

# **Chronic Pain in Mid-Life Across European Countries**

**Enrica Croda**

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# Motivation

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- Worsen morbidity and mortality in the US associated with raising levels of pain

## Rising morbidity and mortality in midlife among white non-Hispanic Americans in the 21st century

Anne Case<sup>1</sup> and Angus Deaton<sup>1</sup>

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Contributed by Angus Deaton, September 17, 2015 (sent for review August 22, 2015; reviewed by David Cutler, Jon Skinner, and David Weir)

# Motivation

- Worsen morbidity and mortality in the US associated with raising levels of pain

## Rising morbidity and mortality in midlife among white non-Hispanic Americans in the 21st century

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Table 2. Changes in morbidity, white non-Hispanics 45–54

	Mean 2011–2013	Δ 1997–1999
Physical health		
Excellent/Very Good*	0.559	–0.067
Fair/Poor*	0.159	0.043
Days physical health was not good*	4.21	1.18
Neck pain <sup>†</sup>	0.211	0.023
Facial pain <sup>†</sup>	0.068	0.013
Chronic joint pain <sup>‡</sup>	0.347	0.026
Sciatica <sup>†</sup>	0.140	0.026

# Motivation

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- Worsen morbidity and mortality in the US associated with raising levels of pain, leading to more opioids use (in the US.)
  - Case and Deaton (2015) suggest that pain-related medications are responsible for rising mortality among white non-Hispanics

# Motivation

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- Chronic pain associated with a number of negative outcomes, including depression, job loss, reduced quality of life, disability...
- Pain imposes considerable costs on the health care system and the economy
  - IOM (2011) estimated the annual cost of pain in the US in the range from \$560 to \$635 billion
    - greater than the annual costs of heart disease, of cancer, and of diabetes

# This Paper

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- Exploits newly available information collected in SHARE wave 5 to investigate the prevalence of pain across Europe
  - Conditional on demographics, what are the country-level differences in pain?
  - Conditional on demographics, what are the education-specific differences in pain?
  - What are education-specific differences after adjusting for income?

# The Data

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- SHARE wave 5 Release 1.0.0

14 European countries

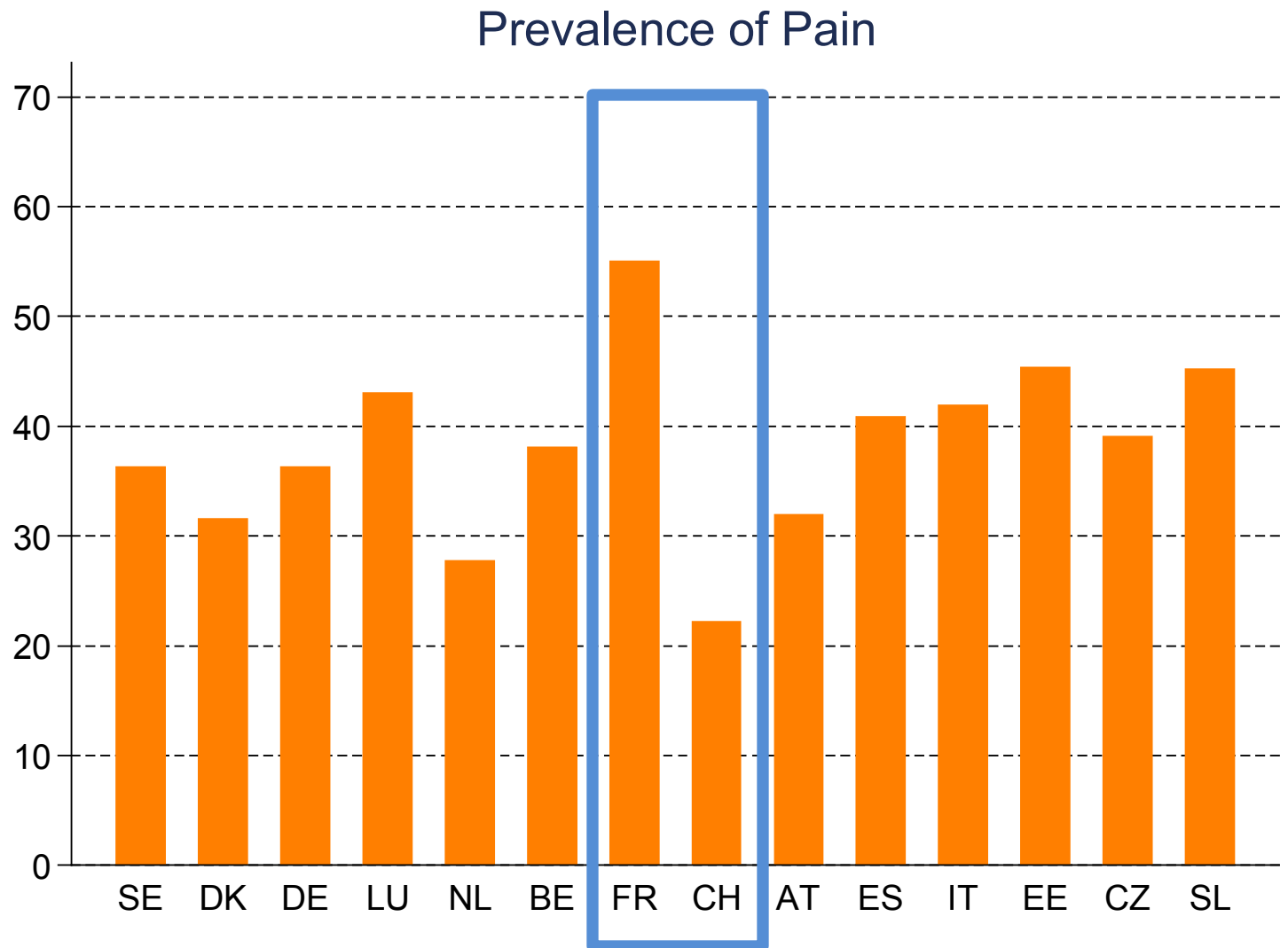
Sweden, Denmark, Germany, Luxembourg, the Netherlands, Belgium, France, Switzerland, Austria, Spain, Italy, Estonia, Czech Republic, and Slovenia

- Sample:

