# Session 3:
# The Inclusion of Public Health Insurance Paper: Distributional implications of the public health system in Austria


**Discussant**

**Maria M. Hofmarcher-Holzhacker**

http://www.healthsystemintelligence.eu

http://austrianhealthacademy.at


The Measurement of Augmented Wealth: Concepts, Methods and Results Workshop

Friday, 3 March 2023 | Start: 09:00 AM | End: 05:00 PM CET

# Main messages of the papers

- The Austrian health system does for what it is built for
  - redistributes from the “healthy to the sick“ and has a built-in mechanism to redistribute from „rich to poor“.
    - The poorest population group benefits most from needs-based health spending
    - LTC transfers benefit people in the middle range of the income distribution, e.g., low-income people go inpatient due to unaffordable home care or 24h care!?
    - Changes in the population structure towards more young people in lower income classes reduces the redistributive strength of the system!?
- Cost profiles increase significantly with age.
  - costs of persons with higher education tend to be lower than those of the other education groups at all ages
  - women show larger differences by education above 40, men display larger differences in younger groups.
  - those with lower education have higher average health costs at younger ages but lower costs at older ages.

# Learnings and relevance

- Little is known about the distributional impact of health care spending.
- Papers are timely and important contributions.
- Lifetime costs of men with compulsory education are about two thirds, and for women about one fifth higher than they are of men and women with tertiary education.
- The social gradient, measured through educational levels is larger for men than for women; the difference is about threefold of the cost for women.
- If population groups with lower and medium education had the same sex- and age-specific healthcare costs of those with higher education, total healthcare expenditure for the 2019 birth cohort would be about 4.1% lower.
- This suggest that more “gainful” education may lead to better health literacy, less risks, more prevention, less utilization and ultimately to lower costs!?

# „Healthy-Ageing-/Red herring“ Hypothesis

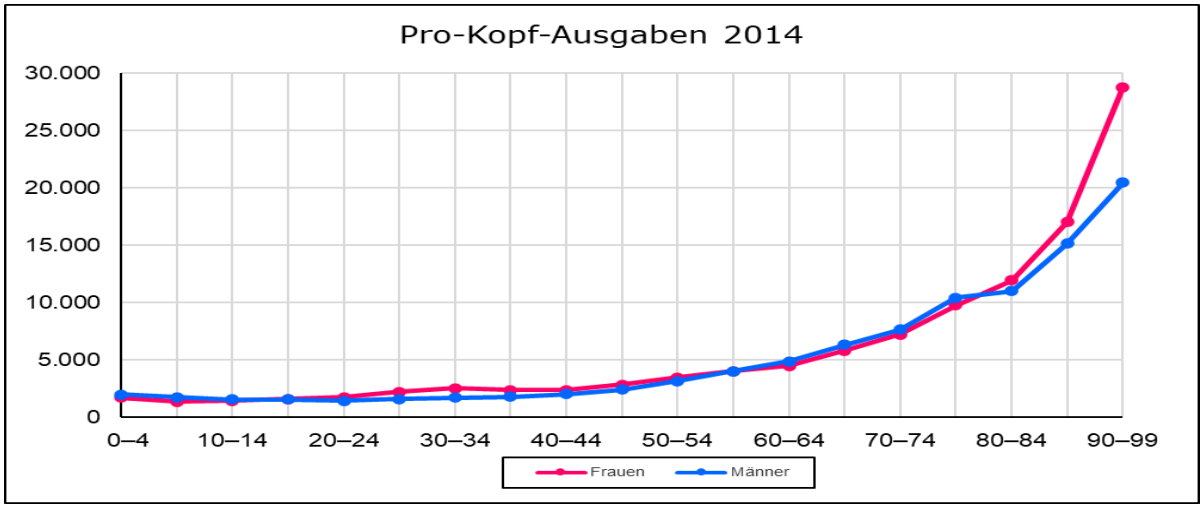
- The evidence on whether morbidity increases or decreases as mortality decreases (expansion/compression of morbidity, dynamic equilibrium) is not clear and is one of the crucial parameters in prognoses, e.g.,
  - Licchetta and Stelmach (2016), find that both healthy and sick life years have expanded in the UK.
  - Breyer et al. (2010), point out that the temporal proximity to death that is decisive for the level of costs, Red herring hypothesis.
  - EU Ageing Report, adjusts the expenditure structure where a large part of the costs would be shifted "backwards" if life expectancy were to increase while morbidity remained unchanged.
  - Projections of De La Maisonneuve and Martins (2013) are based on the healthy ageing hypothesis in the basic variant, a large part of the costs is shifted to the last years with life.
  - Schiman (2013) assumes age-related health expenditure to lag by exactly the extent of extended life expectancy.

