

# **Welttrend 21. Jahrhundert**

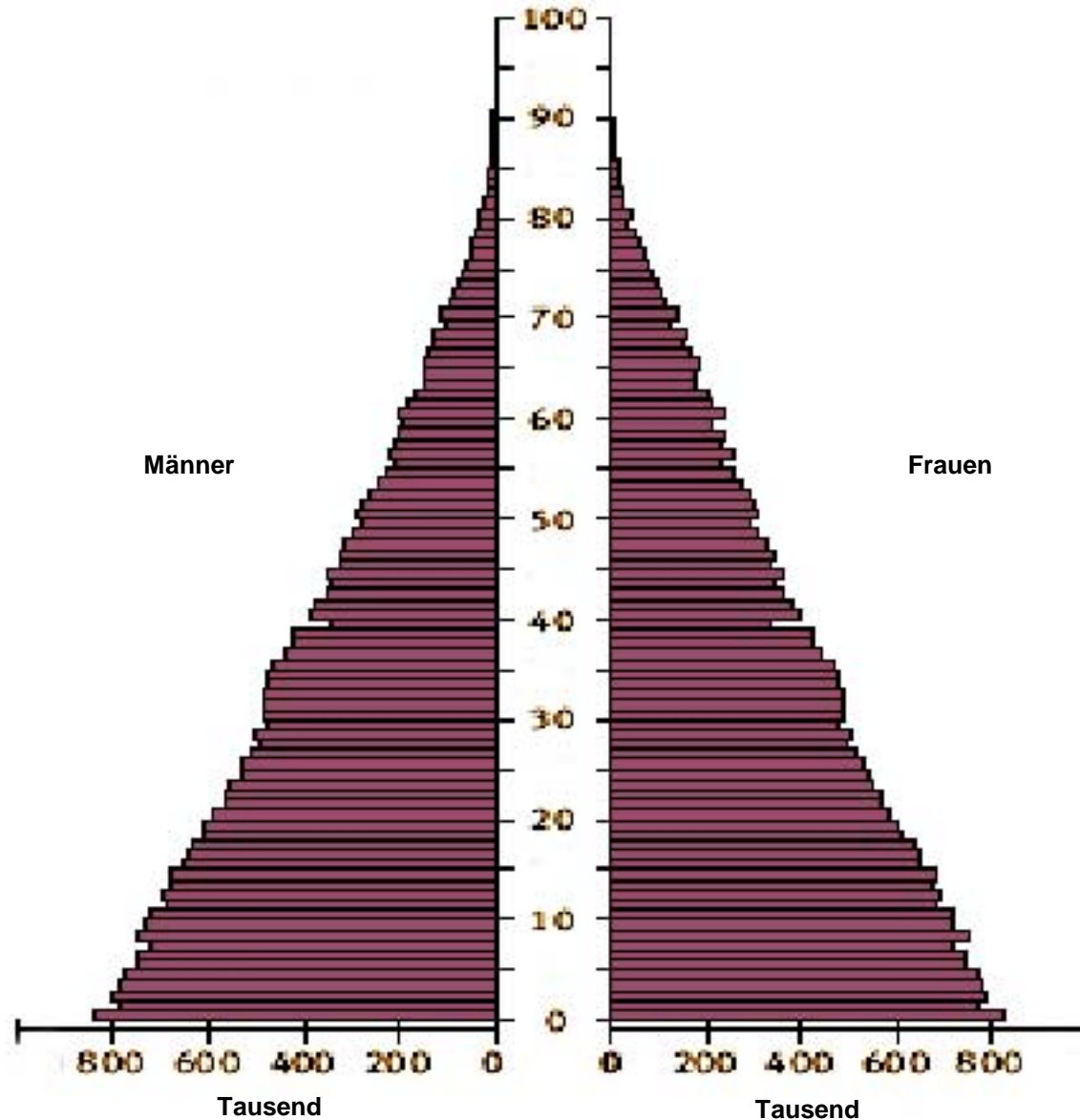
**Politische, ökonomische und  
demographische Zukunftsperspektiven**

**Prof. Dr. Claus D. Kernig**

**Wirtschaftsforum Rotenburg am 18. Januar 2006**

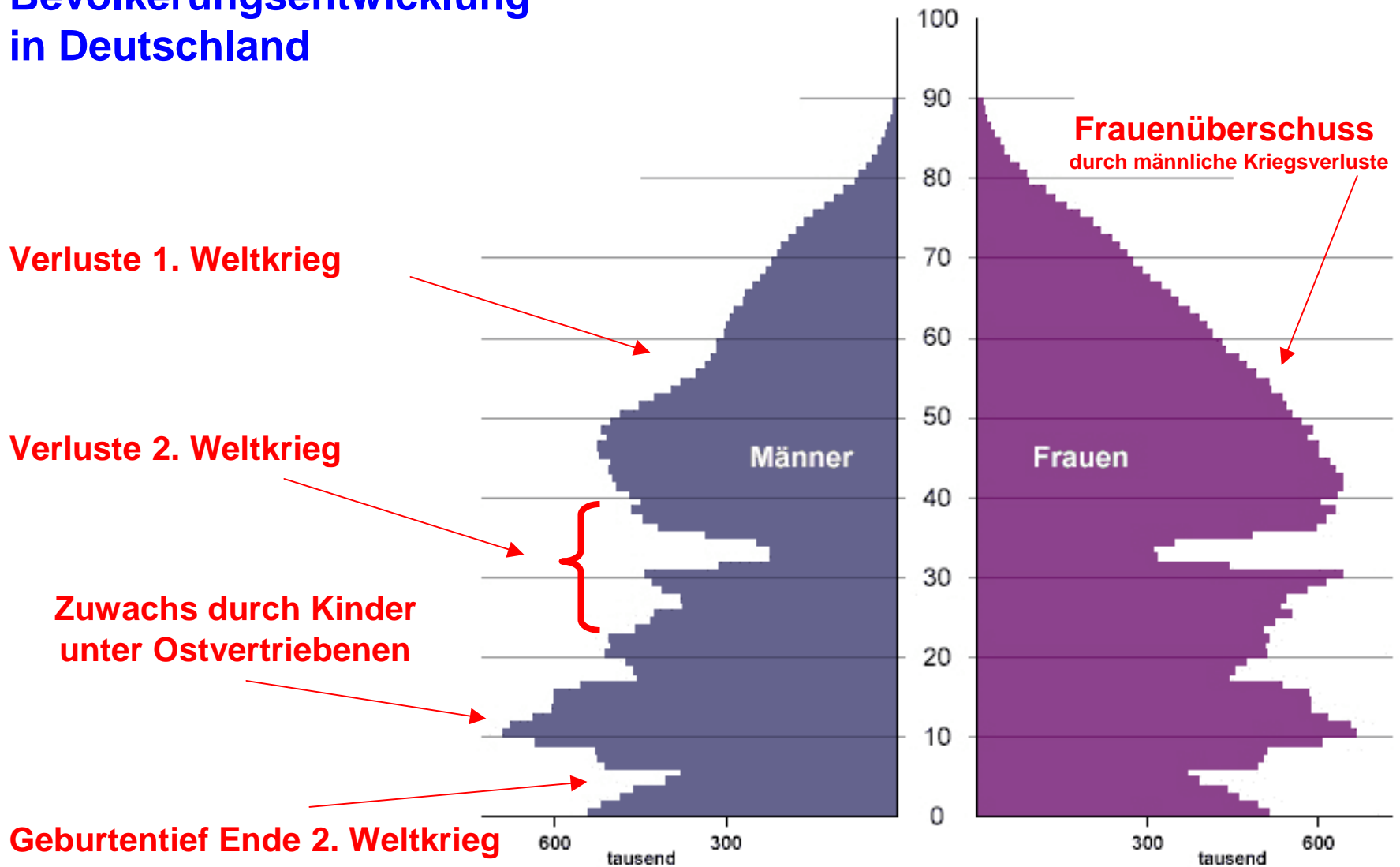
**Zukunftsfestlegungen  
und  
Zeitfenster für Reformen**

