



The low birth rate in Germany: Which consequences does it have on Health Workforce today and tomorrow?

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Prof. Dr. Heinz Rothgang

**SOCIUM – Research Center on Inequality and Social Policy
Universität Bremen**

Outline

- I. Demographic Development in Germany
- II. Current Situation of Health Workforce in Germany
- III. Future Developments
- IV. The Role of Fertility
- V. Conclusion

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- I. Demographic Development in Germany
 1. Fertility
 2. Migration
 3. Mortality
 4. Consequences
- II. Current Situation of Health Workforce in Germany
- III. Future Developments
- IV. The Role of Fertility
- V. Conclusion

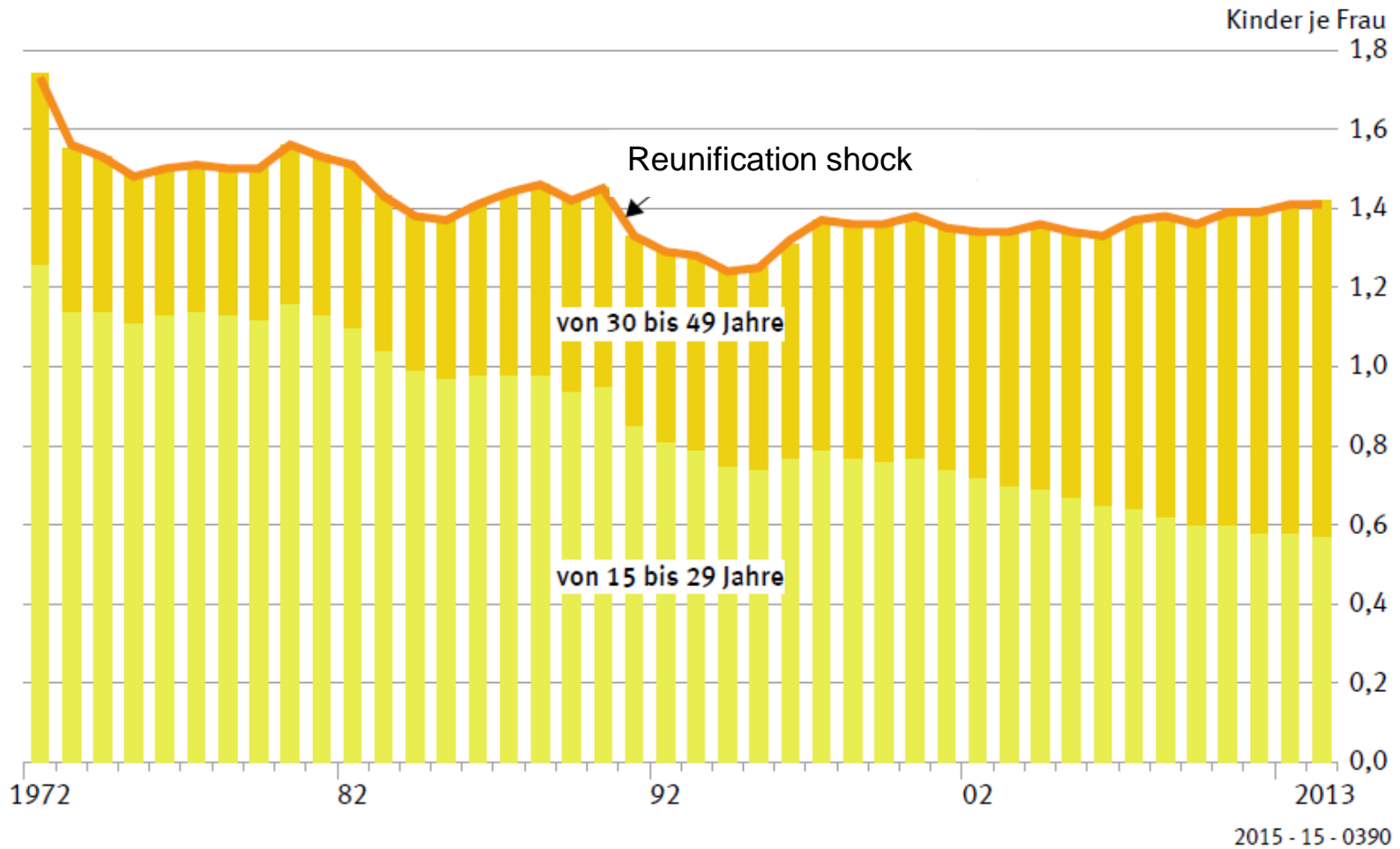
I.1 Determinants of demographic development in Germany

- Fertility
 - Since the early 1980s fertility rate remains at 1.4 children per women

