# Equity in Transport (Research)

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- What is equity?
- Types of equity
- Trends in equity research
- Indicators for equity
- Research challenges

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World Health Organization (WHO): "The absence of avoidable or remediable differences among groups of people, whether those groups are defined socially, economically, demographically, or geographically"

Not even a definition in Stanford Encyclopedia of Philosophy…

Stanford Encyclopedia of Philosophy

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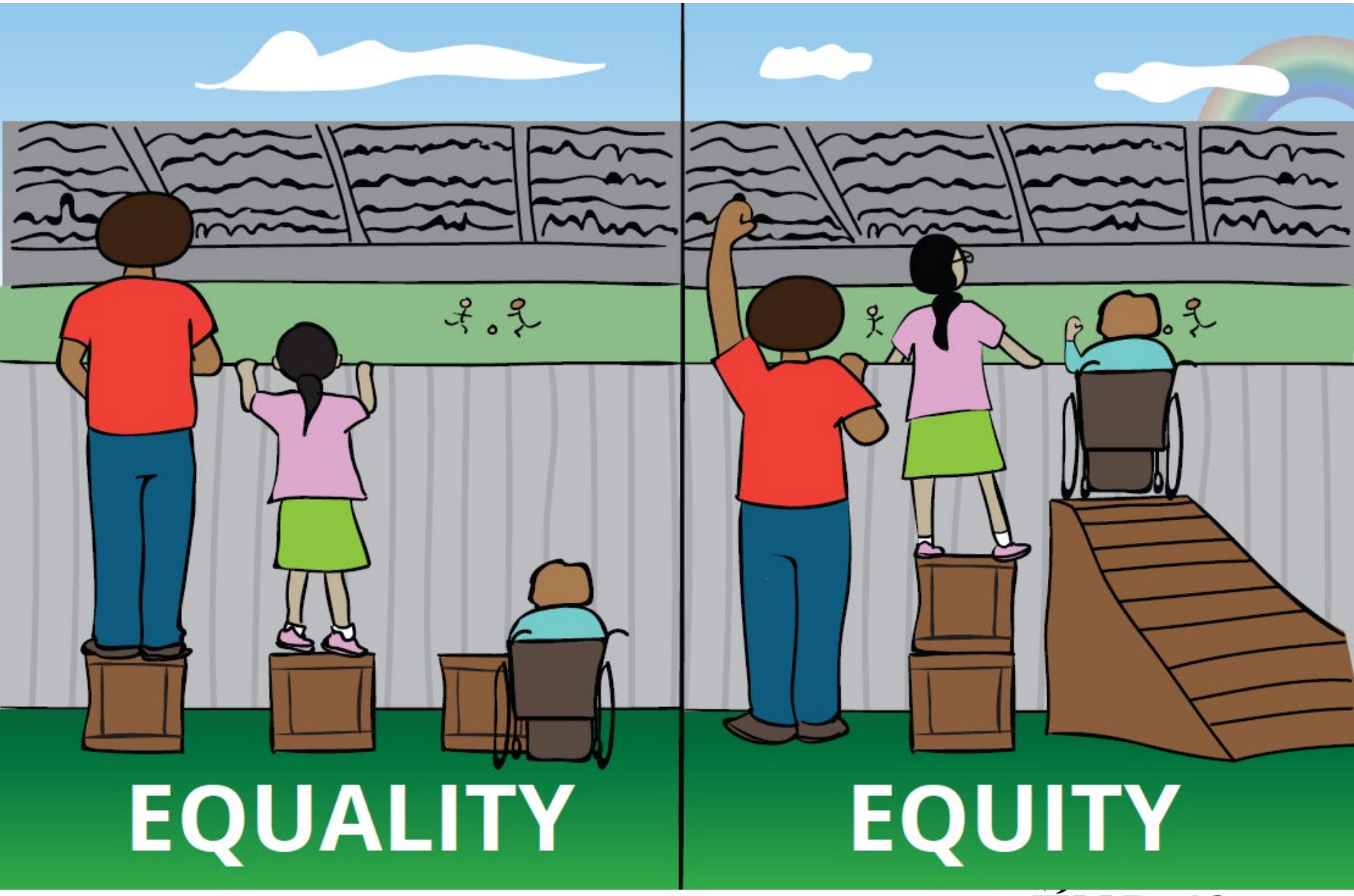


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# Equity types

(Thomopoulos et al., 2009)