# Deutschland Altersaufbau 1910



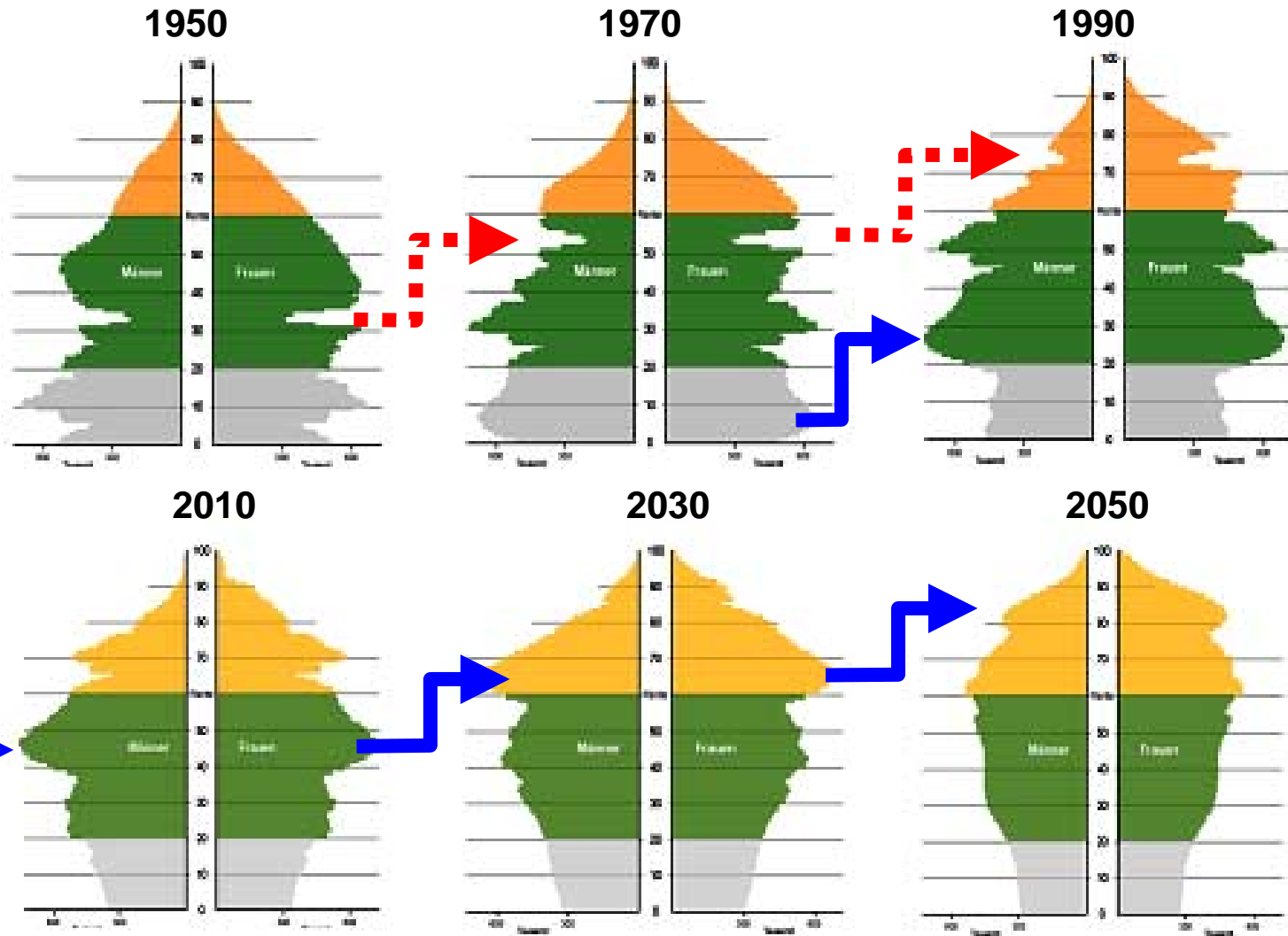
# Politische Einflüsse auf die Bevölkerungsentwicklung in Deutschland

Altersaufbau: 1950  
Deutschland



# Altersaufbau Deutschland 1950-2050

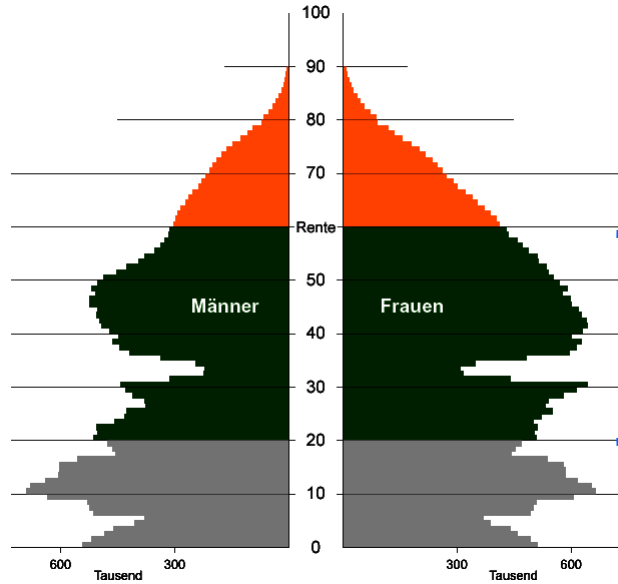
Mit Schichtung nach Jugendlichen, Arbeitsbevölkerung und Rentnern