I.1 Total fertility rate in Germany

Schaubild 13

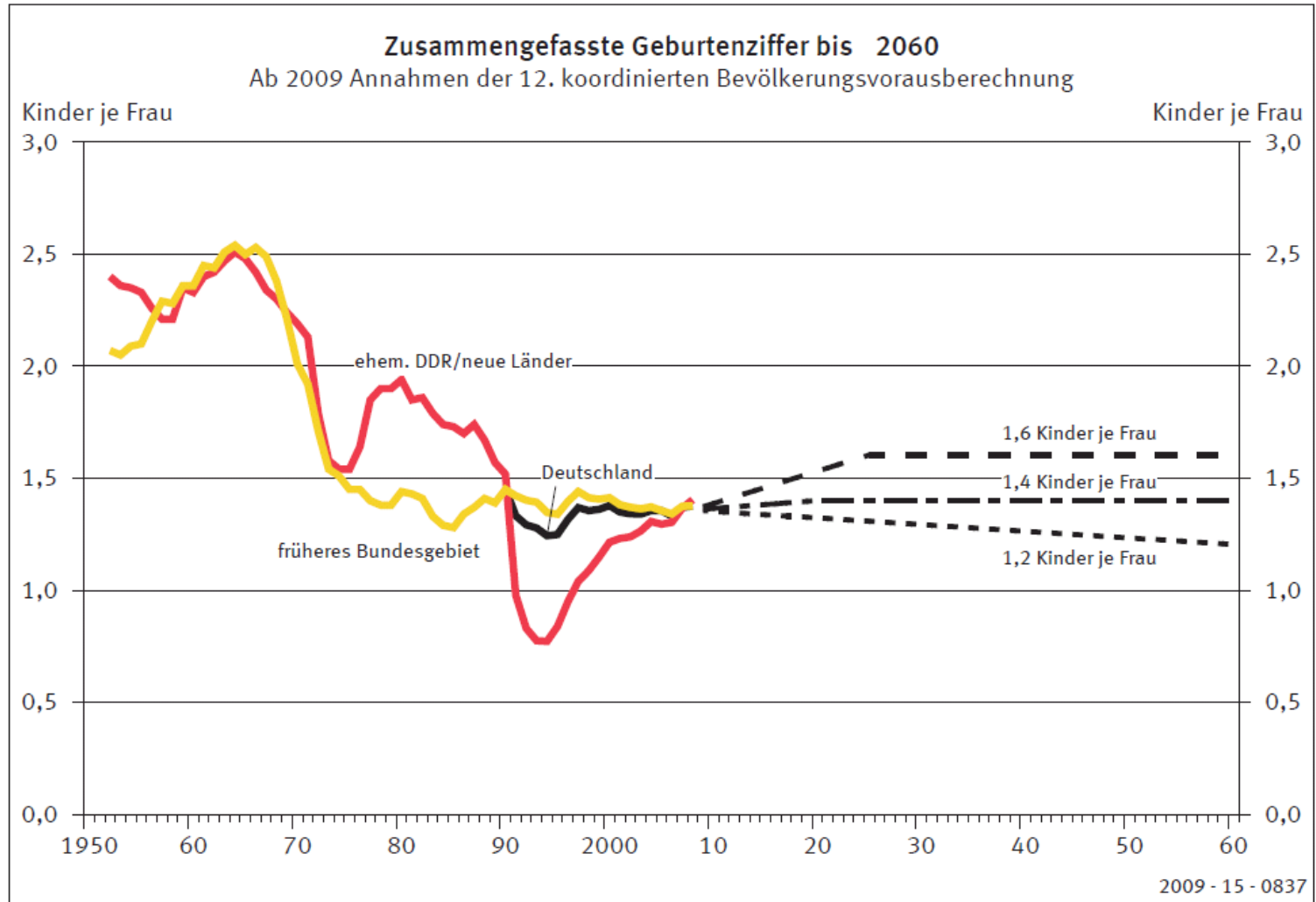
Zusammengefasste Geburtenziffer nach Altersgruppen



I.1 Determinants of demographic development in Germany

- Fertility
 - Since the early 1970s fertility rate remains at 1.4 children per women
 - For the future only a small increase is to be expected, if there is an increase in the fertility rate at all

I.1 Total fertility rate in Germany



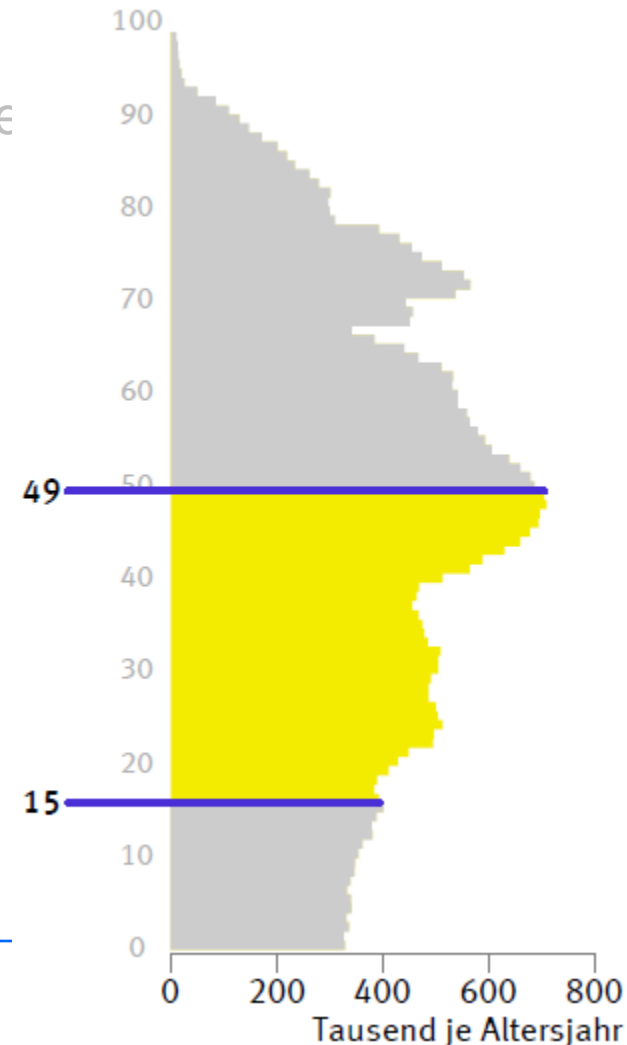
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 - Number of births is decreasing by about one quarter due to decreasing number of women in the “right age” (15-49 years)