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| Equity types | Features |
|---|---|
| Horizontal equity | Comparable individuals, groups or regions should be treated in a comparable way |
| Vertical equity | Disadvantaged individuals, groups or regions deserve protection. People should be burdened according to their ability to contribute, and this may lead to schemes where taxes may be progressive |

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| | |
|---|---|
| Egalitarianism | All individuals are treated equally, making the same contribution, disregarding their financial (or other) ability |
| Spatial equity | It refers to the geographical location of an individual, group or region affected by a transport infrastructure project |

# Other forms

| | |
|---|---|
| Territorial equity | Results from the notion of individual equity, when it is projected on relatively homogeneous regions, and the need to get similar funds for (public) transport |
| Territorial cohesion | Refers to balanced development of human activities across the EU |
| Level playing field | Transport sectors should be treated in similar ways according to taxation, payment for the use of infrastructure, etc. |

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| | |
|---|---|
| Transport users should pay their way | This concept is usually interpreted in terms of average costs implying that the collective of all transport users exactly pays for the aggregate costs |
| Individuals that are negatively affected by policies need to be compensated | This principle has its starting point in the status-quo situation, and implies that winners have to compensate losers |

| | |
|---|---|
| Social equity | It refers to the impacts on personal, economic or social characteristics of an individual, group or region |
| Solidarity | It is anticipated that an increased focus on solidarity issues will be facilitated by setting the EU transport policy in the context of the wider EU cohesion policy |

Linking equity types to accessibiliy, safety and the environment (Van Wee and Mouter, 2021)

Message: can be done systematically

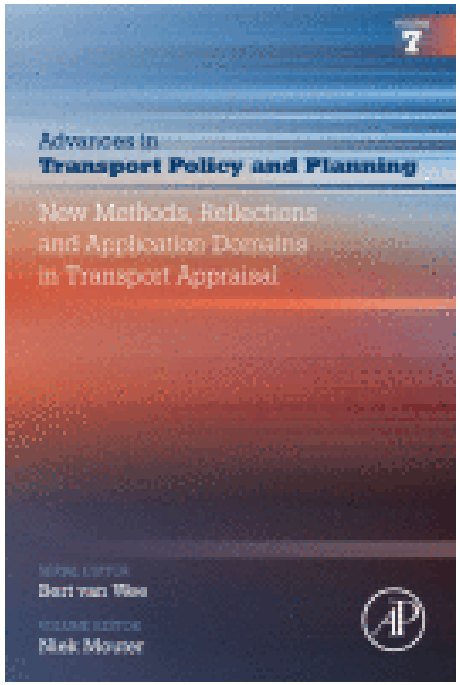


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Table 2 Examples of equity types, applied to accessibility, safety and the environment.

| Equity type | Accessibility | Safety | Environment |
|---|---|---|---|
| Horizontal | Accessibility levels of comparable (groups of) people or regions should be about equal | Comparable (groups of) people should have roughly the same safety risks | Comparable (groups of) people should have comparable (maximum) levels of exposure to pollutants |
| Vertical | Disadvantaged individuals, groups or regions should be treated with priority to increase their accessibility levels | The transport system should prioritize the safety of disadvantaged individuals, groups or regions | The environmental quality of disadvantaged individuals, groups or regions should be improved with priority |
| Territorial | (European) regions that lag behind should be prioritized via policies that improve accessibility | (European) regions that lag behind should be prioritized via policies that improve safety | (European) regions that lag behind should be prioritized via policies that improve the environment |
| Egalitarianism | Policies should reduce differences in levels of accessibility between people | Policies should reduce differences in levels of safety between people | Policies should reduce differences in levels of environmental quality between people |
| Spatial equity | Covered by the regional component of the equity types above | | |

# Trends in equity research

- Policy analyses literature: policies should be effective, efficient and fair
- Until 15 years ago: very limited in transport research
- Main exception: literature on social exclusion – accessibility

# Trends in equity research

- Now ‘booming business’
- (not only transport, also other areas like energy)

- Dominance: accessibility (below: more)

- Way less on the environment, safety
- Environment: (1) who suffers from traffic (noise, pollution)
- Environment: (2) intergenerational justice – climate change (more general than transport only