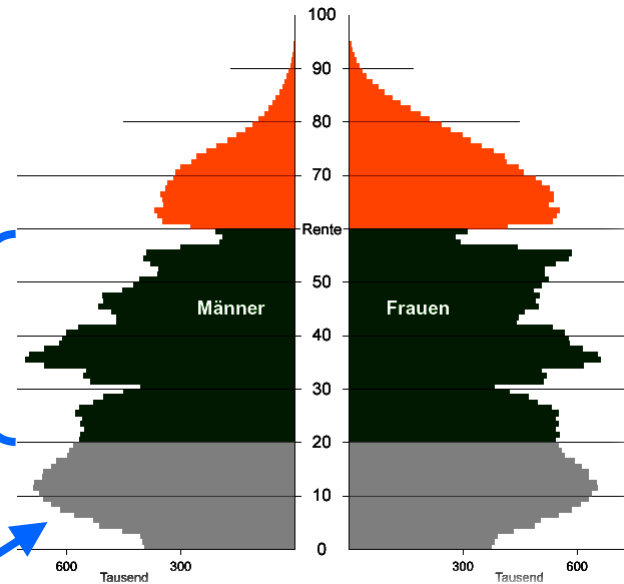
.....▶ Verluste des 2. Weltkriegs

——▶ Zuwachs geburtenstarker Jahrgänge

**Deutschland 1950**  
**69.3 Mill. Altenquotient 27**

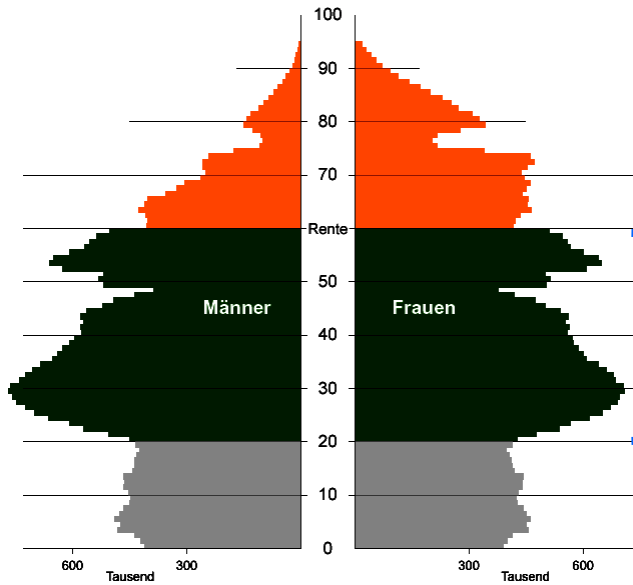


**Deutschland 1975**  
**78.5 Mill. Altenquotient 40**

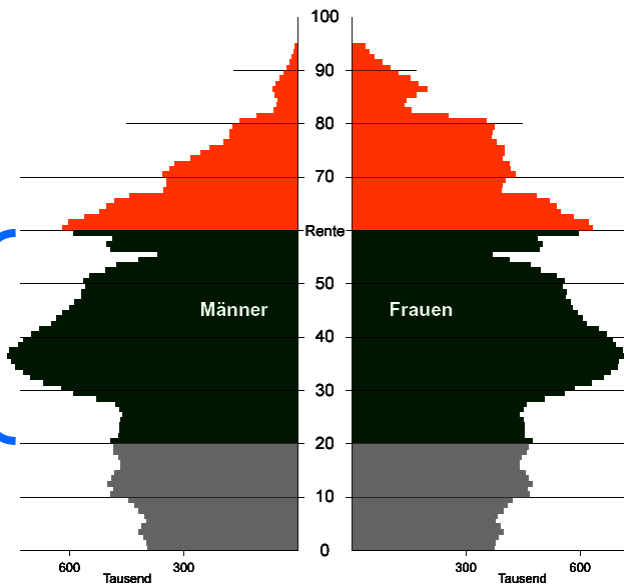


Optimale  
Erwerbstätigen-  
Zahlen

**Deutschland 1993**  
**81.3 Mill. Altenquotient 35**



**Deutschland 2000**  
**82.3 Mill. Altenquotient 43**

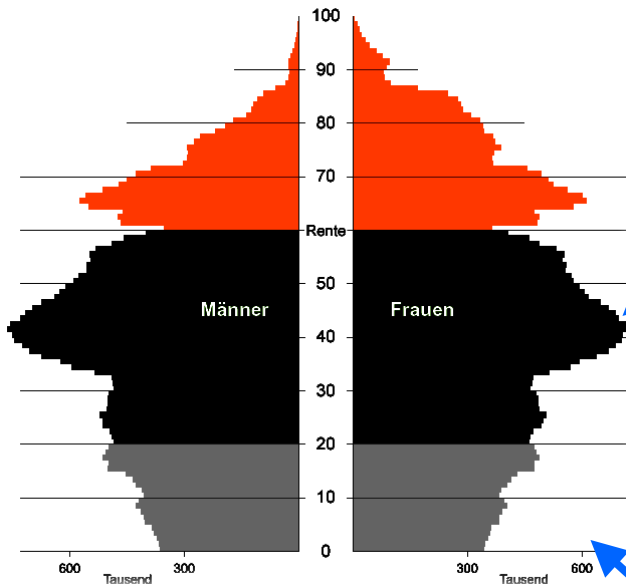


Pillenknick

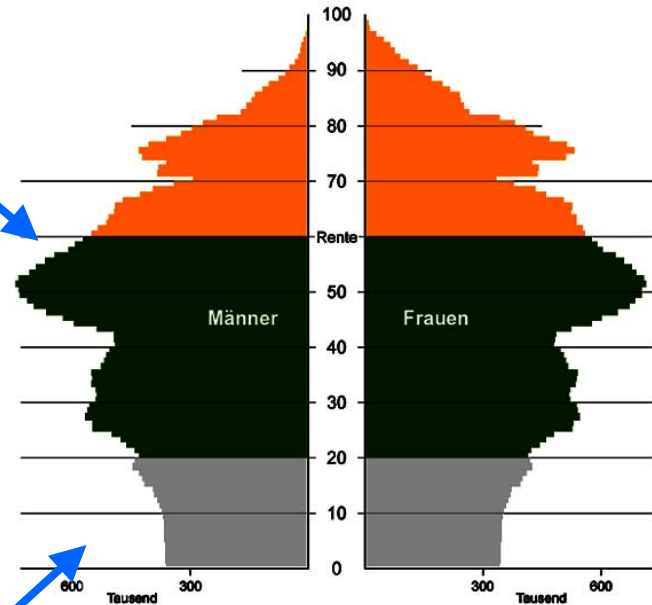
Optimale  
Erwerbstätigen-  