Respondents aged 50 through 64

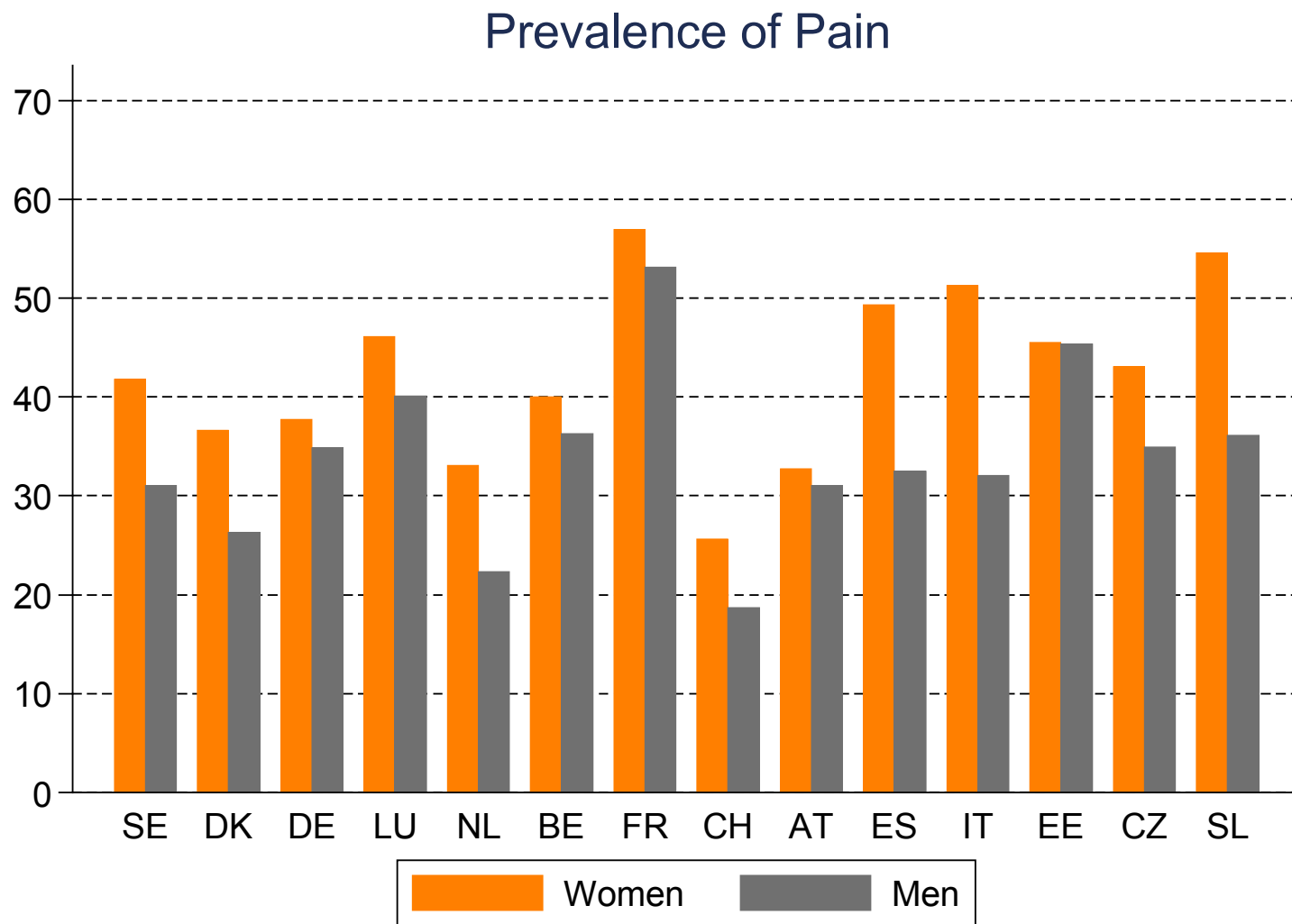
27534 individuals

# Prevalence of Pain by Country

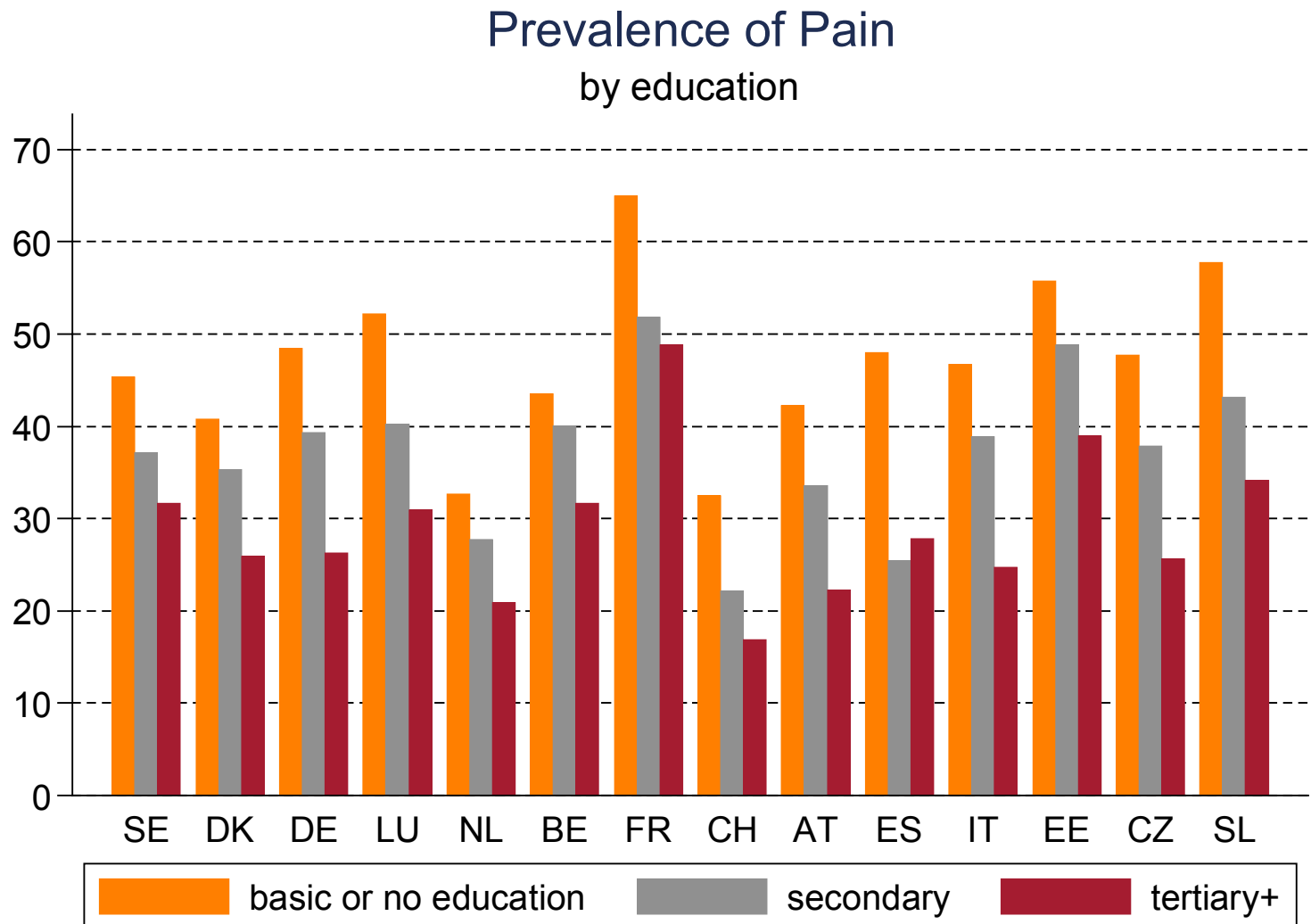




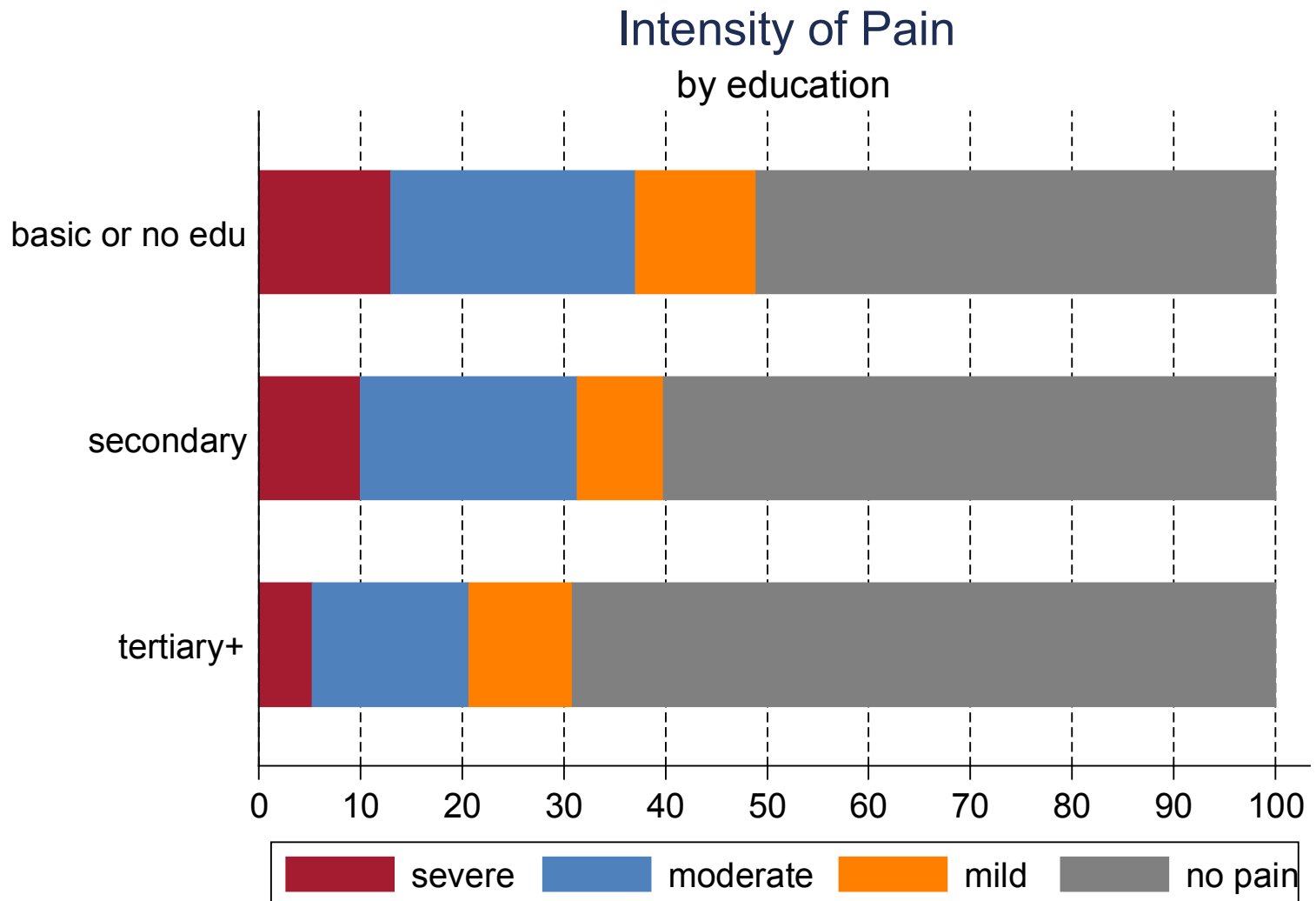
# Prevalence of Pain by Gender and Country



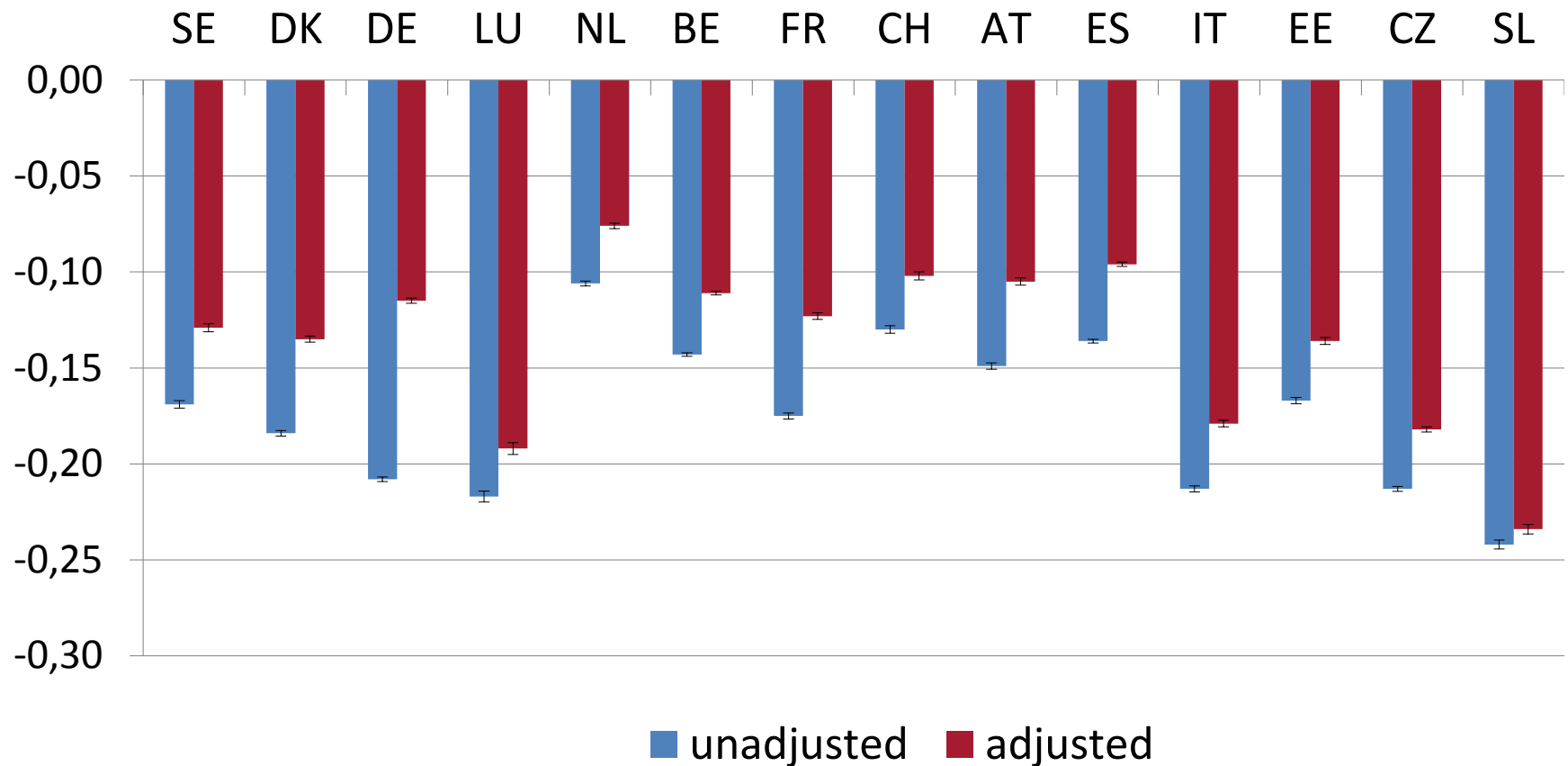
# Prevalence of Pain and Education



# Intensity of Pain and Education



# Probit Marginal Effects of Tertiary+ Education on Probability of Being Troubled by Pain



Each estimate obtained from a separate Probit regression. All regressions include controls for age, sex, marital status, and education. Adjusted regressions include also controls for retirement status, bmi, and equivalized household income. 95% CI shown.