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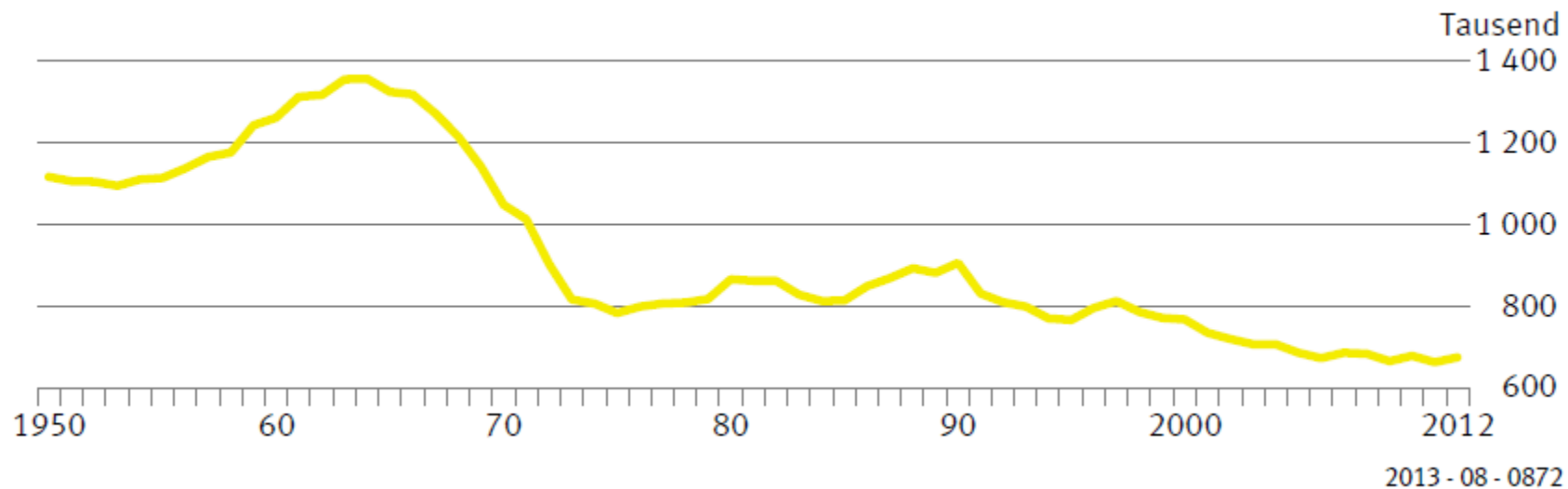
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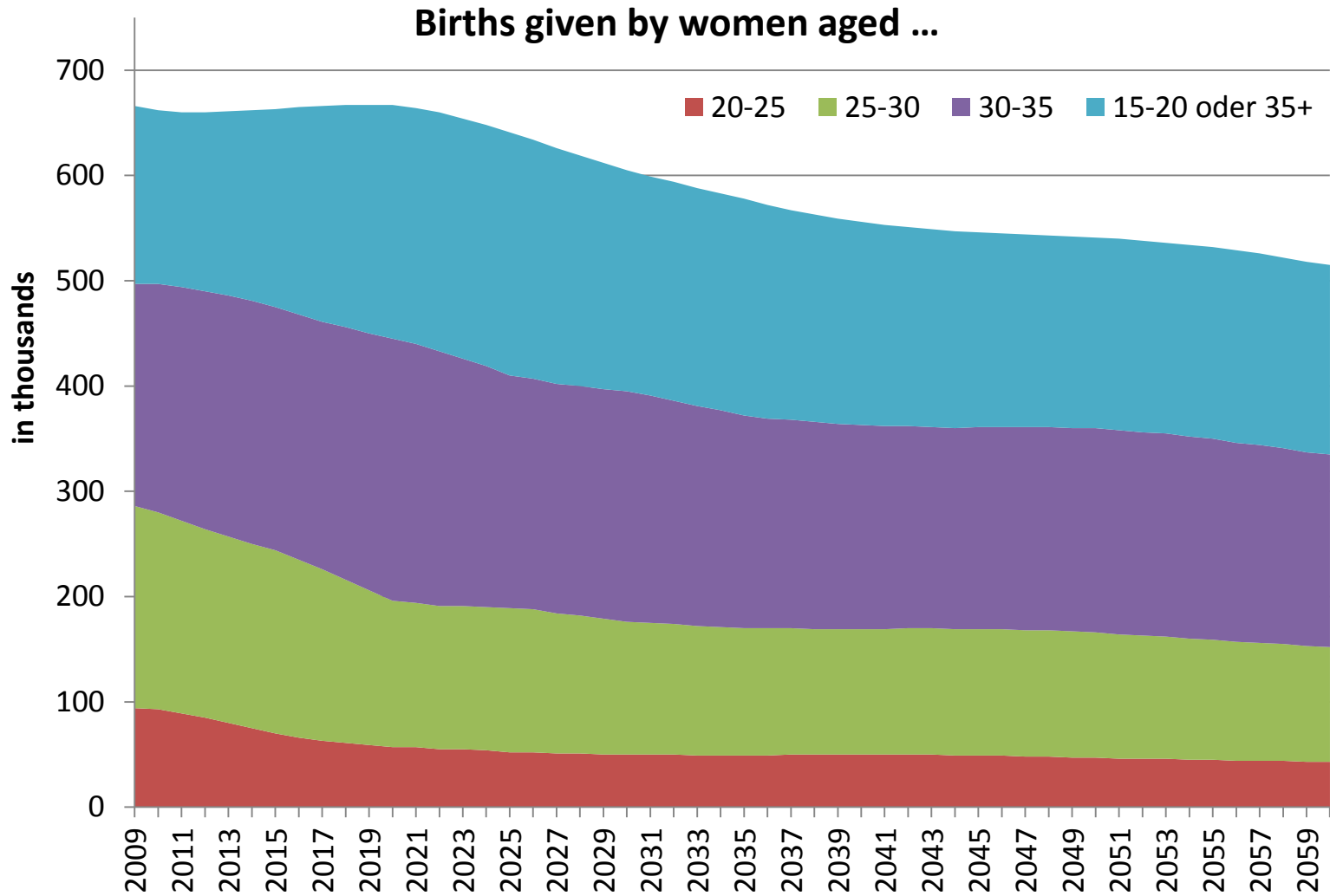