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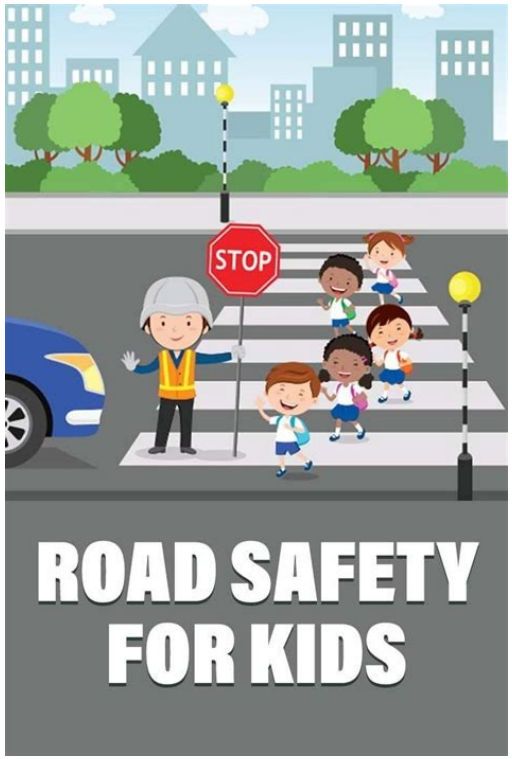
- Safety: vulnerable road users versus motorized traffic

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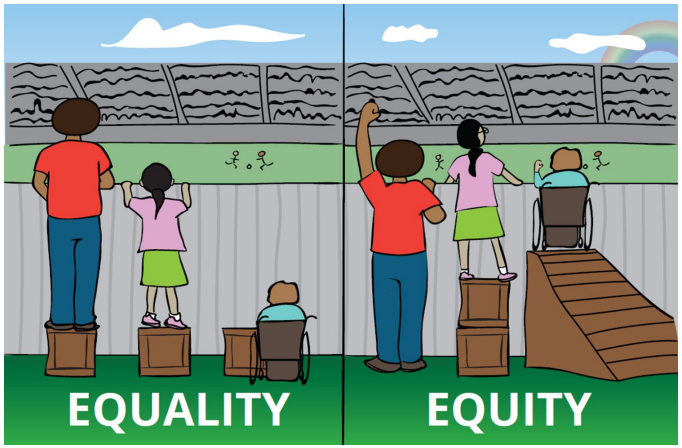
# Accessibility: many papers

- General focus: distributions of accessibility across people (1) by income group, (2) areas (3) car versus other modes
- Dominant ethical principles (in addition to utilitarianism): sufficientarianism, egalitarianism

# Accessibility: many papers

- Evaluative (for example: me) versus normative (for example: Karel Martens)
- Capability approach (note difference between equity and equality)



# How to express quantitatively

(Van Wee and Mouter, 2021)

Table 6 Use of inequality indices—gross findings from SCOPUS.

| Metric | Number of hits |
|---|---|
| Gini | 1767 |
| Theil | 504 |
| Atkinson | 211 |
| Palma | 391 |

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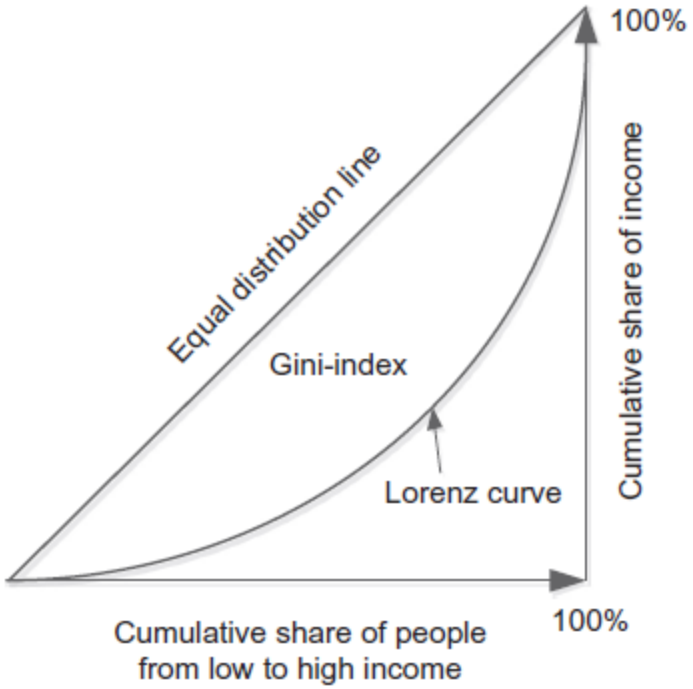