# Limitation

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- Use of self-reported pain relies on assumption that individuals within a country interpret the pain question (and the response scale for intensity) in the same way.
  - Bago d'Uva, van Doorslaer and O'Donnell (2008) found higher income/education tend to rate their pain and that of others significantly higher
    - ➔ reported gaps *understate* true disparities in pain

# Conclusions

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- Considerable variation in reporting of pain across countries (real or reporting bias?)
- In most countries, strong association between pain and education
- Puzzle – why is the prevalence of pain associated with education? Something having to do with the processing of pain?

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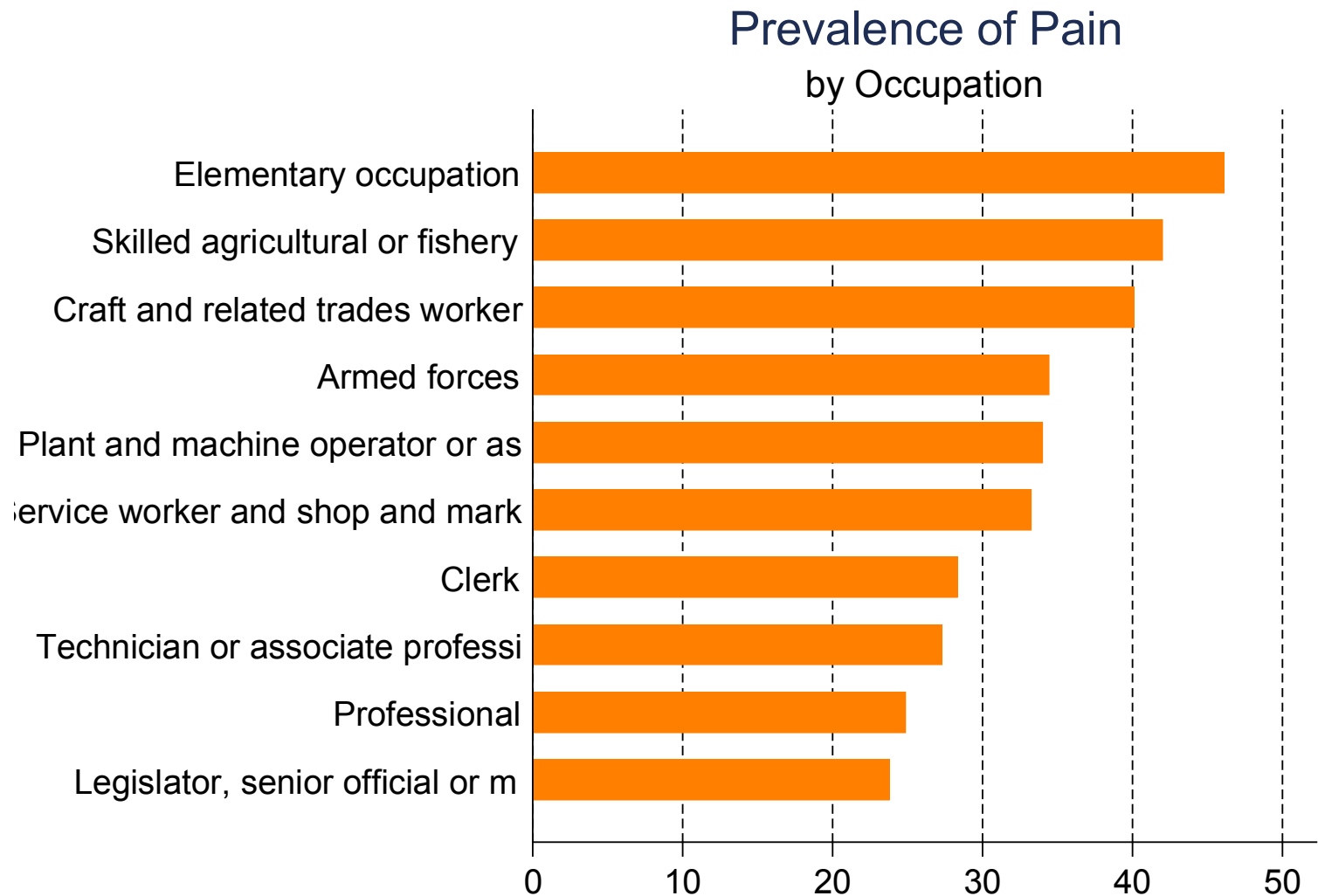
# Additional Slides