Zahlen

# Das Zeitfenster für Reformen

Deutschland 2005  
82.9 Mill. Altenquotient 45



Deutschland 2015  
83.1 Mill. Altenquotient 49



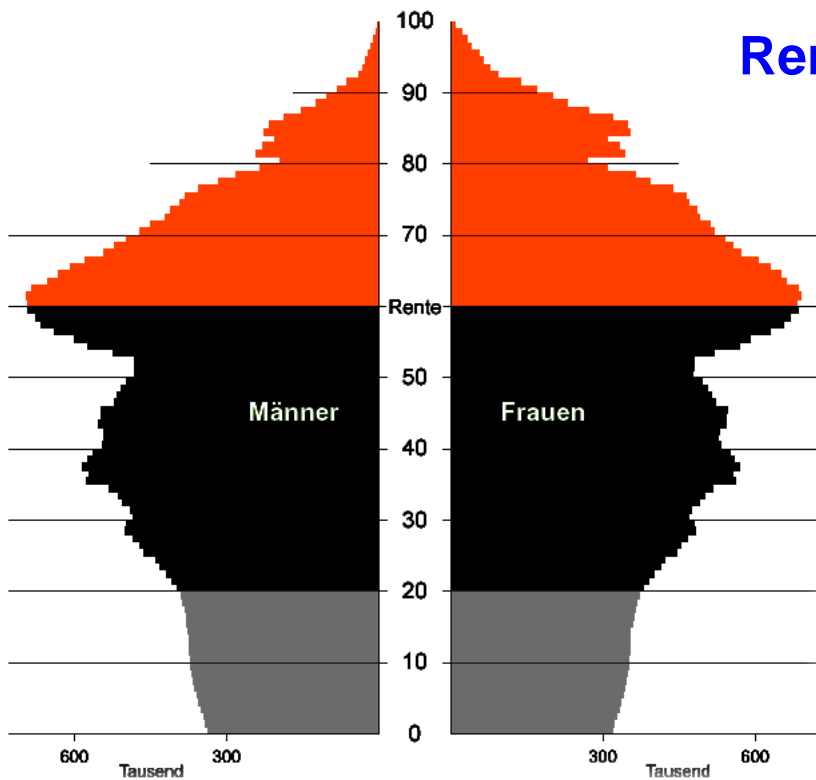
Geburtenstarke Jahrgänge noch im Erwerbsleben

Anhaltende Fortpflanzungsverweigerung

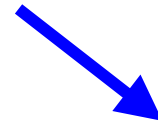
# Der deutsche Rentner-Tsunami

Deutschland 2025

82.2 Mill. Altenquotient 63

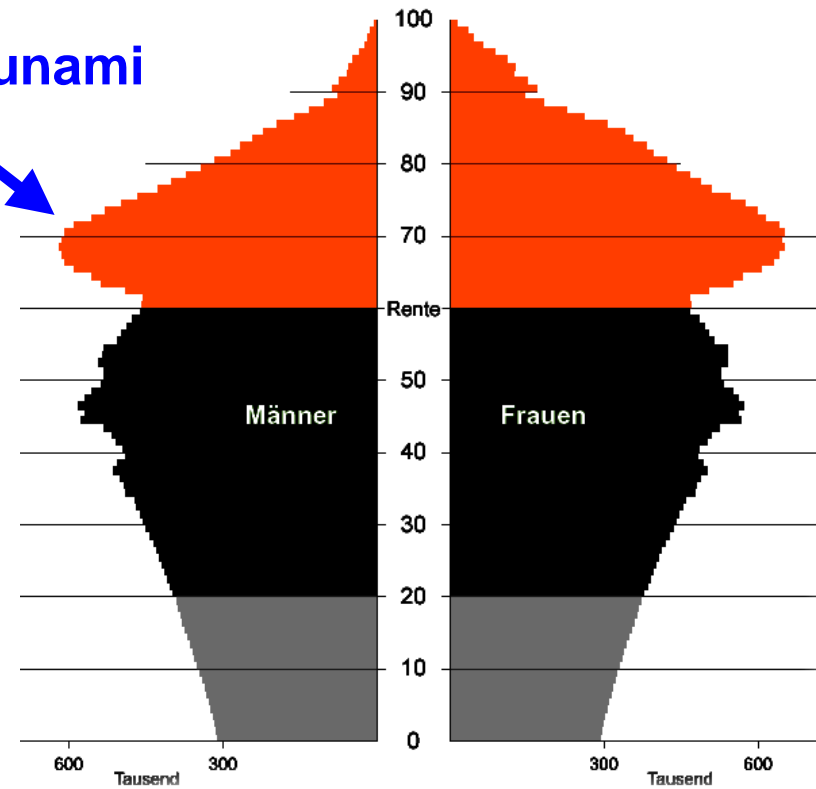


Rentner-Tsunami



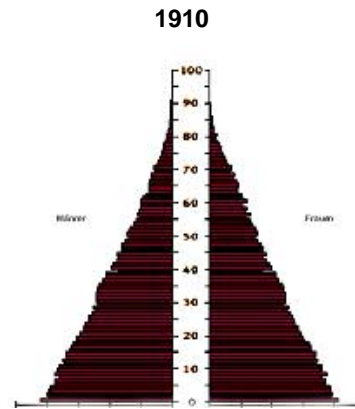
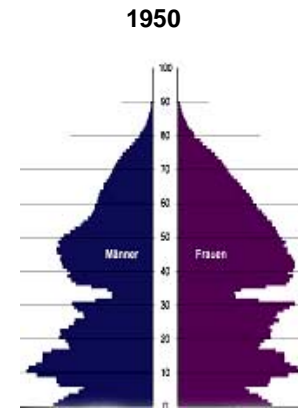
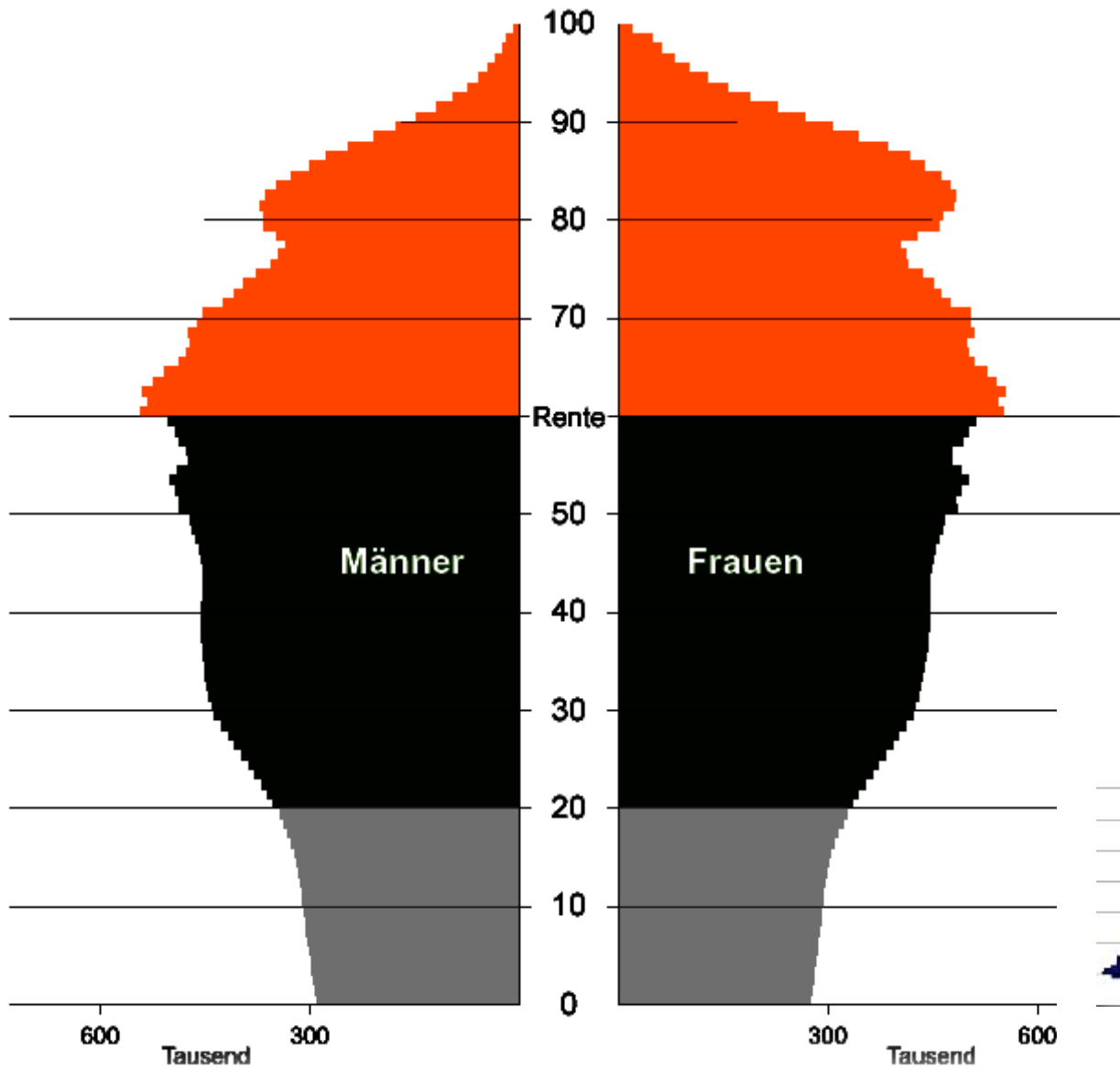
Deutschland 2034