I.1 Total Fertility: Number of births

Abb 1.1 Geborene in Deutschland



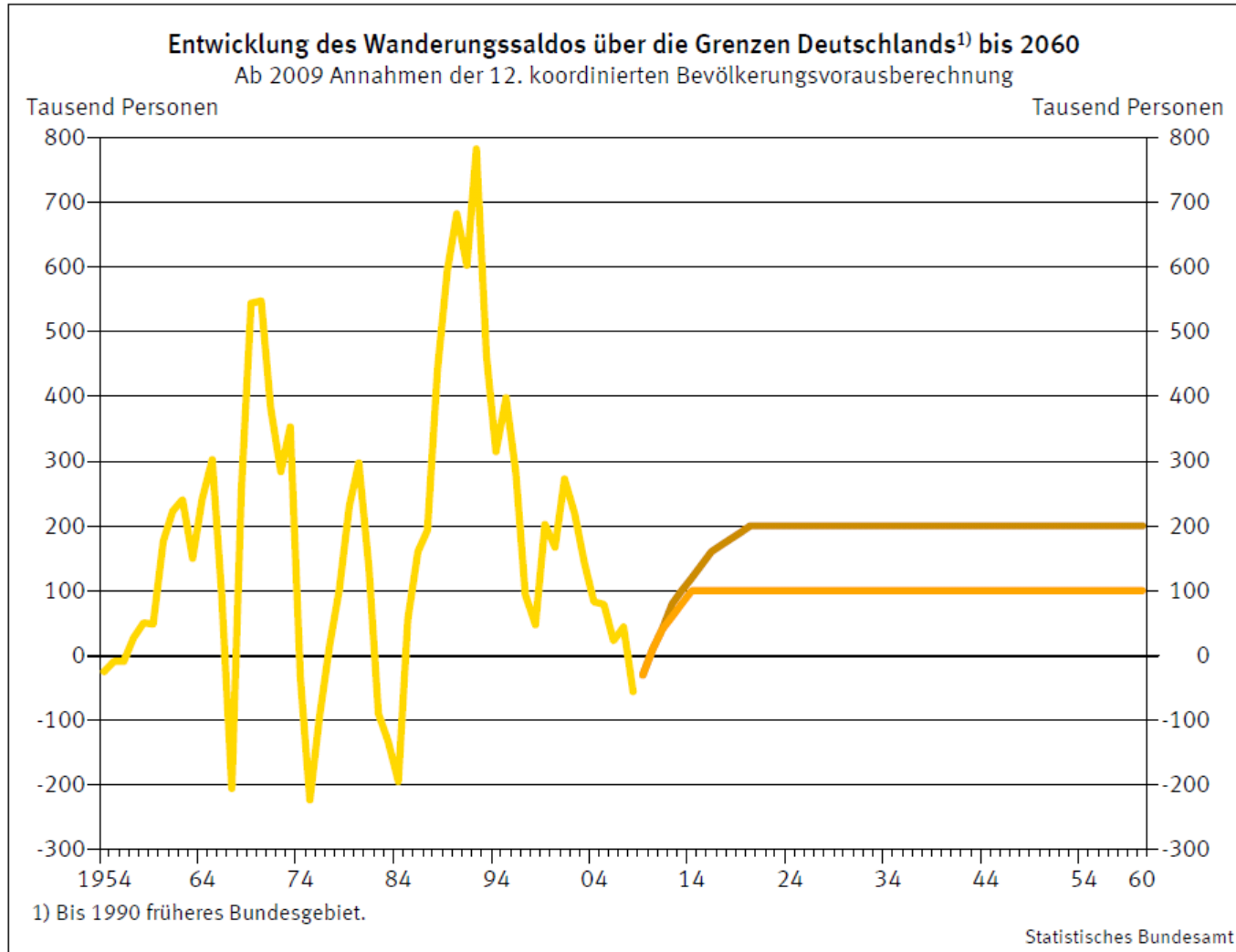
I.1 Total Fertility: Number of births



I.2 Determinants of demographic development in Germany

- Fertility
 - Since the early 1970s fertility rate remains at 1.4 children per women
 - For the future only a small increase is to be expected, if there is an increase at all
 - Number of births is decreasing due to number of women aged 15-49 is decreasing
- Migration is hard to predict
 - In the past: net migration in cycles
 - In the future: net migration is to be expected

I.2 Net Migration

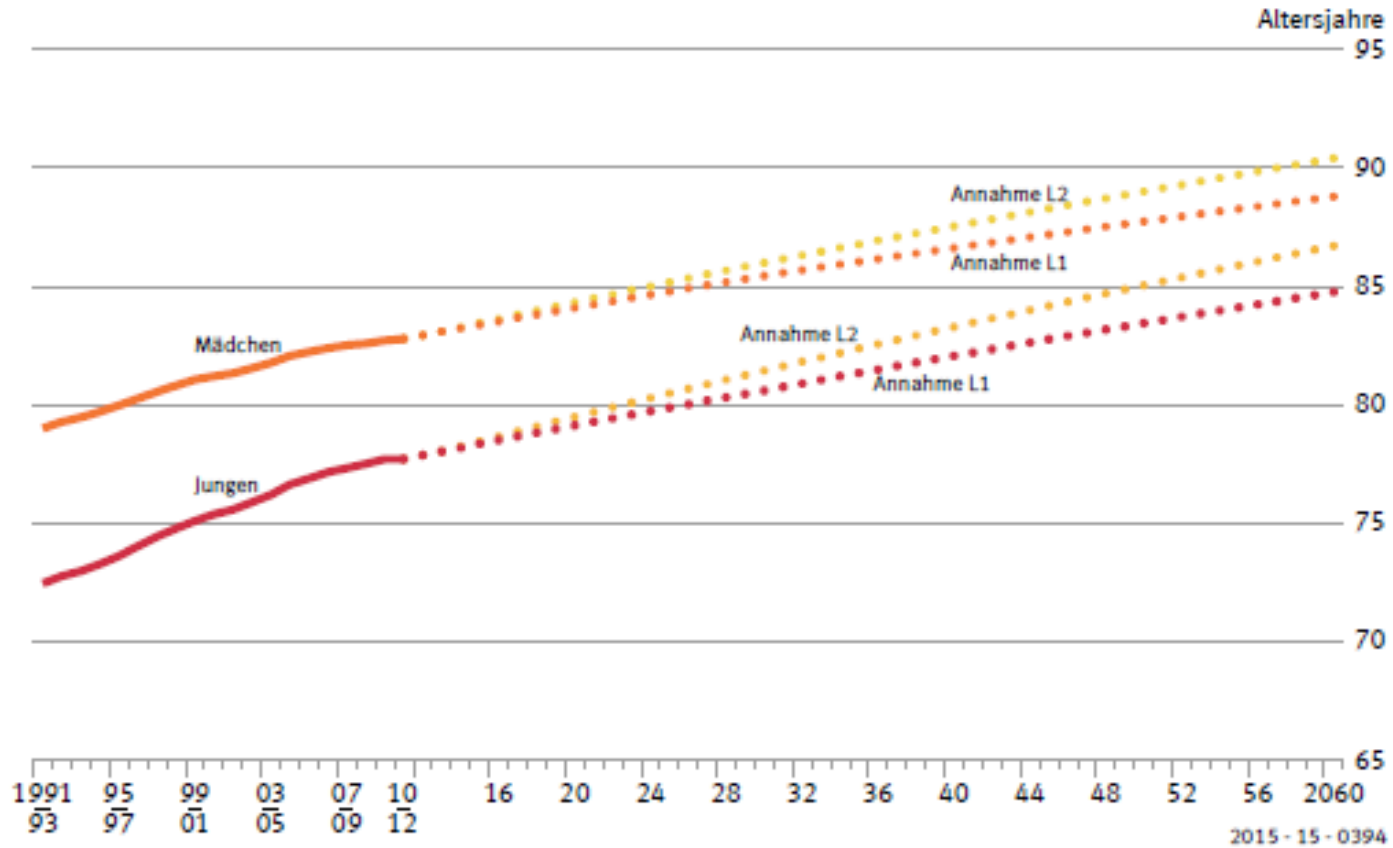


I.3 Determinants of demographic development in Germany

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- Migration is hard to predict
 - In the past: net migration in cycles
 - In the future: net migration is to be expected
- Life expectancy
 - has been increasing
 - is expected to increase further