# Some questions for discussion

- Is health and education a “joint product” of human capital ?
- Educational performance of population groups are on the move towards higher levels of education, possibly leading to a later onset of disease, How do we incorporate this in simulations of cost over the life course i.e., compression vs expansion of morbidity? Shall we consider it or just push the profiles backwards?
- Is education a good proxy to build risk groups which also serve calculations of “health insurance wealth” ?
- How do we account for the public/private mix in SHA data also health and long-term care components ?
- What is the impact of differences in (healthy) life expectancy within Austria, do they matter, do we care?
- How to treat capital in health care?

# Additional slides

# Stories and debates about health / utilization and spending over the life cycle




- Risk of dying between 0-1 tends to be greater for boys than for girls;
- Between 0 and 14 boys tend to have more health-related problems and they get more services; large difference between population groups.
- Risk factors up to age 18, e.g., alcohol, mobbing tend to be greater for (rural) boys than for girls, with exemptions e.g., physical activity.
- Women use more health services between their 20ties and 35 than men, Baby-time
- From age 60 onwards the health system spends more on men than on women
  - Are men sicker or are they treated more intensively, or more according to guidelines which are predominately made with male populations ? And more women than men say that the health system is broke. Keyword: gender medicine
- Women use the health system more than men from age 80 onwards
  - Their odds to be cared for by a partner are smaller, thus more institutional care is likely needed.

# And self-reported health status is significantly worse the lower the income is, which is very pronounced in the age group 65+

Biffl (2003): Morbidity declines with educational attainment level; the relationship between income and morbidity for age group 45-59 year is negative

**Befragte mit gutem oder sehr gutem subjektivem Gesundheitszustand, ATHIS 2019**

| *Anteil des Äquivalenzeinkommens am Median* | *Insgesamt* | | *Alter in Jahren* 15-39 | | 40-64 | | 65+ | |
|---|---|---|---|---|---|---|---|---|
| | *Anzahl* | *in %* | *Anzahl* | *in %* | *Anzahl* | *in %* | *Anzahl* | *in %* |
| **Insgesamt** | **11.446** | **74%** | **4.437** | **91%** | **4.915** | **75%** | **2.094** | **52%** |
| <60% | 1.486 | 65% | 737 | 87% | 517 | 61% | 232 | 39% |
| 60% - <80% | 1.775 | 67% | 688 | 90% | 665 | 69% | 422 | 47% |
| 80% - <100% | 2.442 | 71% | 909 | 91% | 997 | 71% | 536 | 52% |
| 100% <150% | 3.917 | 78% | 1.516 | 93% | 1.745 | 77% | 656 | 58% |
| >150% | 1.826 | 87% | 587 | 95% | 991 | 88% | 248 | 71% |

Quellen: Statistik Austria 2021, ATHIS 2019; eigene Berechnungen

# Age, social status, risk factors, and several populations coming from different countries of origin reduce self-reported (very) good health significantly

***Ergebnisse der logistischen Regression mit robusten Standardfehlern***

| *Abhängige Variable: (Sehr) guter Gesundheitszustand* | *Odds Ratios* | | |
|---|---|---|---|
| | Modell 1 | Modell 2 | Modell 3 |
| Alter | **0,78** | **0,80** | **0,79** |
| Geschlecht | 0,95 | 1,09 | 0,99 |
| Einkommen | | **1,21** | **1,21** |
| Bildungsniveau | | **1,31** | **1,27** |
| BMI | | | **0,94** |
| Rauchen | | | **0,66** |
| EU 15 und EFTA | **1,51** | 1,23 | 1,25 |
| EU 13 | **0,72** | **0,68** | **0,73** |
| Ex-Jugoslawien | **0,44** | **0,55** | **0,61** |
| Türkei | **0,34** | **0,57** | **0,63** |
| Afghanistan, Irak, Syrien | **0,52** | 0,88 | 0,86 |
| Andere Länder | 0,71 | 0,71 | 0,68 |
| Konstante | **27,70** | **4,09** | **26,02** |
| Pseudo R^2 | 0,12 | 0,16 | 0,17 |