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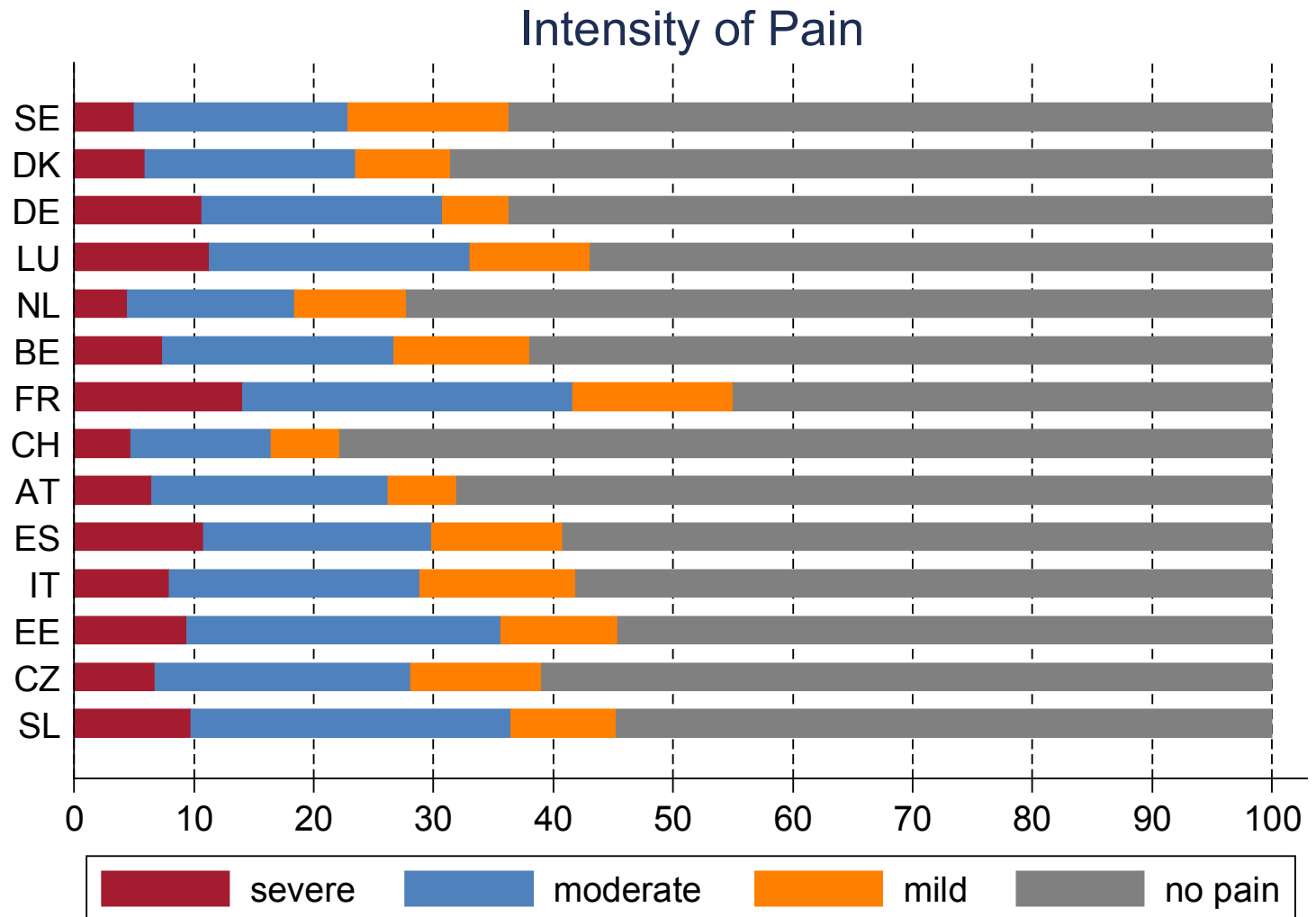
- All based on 50-64 sample