I.3 Life Expectancy

Schaubild 17
Lebenserwartung bei Geburt
 Ab 2014 Annahmen der 13. koordinierten Bevölkerungsvorausberechnung



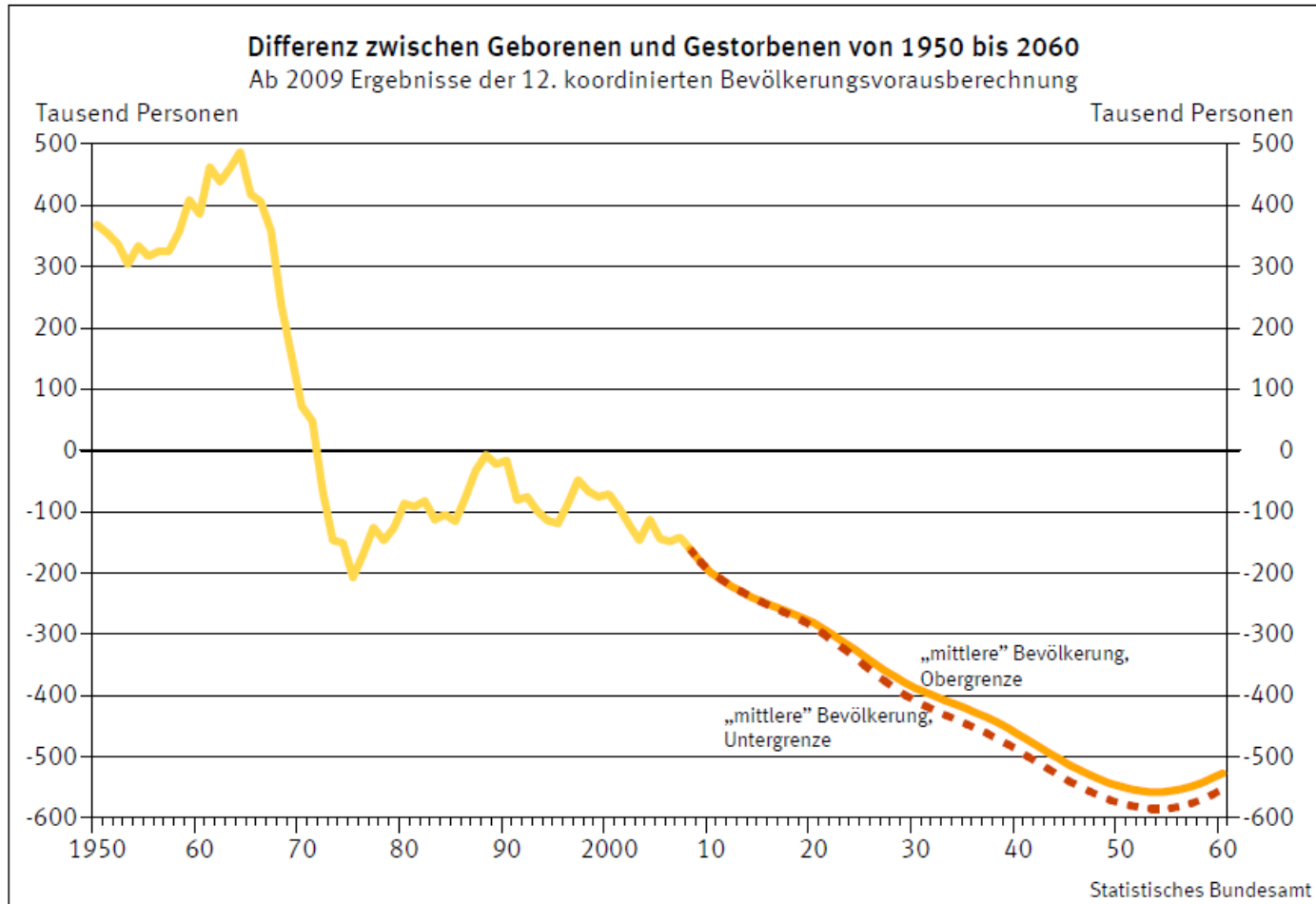
I.3 Life Expectancy

- In the 1st half of the 20th century life expectancy grew due to reduced child mortality
- In the 2nd half of the 20th century life expectancy grew due to increasing longevity
- Today about 95% of the population reaches the age of 50, 90% the age of 60.
- Future increases in life expectancy are due to longevity only --> Healthcare needs will increase respectively