*Signifikante Werte sind **fett gedruckt** ($p < 0,01$)*

***Beschreibung der Variablen***

| *Name* | *Werte* |
|---|---|
| (Sehr) guter Gesundheitszustand | 1, wenn Gesundheitszustand gut, oder sehr gut; 0 sonst |
| Alter | 1, 2, ..., 17 (5-jährige Altersgruppen (15-19, 20-24, ..., 95+)) |
| Geschlecht | 1, wenn weiblich; 0 wenn männlich |
| Einkommen | 1, 2, ..., 5 (Quintile des Äquivalenzeinkommens) |
| Bildungsniveau | 1, 2, ..., 8 (Bildungsniveau nach ISCED) |
| BMI | stetiger Wert |
| Rauchen | 1, wenn tägliches Rauchen; 0 sonst |
| EU 15 und EFTA | 1, wenn Migrationshintergrund EU 15 oder EFTA; 0 sonst |
| EU 13 | 1, wenn Migrationshintergrund EU 13; 0 sonst |
| Ex-Jugoslawien | 1, wenn Migrationshintergrund Ex-Jugoslawien; 0 sonst |
| Türkei | 1, wenn Migrationshintergrund Türkei; 0 sonst |
| Afghanistan, Irak, Syrien | 1, wenn Migrationshintergrund AF, IQ, SY; 0 sonst |
| Andere Länder | 1, wenn anderer Migrationshintergrund; 0 sonst |

If all groups had the same demographic structure, the per capita costs of Turkish migrants and migrants from EU-15 and EFTA countries would be above average

Yet, the HE share of migrants including children and adolescents is smaller than their population share