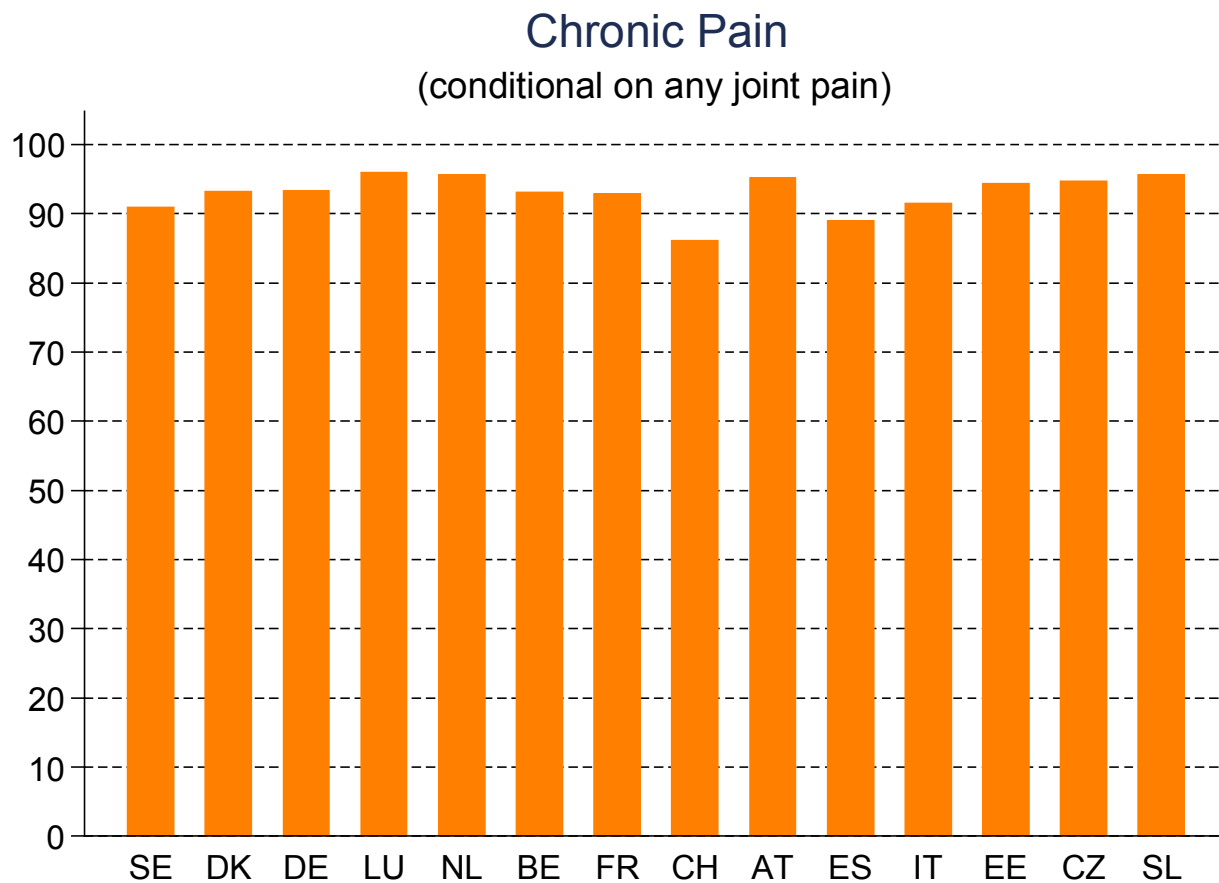
# Prevalence of Pain by Occupation



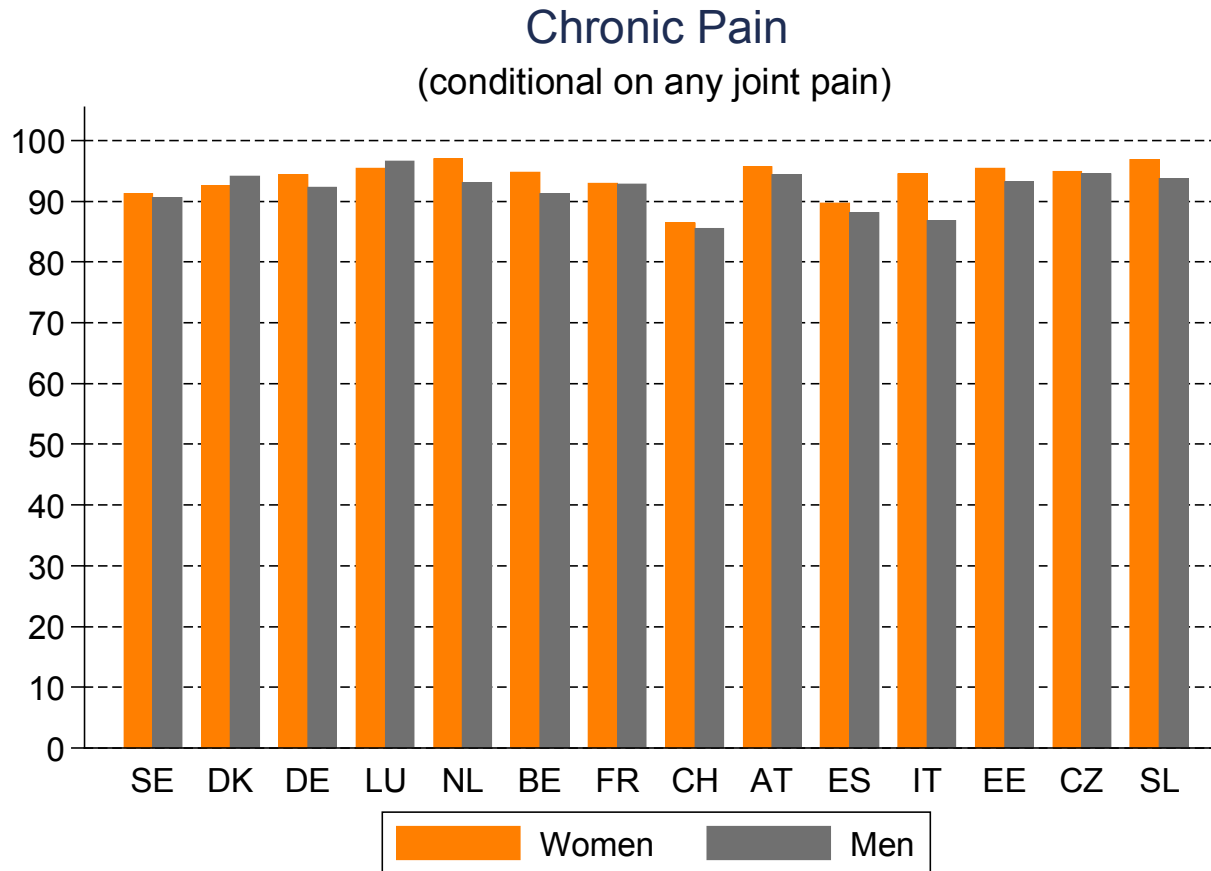
# Intensity of Pain by Country



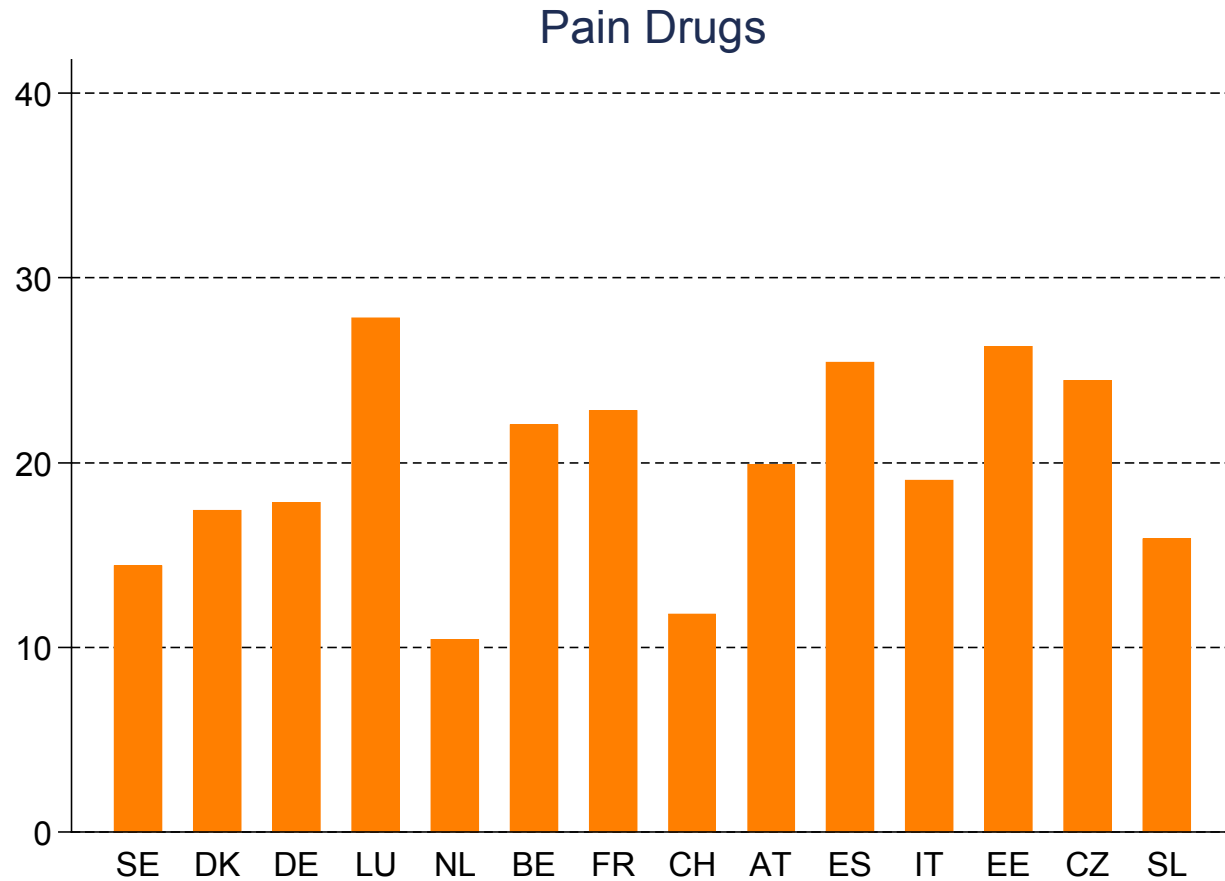
# Chronic Pain (6 months +)