I.4 Consequences for demographic development

- Population size goes down

1.4 Difference between those born and those who died

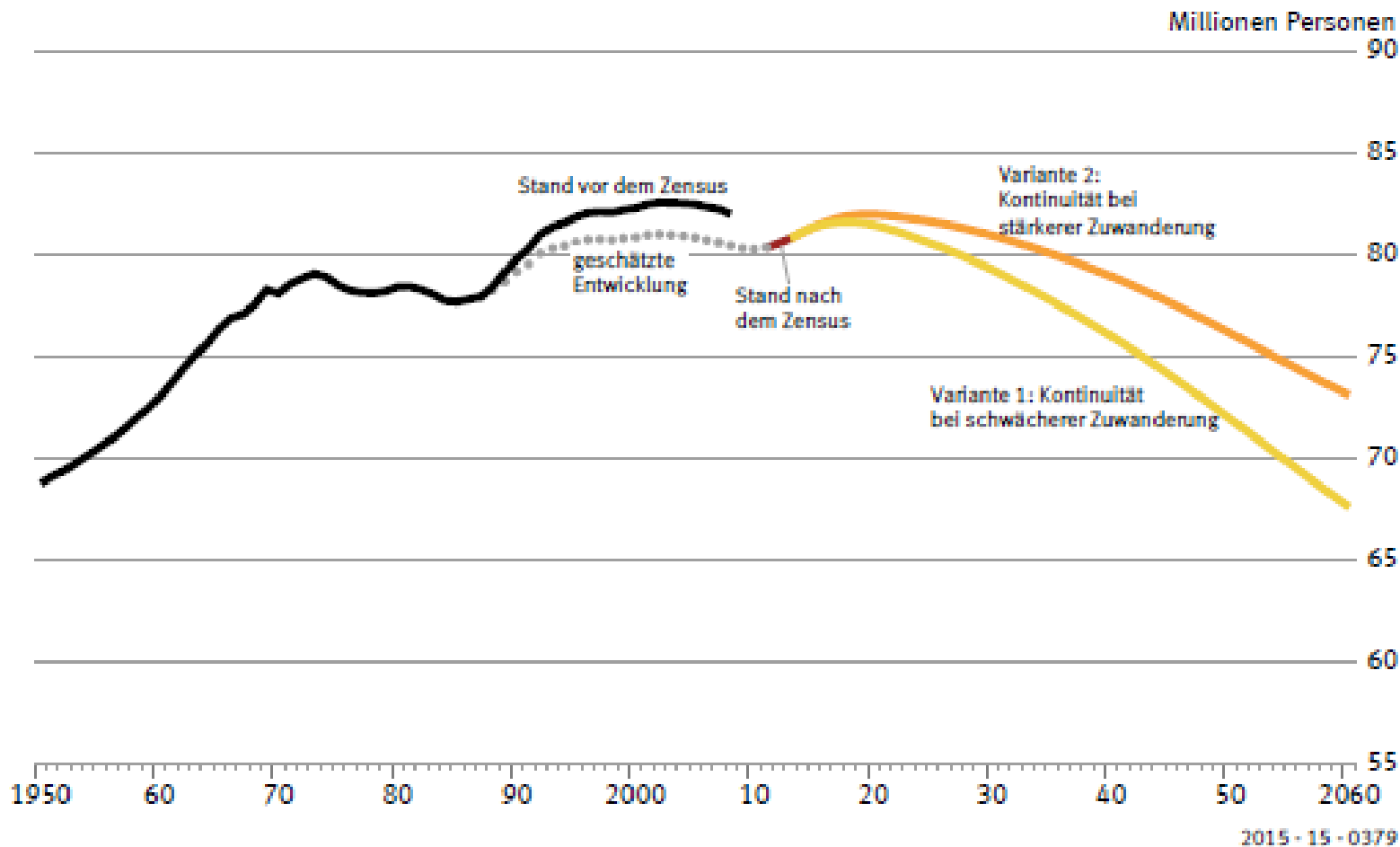


I.4 Population size – including migration

Schaubild 2

Bevölkerungszahl von 1950 bis 2060

Ab 2014 Ergebnisse der 13. koordinierten Bevölkerungsvorausberechnung



I.4 Consequences for demographic development

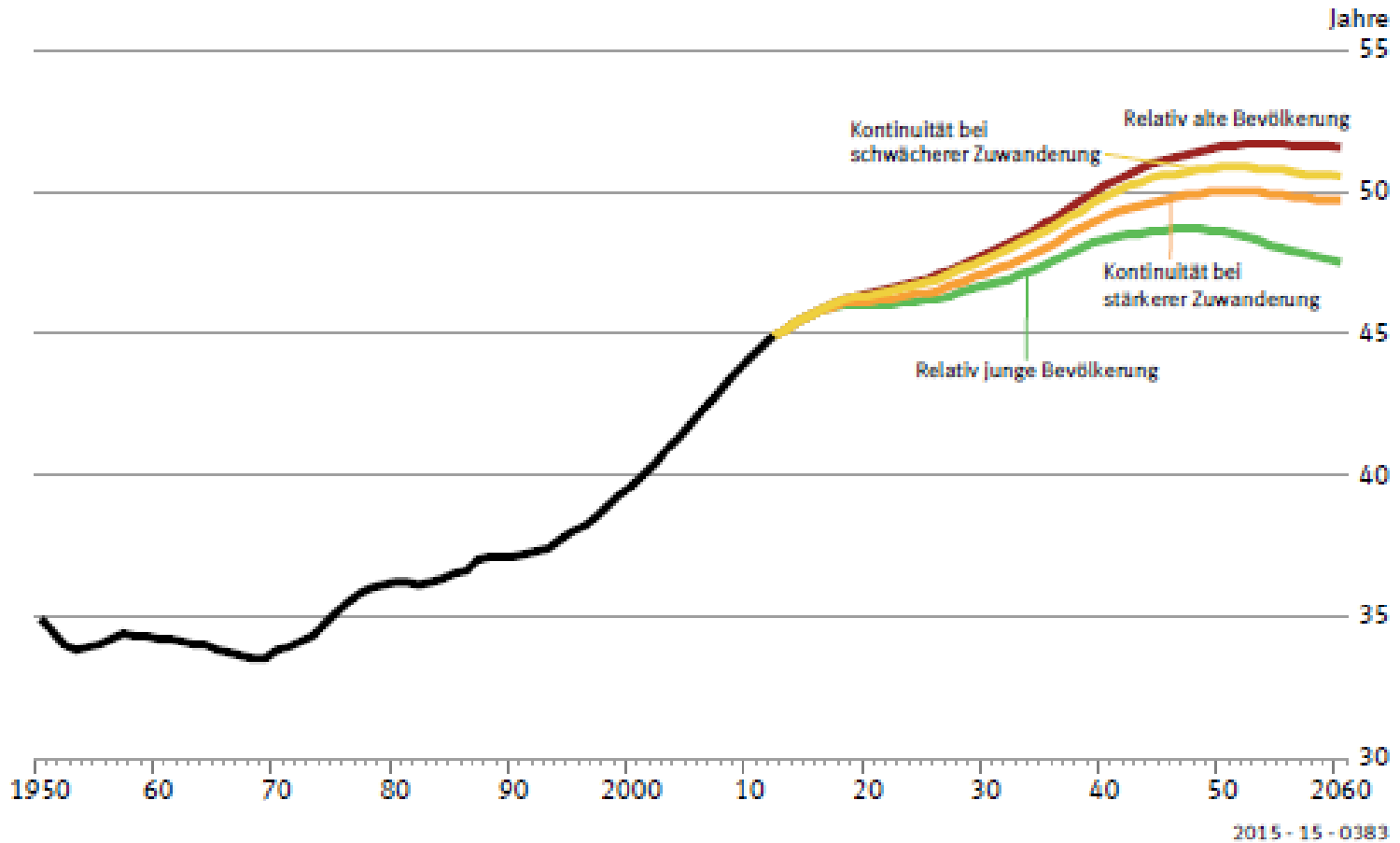
- Population size goes down
- Age composition changes

1.5 Bevölkerungsstruktur: Durchschnittsalter

Schaubild 6

Medianalter 1950 bis 2060

Ab 2014 Ergebnisse der 13. koordinierten Bevölkerungsvorausberechnung



I.4 Consequences for demographic development

- Population size goes down
- Age composition changes
- **Greying of society as a result of double ageing**
 - Possibly less supply of health workforce
 - Higher demand on health workforce

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II. Current health workforce in Germany: Doctors