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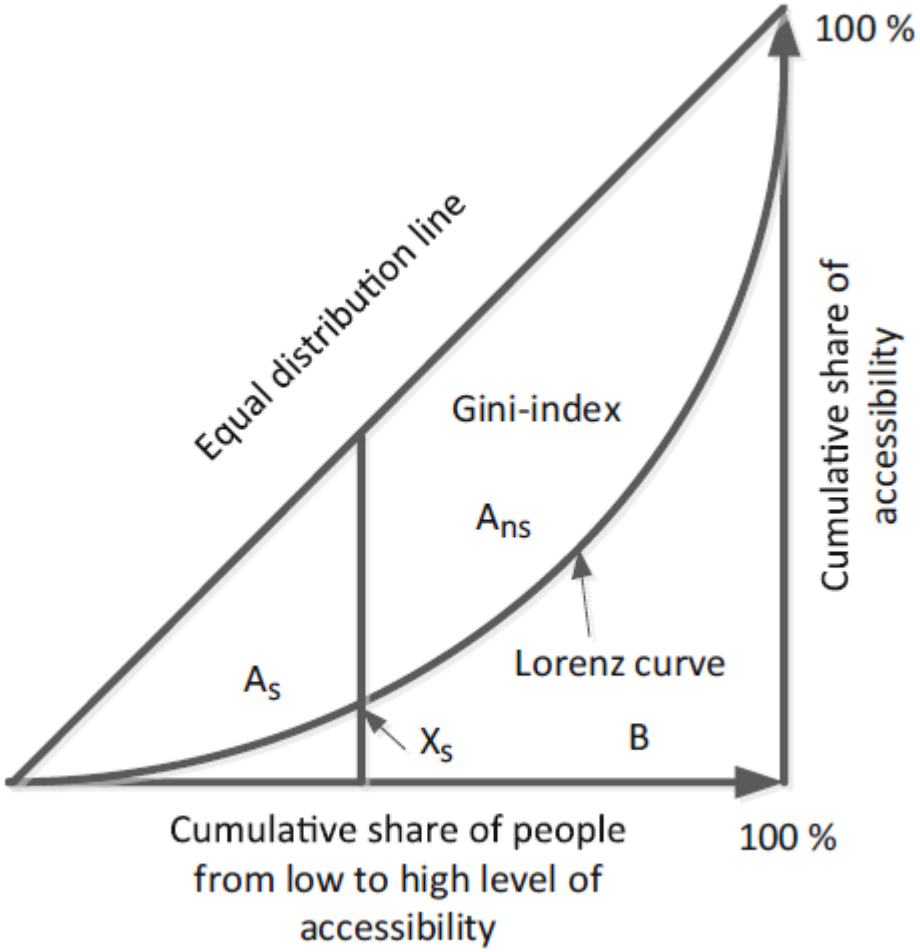
# Lucas et al., (2016)

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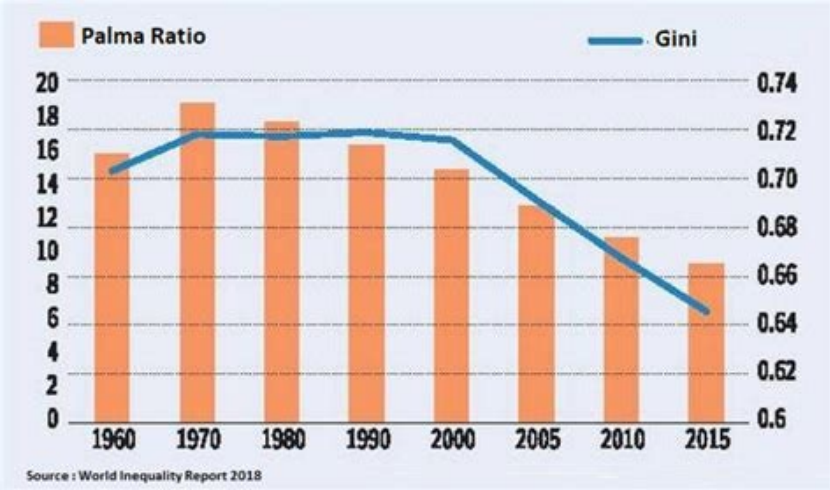
Palma: top 10% / lowest 40%

Theil, Atkinson: difficult to explain to laymen / politicians / policy makers

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# Research challenges (Van Wee and Mouter, 2021)

- Preferences of potential users of (in)equality studies, such as policy makers, politicians, the wider public, and interest. Which topics, which groups?
- Preferences for distributions of transport impacts
- Dynamics – changes over time
- Integration in evaluation frameworks (CBA, MCA)


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# Research challenges (2)

- Impact of spatial scale on distributions (accessibility) (Van Wee and de Jong, 2023)
- Impact of data quality (Rahman et al., 2025)
- Specific topics, like Anne (ICT) ☺


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# Questions?


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