**Abb. 28A**: Ausgaben pro Kopf in EUR nach Leistungsbereichen 2019, nicht standardisiert

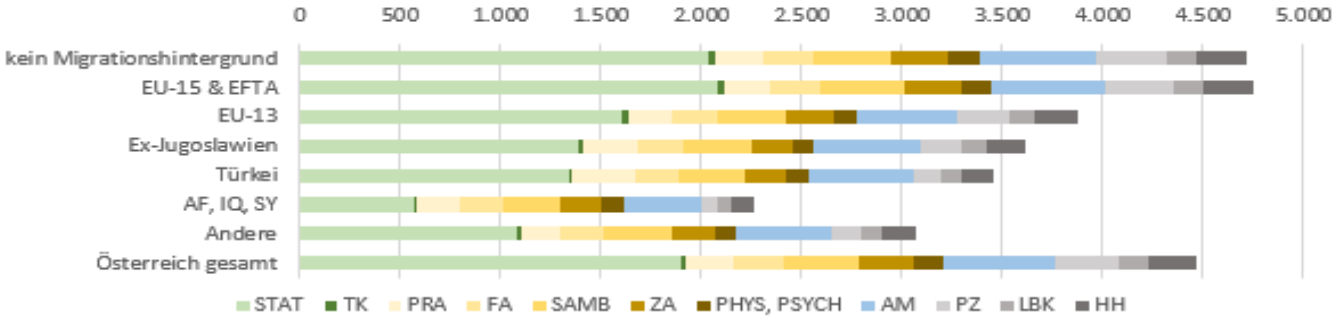
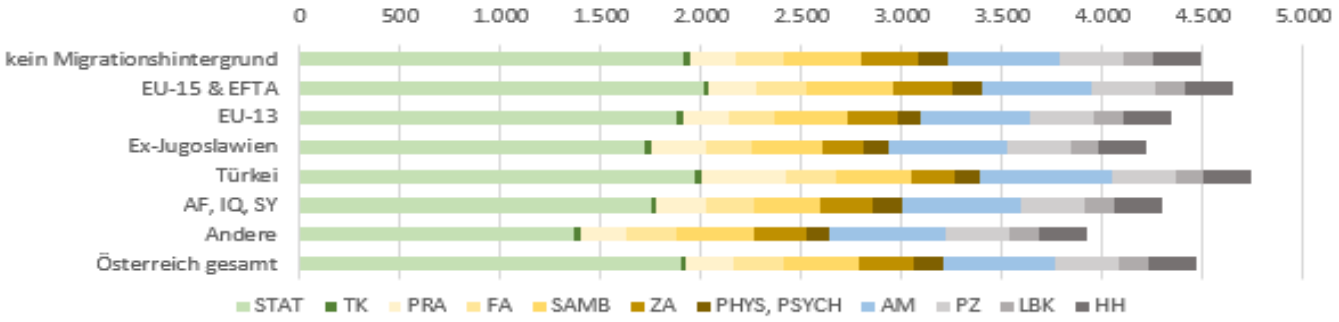
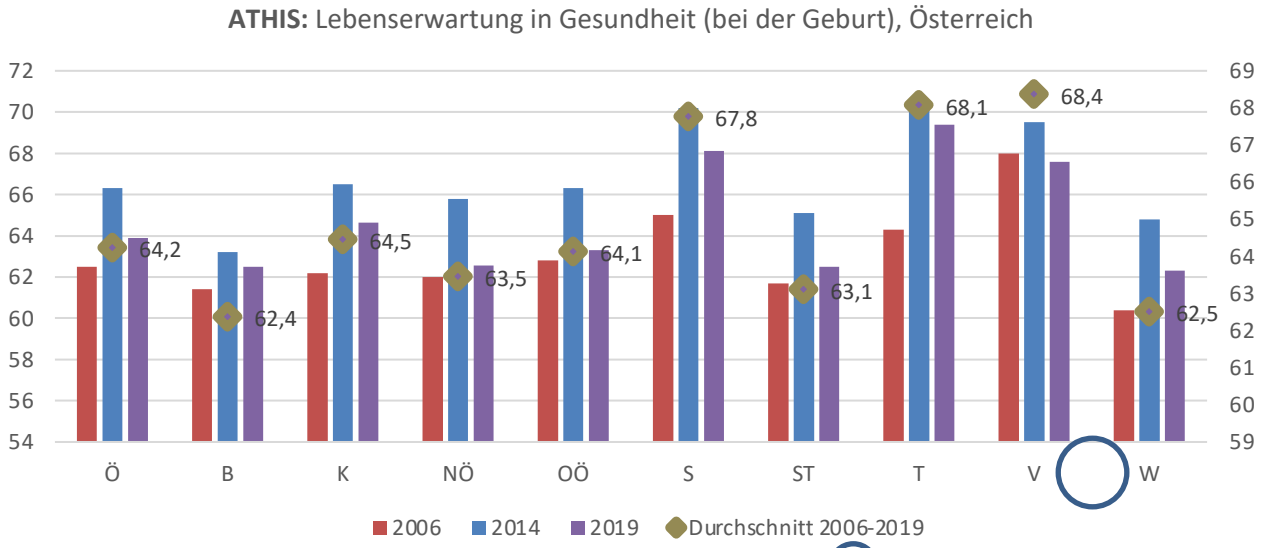