80.2 Mill. Altenquotient 72



# Deutschland 2050

75.1 Mill. Altenquotient 78



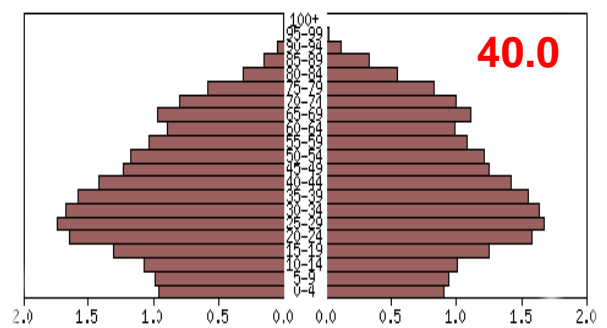
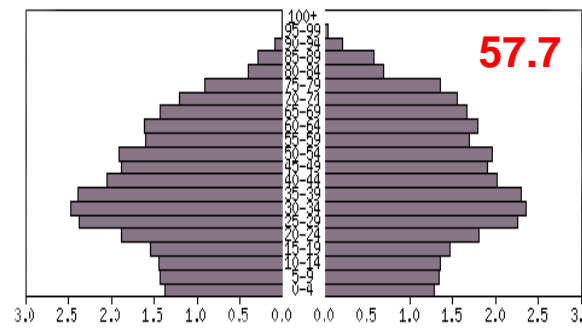
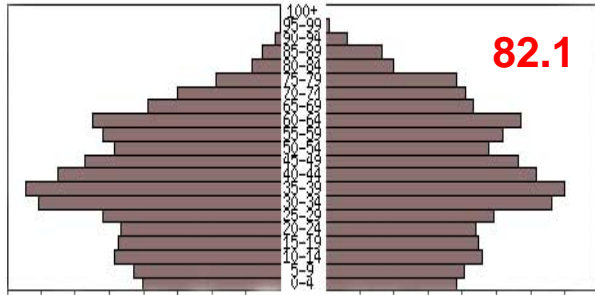
# Deutschland

2000

# Italien

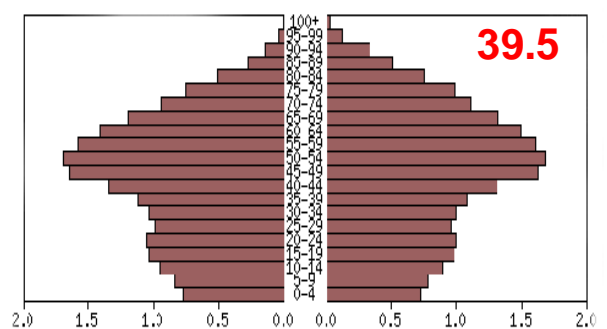
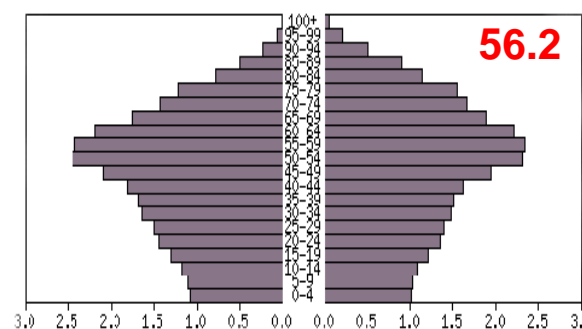
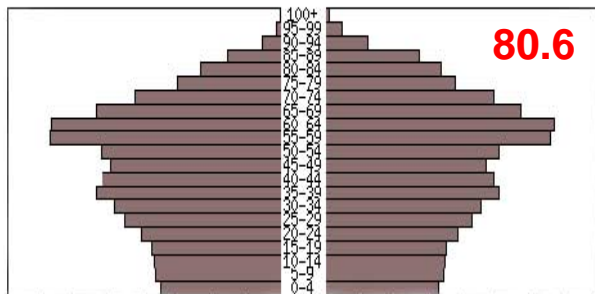
2000

# Spanien



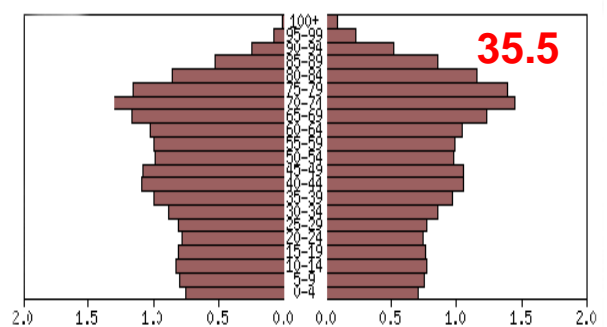
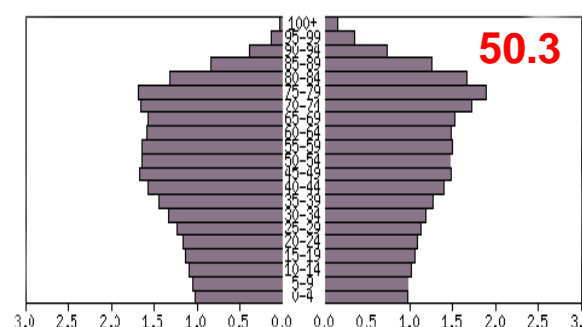
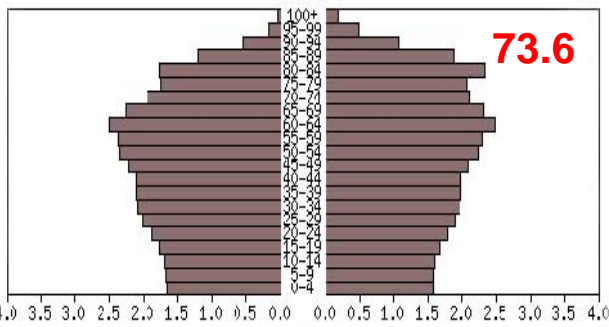
2025