- Traditional:
 - “Too many” doctors
 - Strict limitation of student intake → some students starting abroad (Belgium, Hungary, Bulgaria etc.)
 - Politicians but also the profession itself has been trying to limit the number of doctors
- Today
 - Still “oversupply”
 - High regional disparities, less supply in rural areas → Problems

II. Doctors' supply according to national criteria

- According to national “Bedarfsplanungsrichtlinie” 1993 for doctors in private practice
 - GPs: **138%** of norm
 - Specialists: **110%** of norm

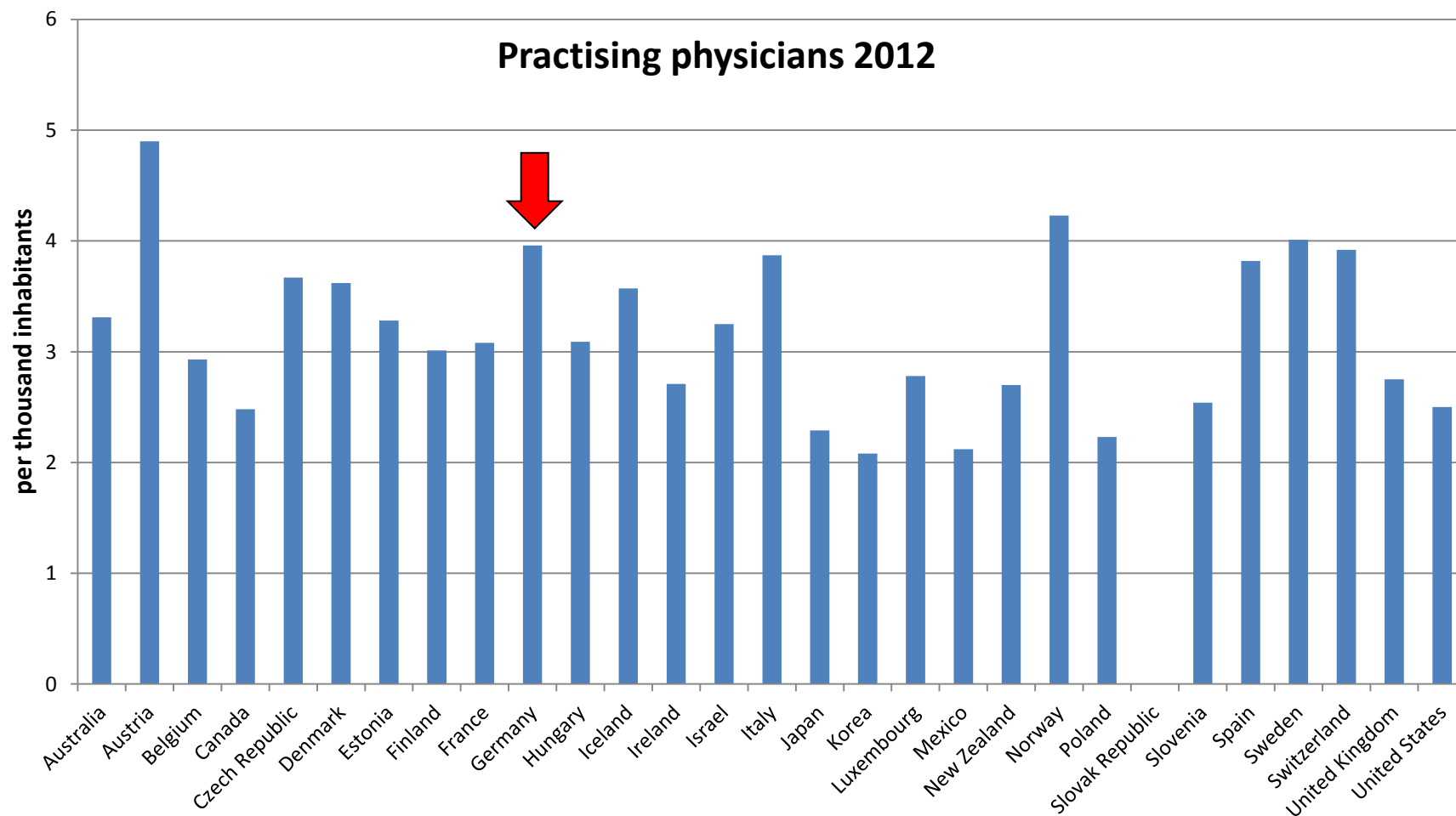
Verhältniszahlen bei Fachärzten (Stadt versus Land) gemäß Bedarfsplanungsrichtlinie

Arztgruppe	Großstadt *	Ländlicher Raum*	Abweichung
Augenärzte	1:13.399	1:20.664	+54%
Frauenärzte	1:3.733	1:6.042	+62%
HNO-Ärzte	1:17.675	1:31.768	+80%
Kinderärzte	1:2.405	1:3.859	+60%
Nervenärzte	1:13.745	1:31.183	+127%
Orthopäden	1:14.101	1:23.813	+69%
Psychotherapeuten	1:3.079	1:5.953	+93%
Urologen	1:28.476	1:47.189	+66%