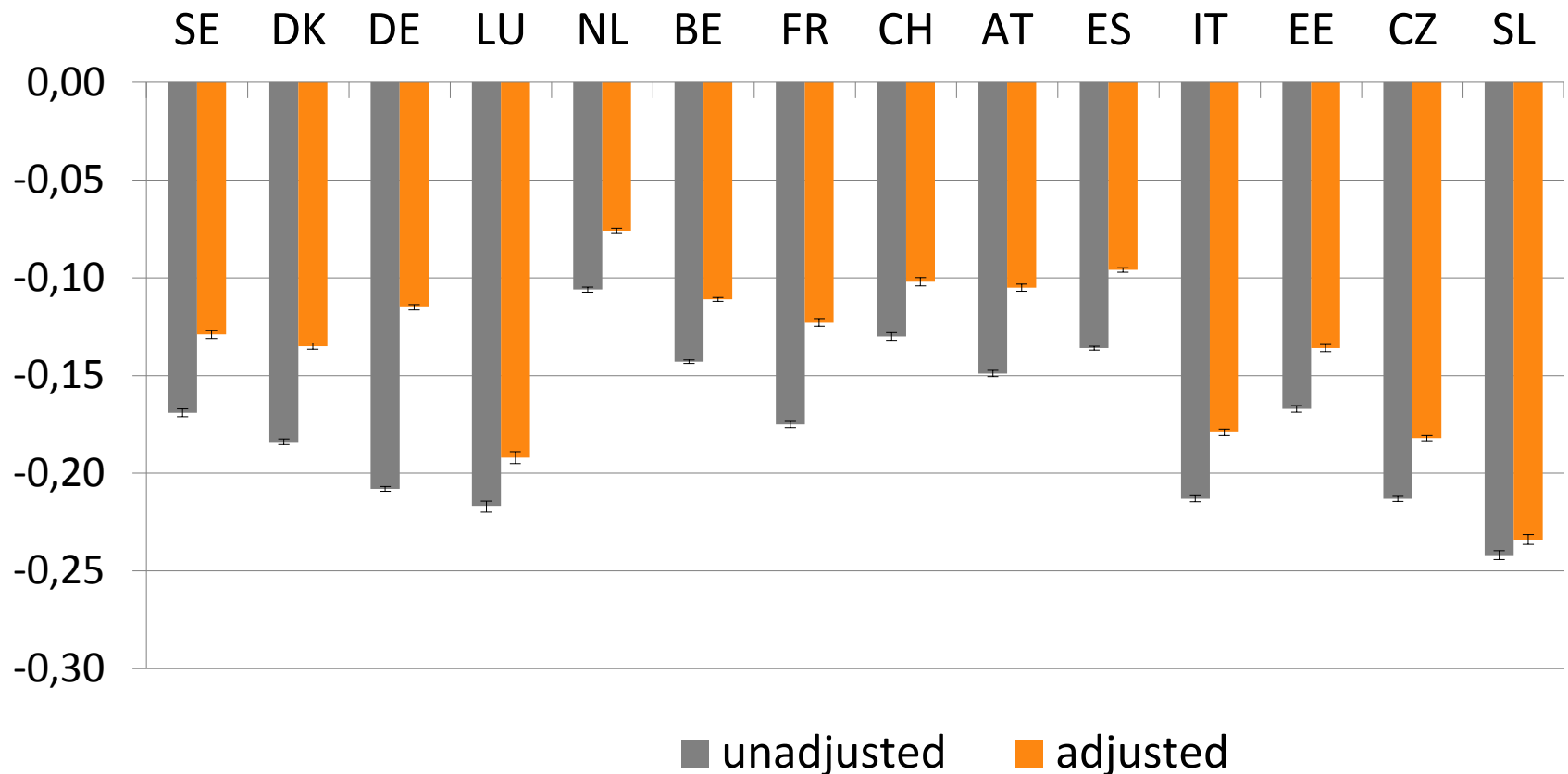
# Chronic Pain by Gender



# Drugs for Joints or Other Pain



# Probit Marginal Effects of Tertiary+ Education on Probability of Being Troubled by Pain

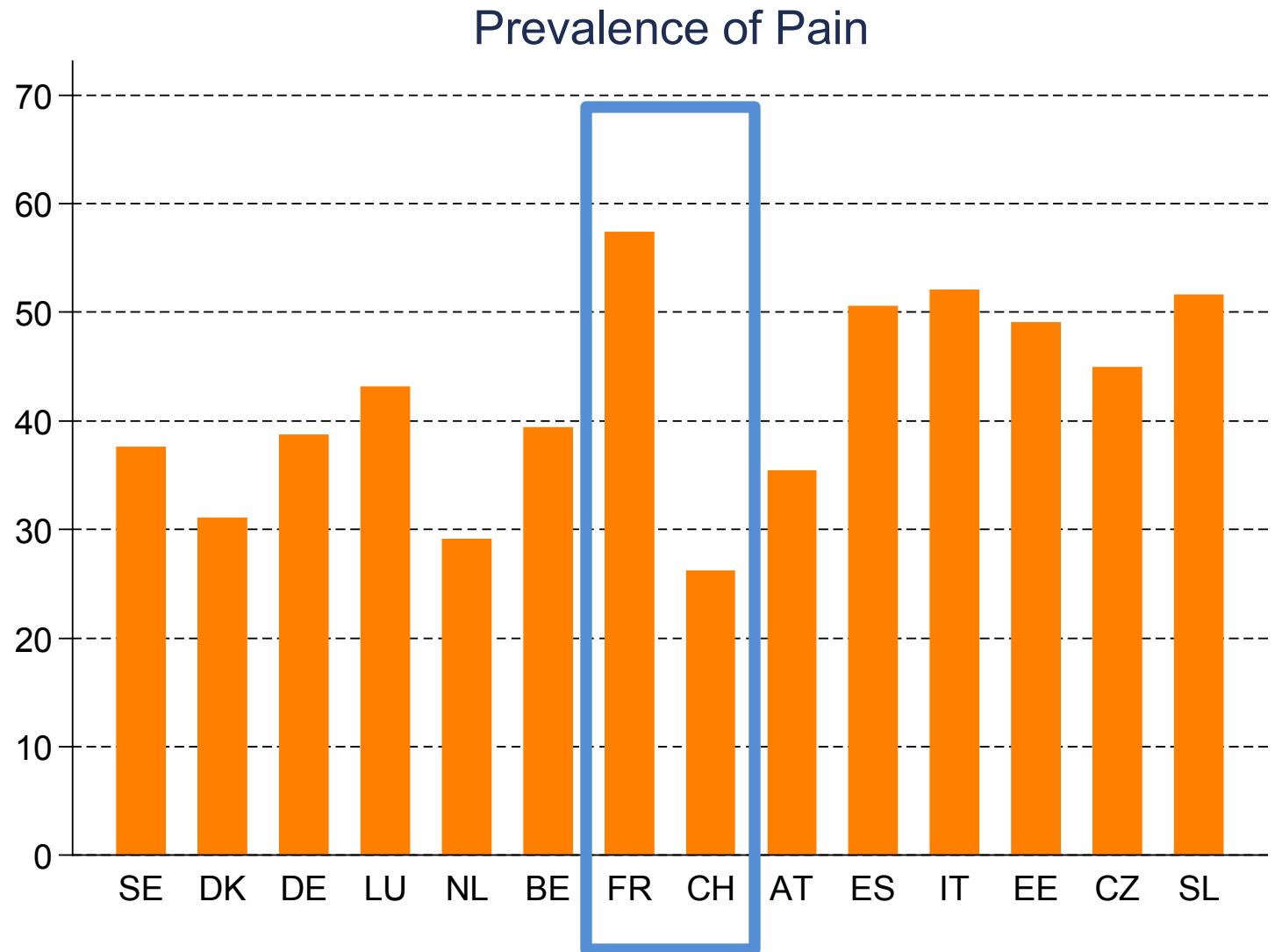


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# Next graphs: whole SHARE sample 50+