**Abb. 28B**: Ausgaben pro Kopf in EUR nach Leistungsbereichen 2019, standardisiert



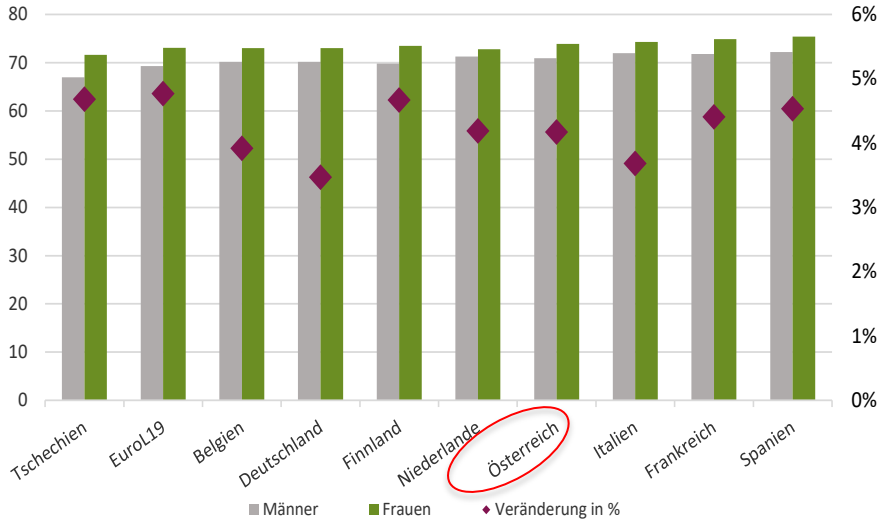

**STAT:** Krankenhäuser; **TK:** Tagesklinische Aufenthalte; **PRA:** Praktische Ärzte; **FA:** Fachärzte; **SAMB:** Spitalsambulanzen; **ZA:** Zahnärzte; **PHYS, PSYCH:** Ambulante Therapien; **AM:** Arzneimittel; **PZ:** Pflege Zuhause; **LBK:** Laborleistungen, bildgebende Verfahren und Krankentransporte; **HH:** Heilbehelfe und Hilfsmittel
Quellen: Statistik Austria 2021, ATHIS 2019 und Mikrozensus-Arbeitskräfteerhebung, SHA; eigene Berechnungen

# One health system, many different outcomes, what to take ?

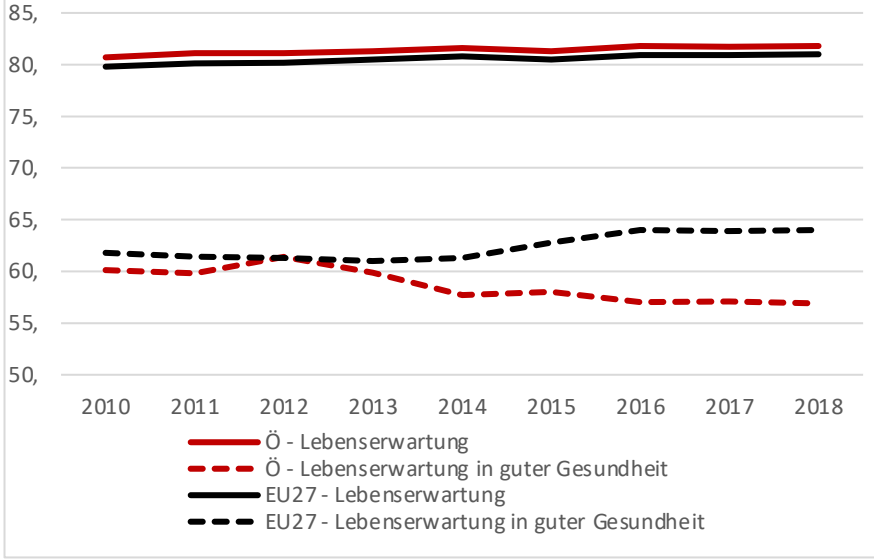



- WHO considers severity of diseases, Eurostat does not
- Therefore, Eurostat figures for Austria are significantly lower

**WHO**: Lebenserwartung in Gesundheit, international 2016, Veränderung 2000 – 2016 in % (rechte Achse)




**EuroSTAT:** Lebenserwartung und Lebenserwartung in guter Gesundheit, Österreich und EU27




Quellen: Statistik Austria, Klimont und Klotz (2016), WHO, EuroSTAT, HS&I-eigene Berechnungen und Darstellung

# Structure of the population in Austria: population grows, shares of women across countries of origin are uneven

**Bevölkerung in Privathaushalten 2019**

| Migrationshintergrund nach Herkunftsland der Mutter | Absolut | Anteil an Österreich Gesamt (%) | Veränderung zu 2014 in %-Punkten |
|---|---|---|---|
| kein Migrationshintergrund | 6.646.596 | 76% | -3,4% |
| Migrationshintergrund | 2.070.133 | 24% | +3,4% |
| EU-15- und EFTA-Länder (ohne Österreich) | 276.123 | 3% | +0,3% |
| EU-13 (Beitrittsländer ab 2004) | 548.931 | 6% | +1,2% |
| Ex-Jugoslawien (ohne Kroatien & Slowenien) | 531.556 | 6% | +0,2% |
| Türkei | 282.817 | 3% | +0,1% |
| Afghanistan, Irak, Syrien | 125.925 | 1% | +1,1% |
| Andere (z.B.: CN, IN, RU, UA, etc..) | 304.781 | 3% | +0,5% |
| **Österreich gesamt** | 8.716.729 | 100% | +0,0% |
| **Jahresdurchschnittsbevölkerung (inkl. Anstaltsbevölkerung)** | 8.877.637 | | |

