.0140**	0.0177***	0.0196***	0.0194***	0.0111*
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Constant	0.5721***	0.5335***	0.5754***	0.5578***	0.4629***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.009)
Personal characteristics	Yes	Yes	Yes	Yes	Yes
County FE	No	No	No	No	Yes
Industry FE	No	No	No	No	Yes
Occupation FE	No	No	No	No	Yes
Obs.	178537	178537	178537	178537	178537
R^2	0.085	0.068	0.070	0.076	0.093

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Unemployment benefits

– Program aim: alleviate a temporary drop in consumption;

– Welfare loss from postponed consumption depends on the

magnitude, preferences, and other sources of income;

– Consumption of non-constrained households stays the

same;

– Average (median) postponement of consumption among

constrained applicants is 36% (31%).

(a) Relative postponed consumption

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Unemployment benefits

Table 5: **Program costs.**

Category	Task	Type of costs	Estimate
(1)	(2)	(3)	(4)
Infrastructure	Development, algorithms, integration of the in-advance payment into existing infrastructure	Personnel: Ten full-time employees for one week	Small (0.3 mln NOK)
Communication	Website, text messages, information	PR, SMS-text	Small (<0.2 mln NOK)
Payment	Money transfers, monitoring	Existing infrastructures, low marginal costs	Negligible
Repayment	Repayment management	Personnel: Estimate based on no. of cases	Substantial (< 116 mln NOK)

Notes: Our estimates are based on input and conversations from representatives of NAV; Trond Jørgensen, Audun F. Strand and Peter C. Vold. Cost of one day of work is 5460 NOK, including wages and social costs (e.g. payroll taxes, mandatory employer insurance and holiday pay), IT equipment and office costs (adapted from Løyland et al., 2023).

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Summary

- Labor markets are not perfect

- Policies are aimed to address the imperfections, normally designed to reach a specific goal or target specific group

- Never forget about the implications on other economic factors

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