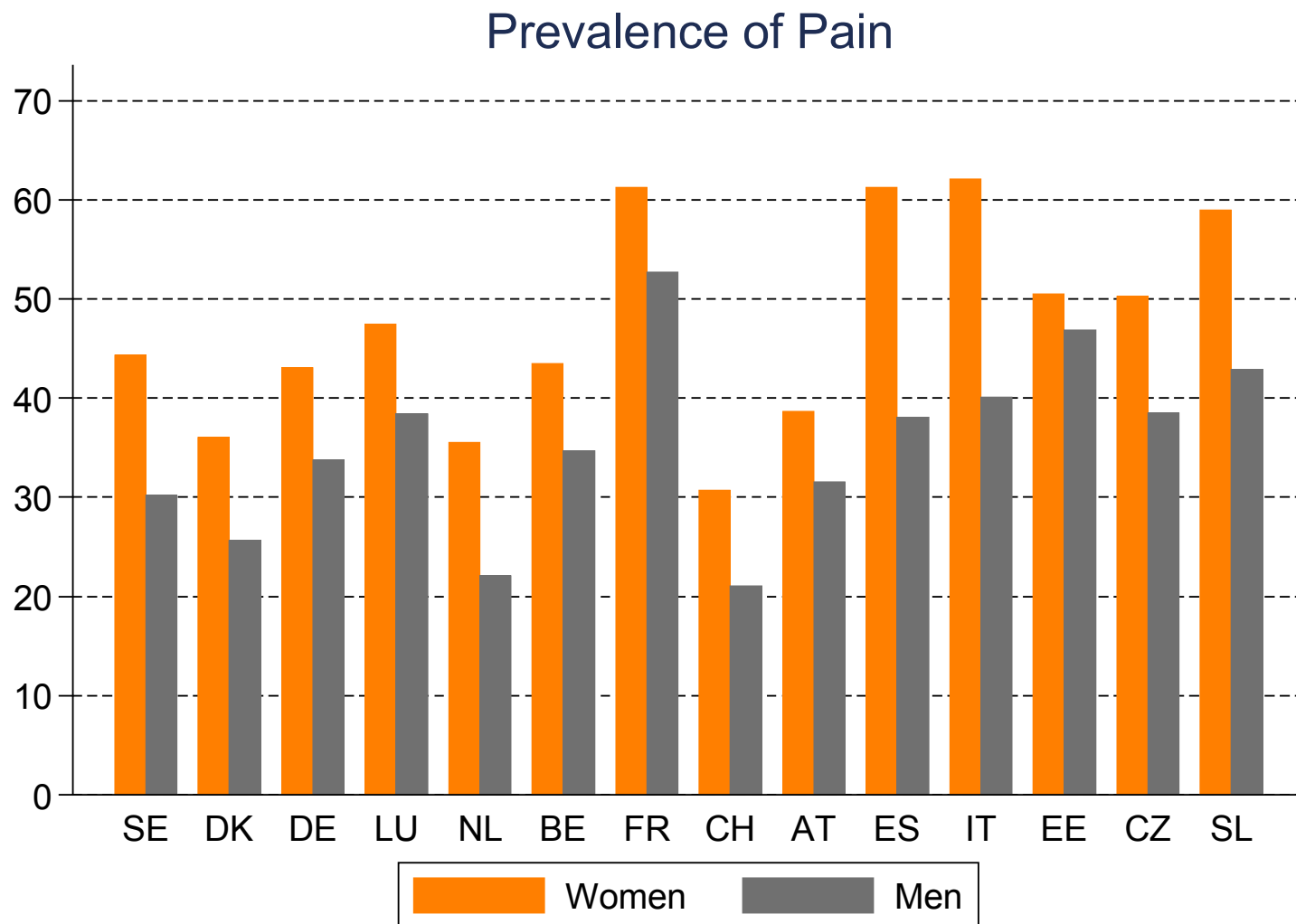
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# Prevalence of Pain by Country

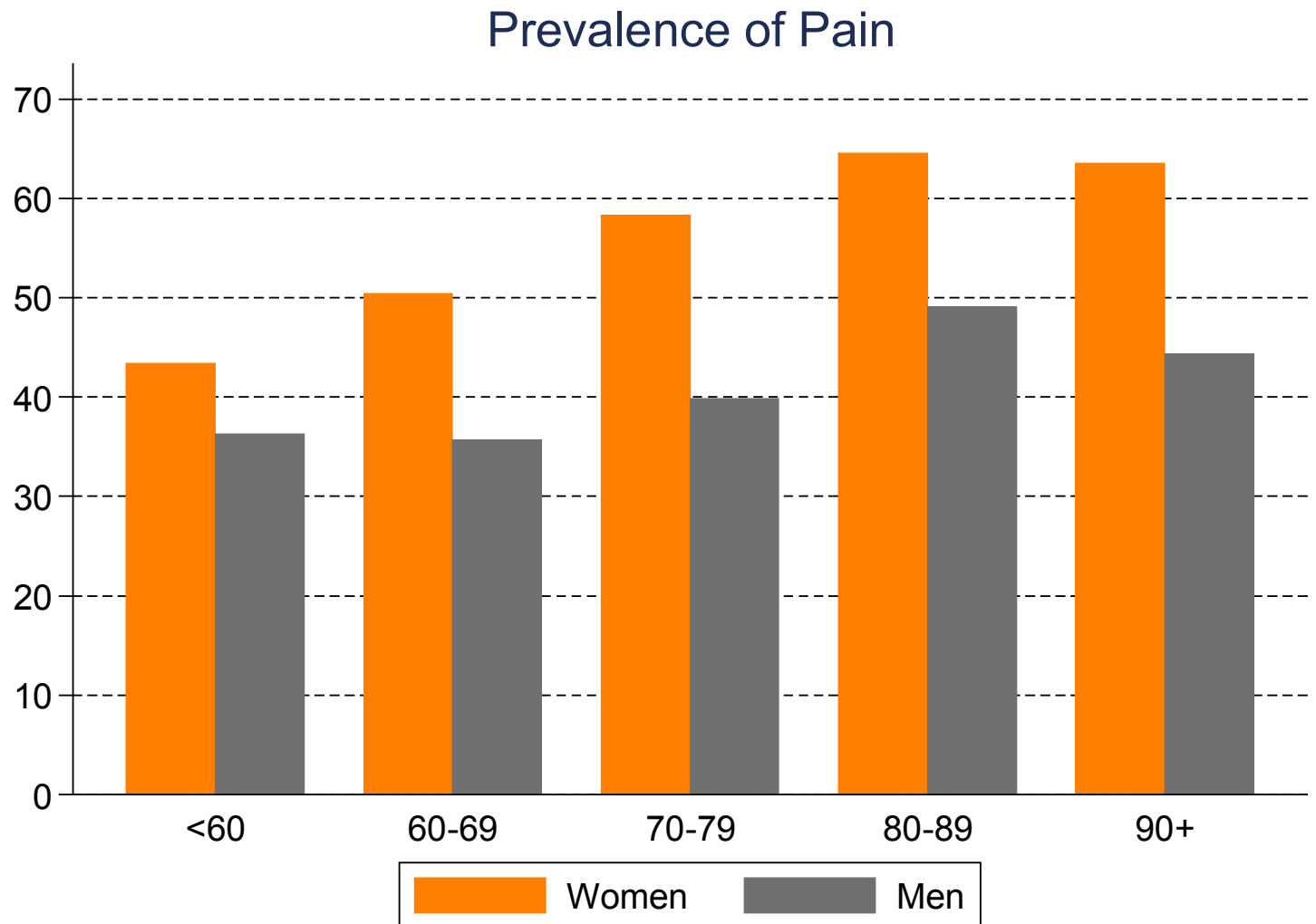




# Prevalence of Pain by Gender and Country



# Prevalence of Pain by Gender and Age



# Prevalence of Pain by Gender and Age