2025



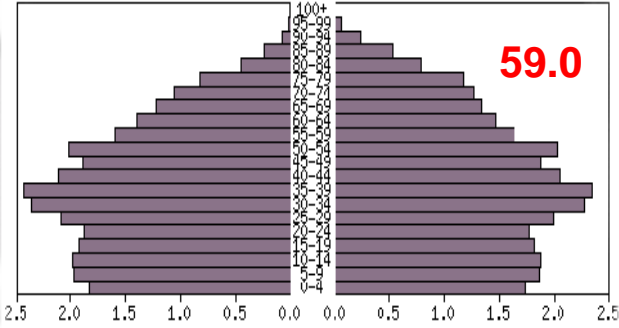
2050

2050



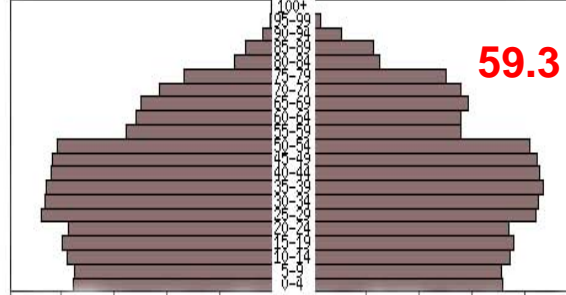
# Großbritannien

2000

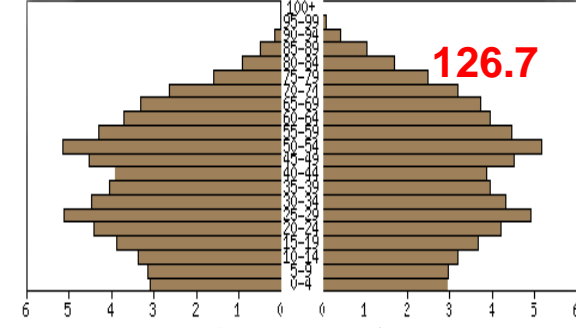


# Frankreich

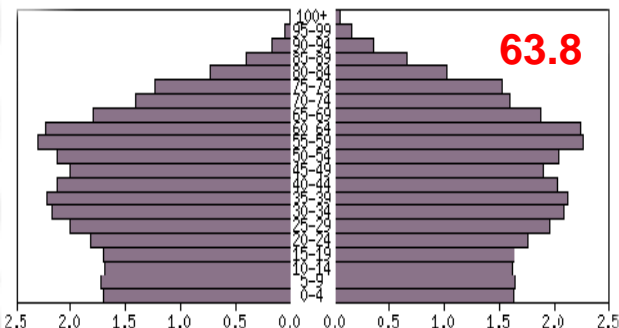
2000



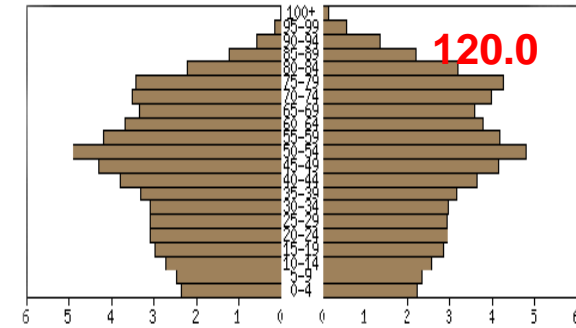
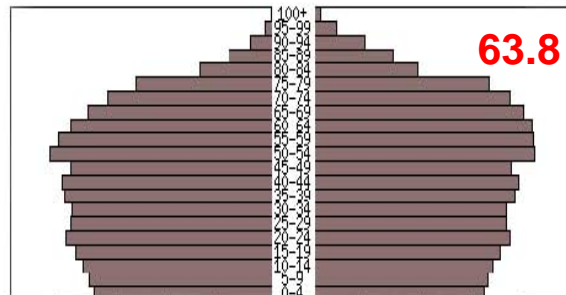
# Japan



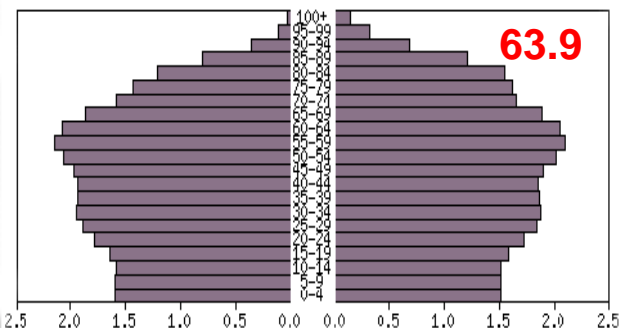
2025



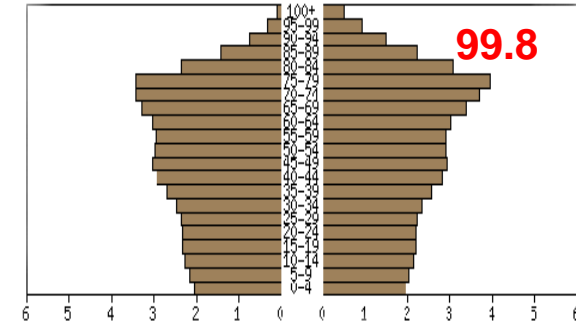
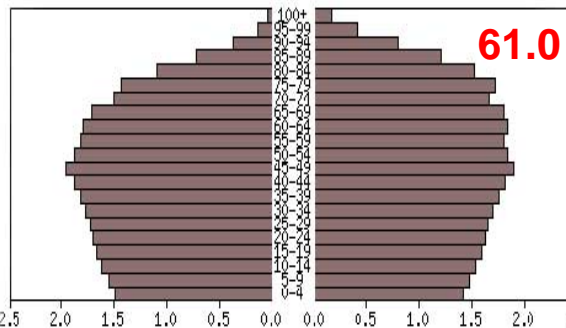
2025