* Verhältnis Arzt: Einwohner, absolut

II. Doctors' supply: international comparison

- Internationally the physician's density is among the highest in the world



II. Current health workforce in Germany: Nurses

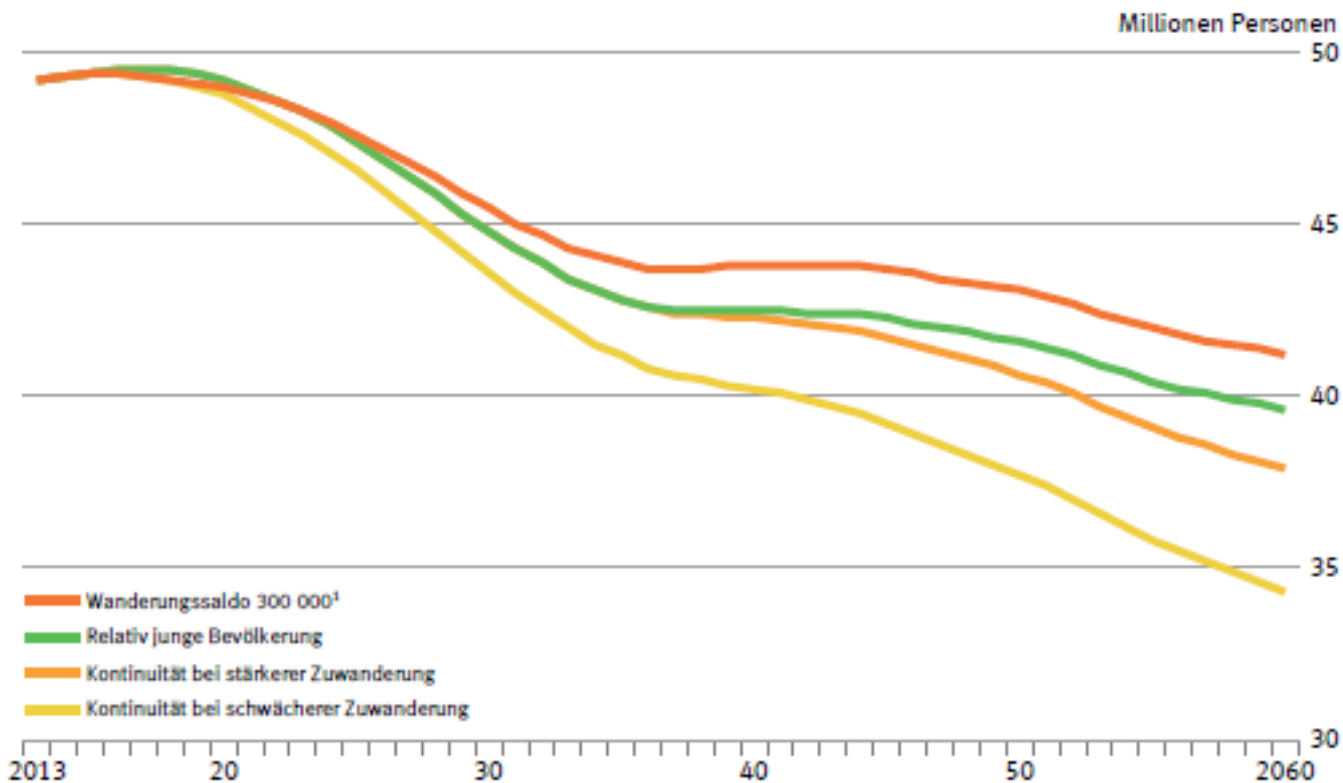
- There is no national target system for nurses, nothing comparable with the “Bedarfsplanungsrichtlinie”
- In the past
 - Discussions about shortages in the 1990s, but after introduction of DRGs in hospitals discussions vanished
- Today
 - Acknowledgement of some shortages, particularly in long-term care

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II. Decreasing Labour Force: Population aged 20-64 years

Schaubild 8
Bevölkerung im Erwerbsalter 20 bis 64 Jahre
 Ab 2014 Ergebnisse der 13. koordinierten Bevölkerungsvorausberechnung



1 Modellrechnung: Geburtenrate 1,4 Kinder je Frau, Lebenserwartung bei Geburt 2060 für Jungen 84,8/Mädchen 88,8 Jahre, Wanderungssaldo 300 000 Personen.

2015 - 15 - 0385

III. Joint Action Minimum Projection Model

- At baseline supply is regarded as sufficient
→ development of **further** shortage/oversupply
- Separate projection of need and supply
- Future need
 - Profession-mix is kept constant
 - Age-specific need according to current expenditure for all professions
 - Demographic forecasts times age-specific needs generate future needs

III. Minimum projection model: Future need

$$\text{Future need} = \text{HWF}_{px} = k_p * \text{HCT}_x$$

$$\text{with } \text{HCT}_x = (\text{HC1}_0 * \text{Pop1}_x + \text{HC2}_0 * \text{Pop2}_x + \text{HC3}_0 * \text{Pop3}_x)$$

where:

- THC_x : total health consumption in year x.
- HC1_0 : per capita consumption of age group 1 in year 0 (basic year)
- HC2_0 : per capita consumption of age group 2 in year 0 (basic year)
- HC3_0 : per capita consumption of age group 3 in year 0 (basic year)
- Pop1_x : population of age group 1 in year x.
- Pop2_x : population of age group 2 in year x.
- Pop3_x : population of age group 3 in year x.

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- Future supply
 - Current supply minus retirement plus new entries plus net migration

IV. Results concerning indicators

I1: Future coverage

Profession	Result
Doctors	0.821
Midwives	1.425
Dentists	0.948
Pharmacists	1.124
Nurses	0.897

I4: Share foreign doctors

Profession	Result
Today	10.14
2028	19.27

Indicator 5: Number of professionals per inhabitant today and in the future

	Doctors	Nurses	Midwives	Pharmacists	Dentists
2011	342,000	2,171,000	21,000	61,000	69,000
2028	327,647	2,079,890	20,119	58,440	66,104
% of population	0.42	2.67	0.02	0.07	0.08

III. Joint Action Minimum Projection Model: Results

- Compared with today we see a deteriorating coverage of need with respect to
 - Doctors
 - Nurses
- For doctors, however, we might have oversupply today, so there is not necessarily a future undersupply, particularly if regional disparities are reduced
- For nurses, the situation is more serious as even today we might talk about shortages

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IV. Study on long-term care 2012

- Projection on long-term care using similar methodology as MDS
- Need:
 - current ration of healthcare workers per client is kept constant
 - demographic change leads to growing needs
- Supply:
 - ratio of labour force working in long-term care is kept constant
- Status quo is regarded as satisfactory
- Care gap is number of additional people needed to guarantee this standard

Themenreport „Pflege 2030“

Was ist zu erwarten – was ist zu tun?



| BertelsmannStiftung

IV. Care gap in 2030

	total	Caused by increasing number of dependent people		Caused by decreasing labour forces	
	fte	fte	%	fte	%
Community care					
Scenario 1	117.120	95.315	81	21.805	19
Scenario 2	162.845	141.040	87	21.805	13
Szenario 3	208.250	186.444	90	21.805	10
Nursing home care					
Scenario 1	317.378	262.712	83	54.666	17
Scenario 2	328.899	274.233	83	54.666	17
Scenario 3	54.666	0	0	54.666	100
Community and nursing home care					
Scenario 1	434.498	358.027	82	76.471	18
Scenario 2	491.744	415.273	84	76.471	16
Scenario 3	262.916	186.444	71	76.471	29

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V. Conclusion

- Double ageing leads to
 - less children and a decreasing labour force
 - longevity and growing demands for health professionals
- The effects of longevity are more important than those of low fertility rates
- To keep current standards of healthcare the share of the working population working in healthcare must be increased
 - For doctors this can easily be done
 - For nurses working conditions and pay have to be improved
- Additionally the regional disparities must be addressed
- Other factors than demography (e.g. technology) might be of even higher importance.

The end

Thank you for your attention!