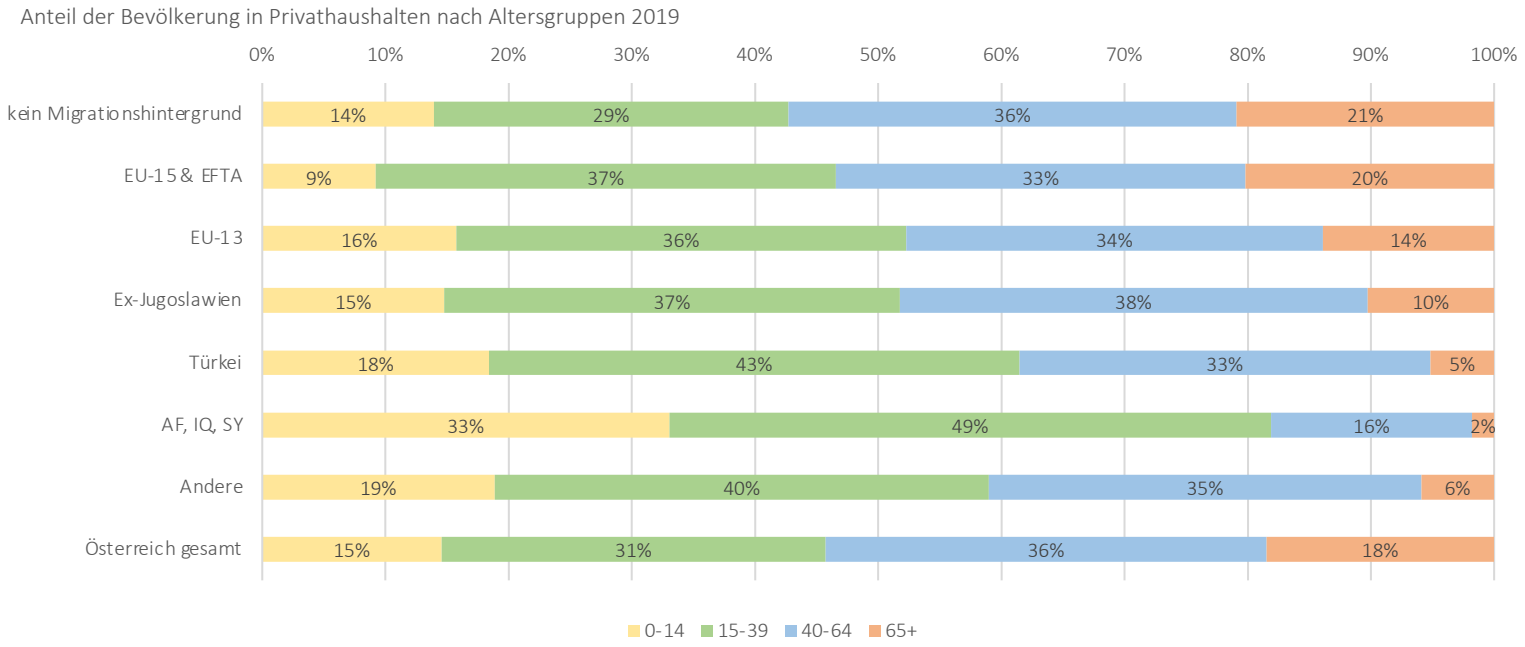
Quellen: Statistik Austria 2021, Mikrozensus-Arbeitskräfteerhebung; eigene Berechnungen