2050

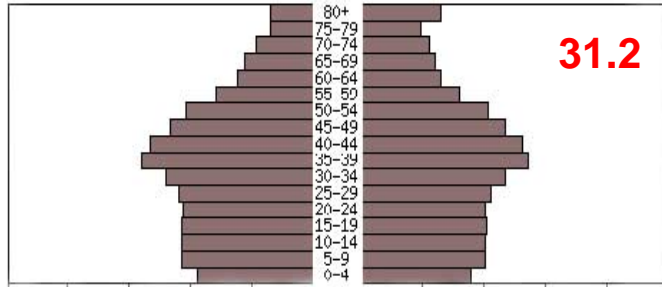


2050



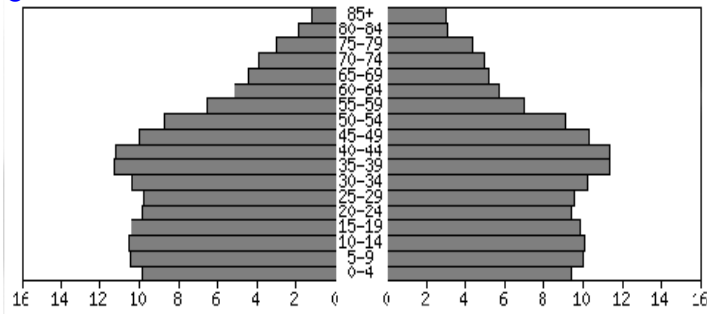
# Kanada

2000



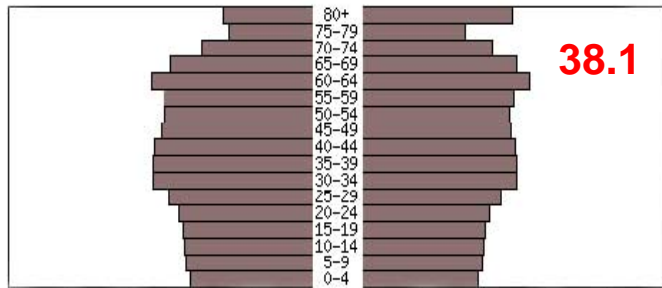
# USA

2000

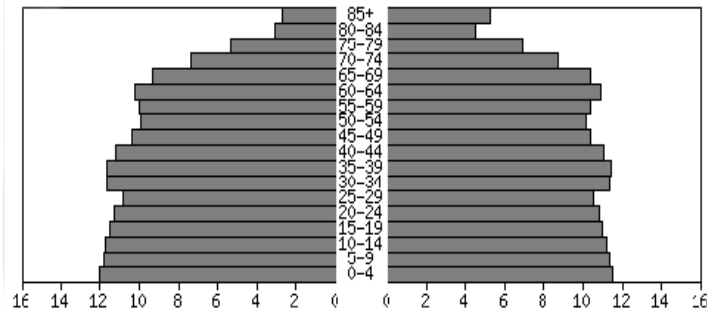


275 Mill.

2025

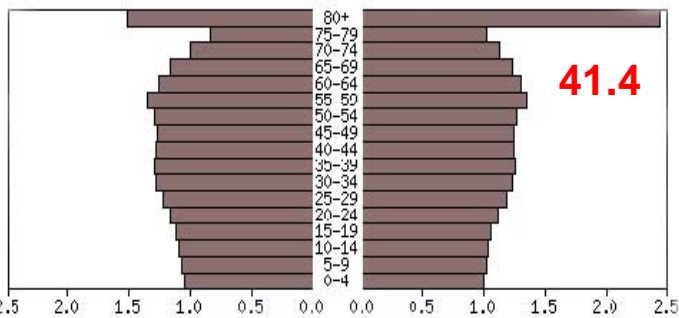


2025

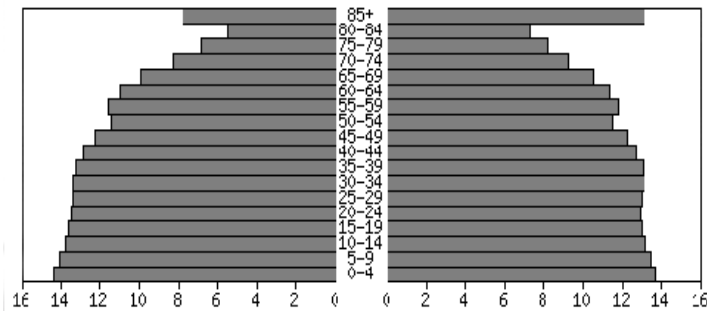


338 Mill.

2050

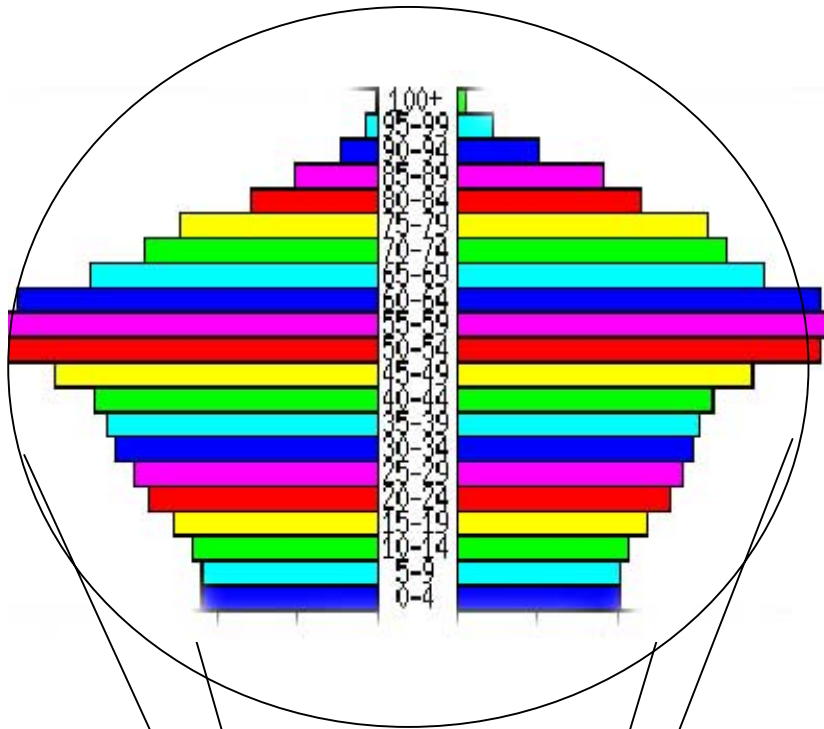


2050



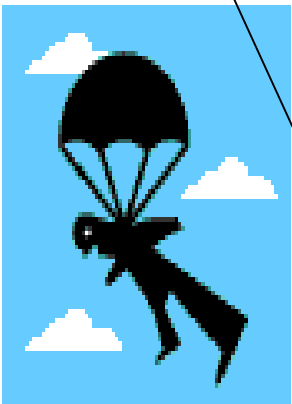
403 Mill.

