

Prof. Frederik Zuiderveen Borgesius

Equality, artificial intelligence, algorithms and
automated decisions:

How to detect and address discrimination in the
context of AI?



Radboud University

Amazon scraps secret AI recruiting tool that showed bias against women

Machine Bias

There's software used across the country to predict future criminals.
And it's biased against blacks.

by Julia Angwin, Jeff Larson, Surya Mattu and Lauren Kirchner, ProPublica

May 23, 2016

'Compas'

THE WALL STREET JOURNAL.

This copy is for your personal, non-commercial use only. To order presentation-ready copies for distribution to your colleagues, clients or customers visit <http://www.djreprints.com>.

<http://www.wsj.com/articles/SB10001424127887323777204578189391813881534>

WHAT THEY KNOW

Websites Vary Prices, Deals Based on Users' Information

By JENNIFER VALENTINO-DEVRIES,
JEREMY SINGER-VINE and ASHKAN SOLTANI

December 24, 2012

The Tiger Mom Tax: Asians Are Nearly Twice as Likely to Get a Higher Price from Princeton Review



Non-discrimination law

Non-discrimination law

Direct discrimination

Indirect discrimination

Direct discrimination



South Africa, apartheid from 1948-1990

Indirect discrimination

- (i) An apparently neutral practice
- (ii) that harms people with certain ethnicity
= Banned.

Indirect discrimination

- (i) An apparently neutral practice
- (ii) that harms people with certain ethnicity
= Banned.
- (iii) Unless: practice has (a) legitimate aim, (b) practice is proportionate

Indirect discrimination

Not relevant whether discrimination happens by accident or on purpose.

The Tiger Mom Tax: Asians Are Nearly Twice as Likely to Get a Higher Price from Princeton Review



Indirect discrimination

Indirect discrimination:

(i) Neutral practice?

Indirect discrimination

Indirect discrimination:

(i) Neutral practice?



Indirect discrimination

Indirect discrimination:

- (i) Neutral practice? ✓
- (ii) Harms certain ethnic group?

Indirect discrimination

Indirect discrimination:

- (i) Neutral practice? ✓
- (ii) Harms certain ethnic group? ✓

Indirect discrimination

- (i) An apparently neutral practice
- (ii) that harms people with certain ethnicity
= Banned.

Indirect discrimination

- (i) An apparently neutral practice
- (ii) that harms people with certain ethnicity
= Banned.
- (iii) Unless: practice has (a) legitimate aim, (b) practice is proportionate

Indirect discrimination

(a) Aiming for profit a legitimate aim?

Indirect discrimination

(a) Aiming for profit a legitimate aim?

Judge would probably say: 'yes'.

Indirect discrimination

(b) Price differentiation proportionate?

Indirect discrimination

(b) Price differentiation proportionate?

Depends...

Indirect discrimination

(b) Price differentiation proportionate?

Depends...

- Product type (e.g. supermarket / caviar)
- Price difference (25% / 1%)
- ...

Indirect discrimination

Is price differentiation a prohibited form of indirect discrimination?

It depends.

Data protection law

Data protection law could help

The General Data Protection Regulation
(GDPR)

Data protection law could help

The General Data Protection Regulation (GDPR), requirements include:

- Transparency about personal data use

Data protection law could help

The General Data Protection Regulation (GDPR), requirements include:

- Transparency about personal data use
- Data protection impact assessment (DPIA) for high-risk personal data practices

AI Act

AI Act

Rules for developers of AI systems to prevent discrimination.

Rules apply from 2 August 2026 (with exceptions)

Conclusion 1

In the short term: strictly enforce

- Non-discrimination law

- Data protection law

- AI Act

Conclusion 2

Longer term: new rules may be needed.

Non-discrimination law, weak points

Non-discrimination law, weak points

- Indirect discrimination ban: nuanced, but
vague

Non-discrimination law, weak points

- Indirect discrimination ban: nuanced, but vague
- AI-driven discrimination may remain hidden

Non-discrimination law, weak points

Some problems: largely outside scope

Non-discrimination law, weak points

Some problems: largely outside scope

E.g.: many non-discrimination statutes do not protect poor people against discrimination

THE WALL STREET JOURNAL.

This copy is for your personal, non-commercial use only. To order presentation-ready copies for distribution to your colleagues, clients or customers visit <http://www.djreprints.com>.

<http://www.wsj.com/articles/SB10001424127887323777204578189391813881534>

WHAT THEY KNOW

Websites Vary Prices, Deals Based on Users' Information

By JENNIFER VALENTINO-DEVRIES,
JEREMY SINGER-VINE and ASHKAN SOLTANI

December 24, 2012

What to do?

New rules may be needed:

Sector-specific rules

Strengthening legal protection against discrimination by algorithms and artificial intelligence

Frederik J. Zuiderveen Borgesius  

Received 04 Jun 2019, Accepted 10 Mar 2020, Published online: 25 Mar 2020

Thank you!

www.ru.nl/en/people/zuiderveen-borgesius-f

All my publications open access

https://akademienl.social/@Frederik_Borgesius

www.linkedin.com/in/frederik-zuiderveen-borgesius



Radboud University