**Bevölkerung in Privathaushalten 2019**

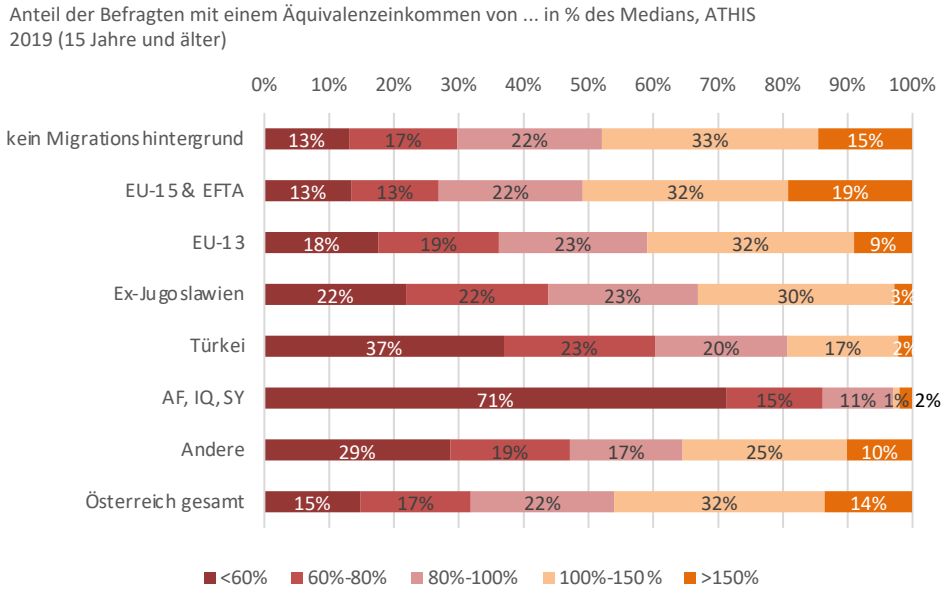
| Migrationshintergrund nach Herkunftsland der Mutter | Männer | Frauen | Gesamt | % Männer | % Frauen |
|---|---|---|---|---|---|
| kein Migrationshintergrund | 3.278.999 | 3.367.597 | 6.646.596 | 49% | 51% |
| Migrationshintergrund | 1.009.578 | 1.060.555 | 2.070.133 | 49% | 51% |
| EU-15- und EFTA-Länder (ohne Österreich) | 133.593 | 142.530 | 276.123 | 48% | 52% |
| EU-13 (Beitrittsländer ab 2004) | 251.469 | 297.462 | 548.931 | 46% | 54% |
| Ex-Jugoslawien (ohne Kroatien & Slowenien) | 259.029 | 272.527 | 531.556 | 49% | 51% |
| Türkei | 150.538 | 132.279 | 282.817 | 53% | 47% |
| Afghanistan, Irak, Syrien | 76.203 | 49.722 | 125.925 | 61% | 39% |
| Andere (z.B.: CN, IN, RU, UA, etc..) | 138.746 | 166.035 | 304.781 | 46% | 54% |
| **Österreich gesamt** | 4.288.577 | 4.428.152 | 8.716.729 | 49% | 51% |
| **Jahresdurchschnittsbevölkerung (inkl. Anstaltsbevölkerung)** | 4.367.291 | 4.510.346 | 8.877.637 | 49% | 51% |

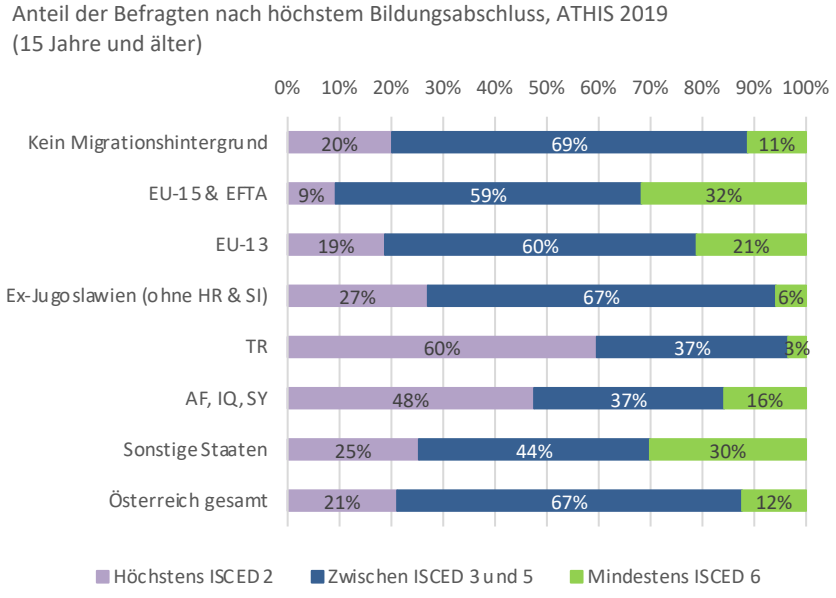
Quellen: Statistik Austria 2021, Mikrozensus-Arbeitskräfteerhebung; eigene Berechnungen

# Age structure of the population



# Migrant populations earn little unless they come from the EU-15 and EFTA; educational status is a mirror of this




Quellen: Statistik Austria 2021, ATHIS 2019; eigene Berechnungen

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