# Das Problem der Elitenabwanderung

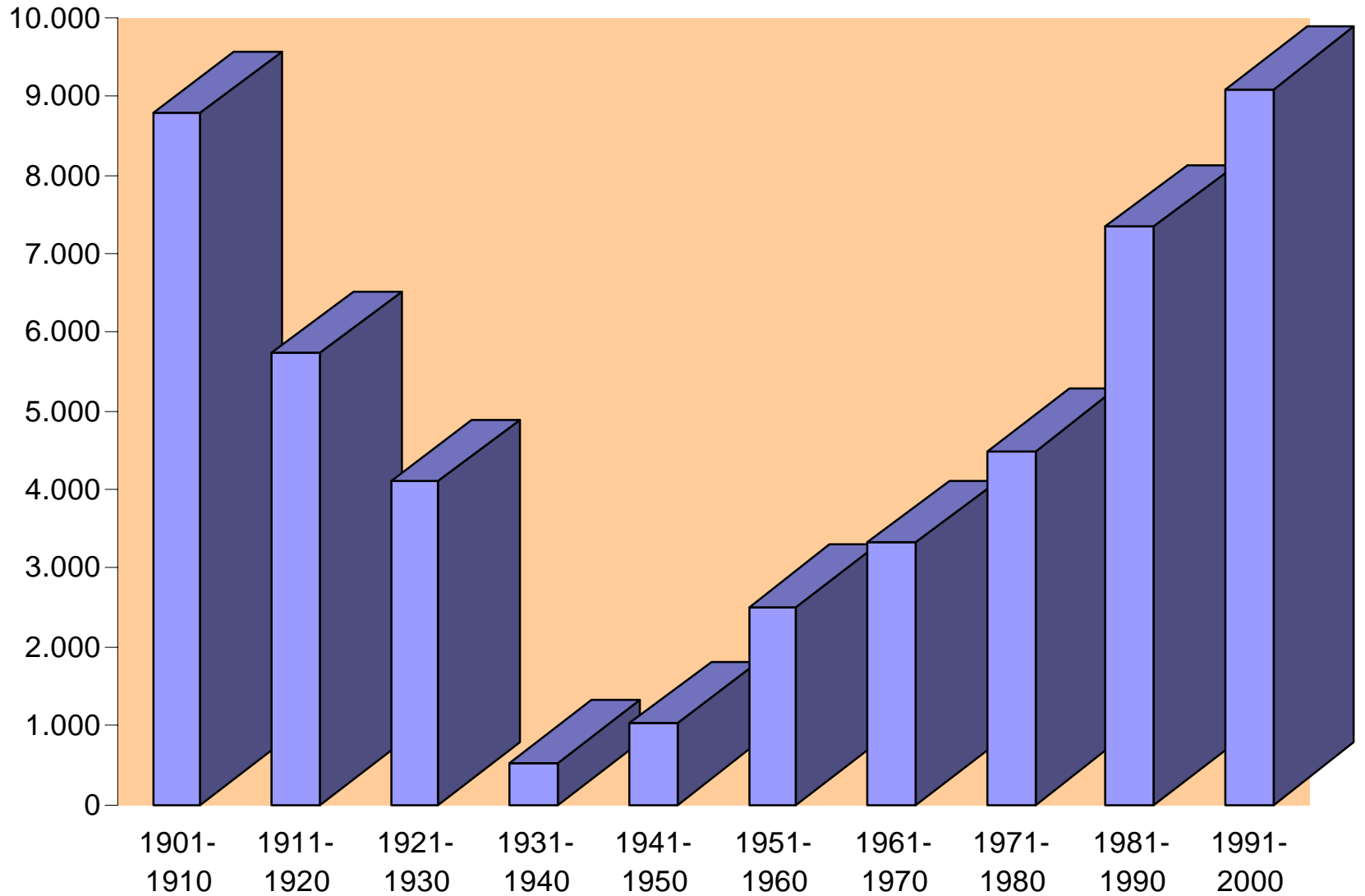


Könnte die bewegliche Elite europäischer Nationen auf den Gedanken kommen, die Gondel des Altenballons zu verlassen?

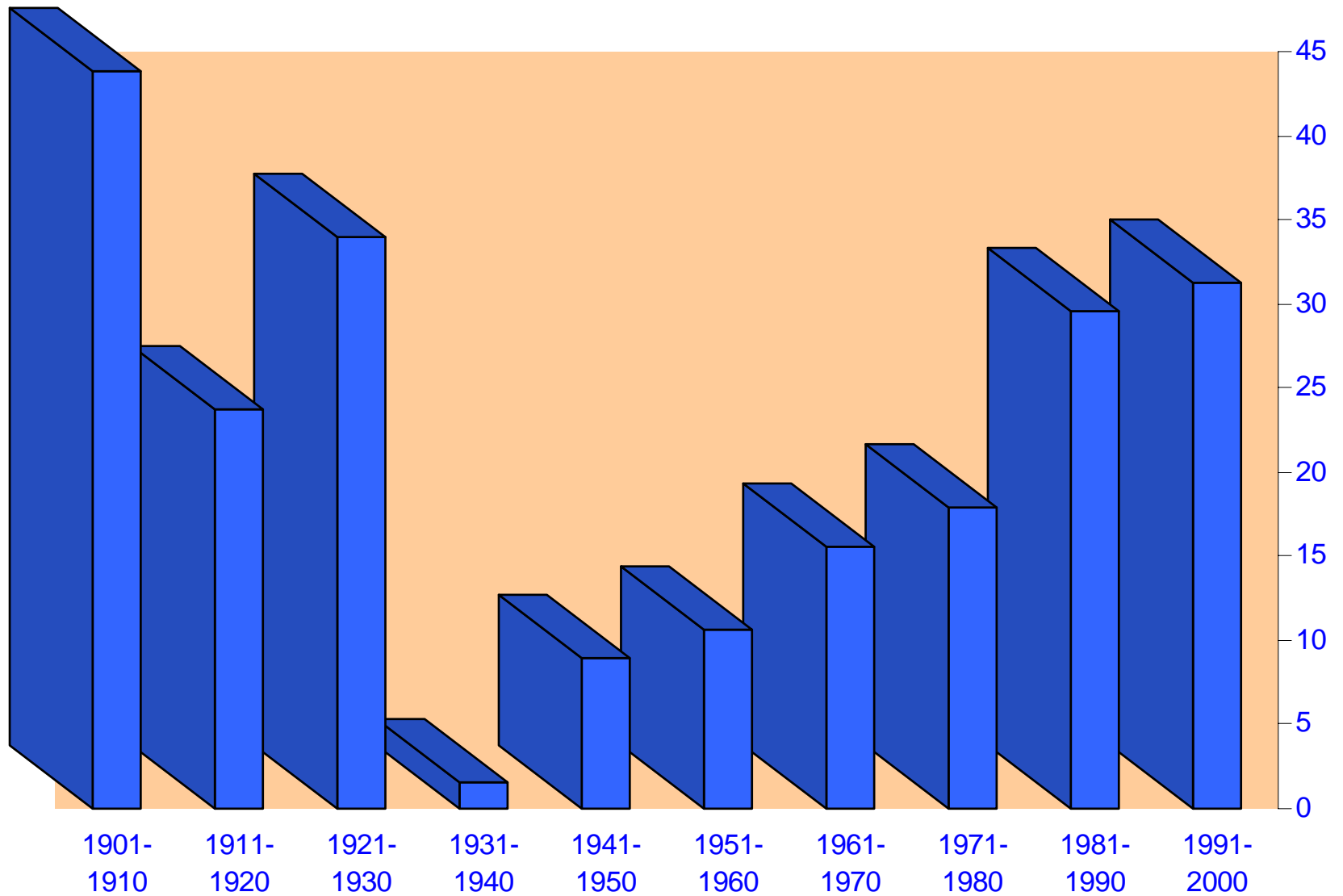
Haben wir gar kein Einwanderungsproblem, sondern ein Auswanderungsproblem?



## Einwanderung in die USA im 20. Jh. in Millionen



# Beitrag der Zuwanderer zum US-Bevölkerungswachstum in %



**Großartig!**

**Aber:**

- 1. In den nächsten nächsten zehn Jahren  
72 Millionen Pensionsanwärter!**
- 2. Europastämmige Weiße geraten gegen  
Mitte des Jahrhunderts in die  
Minderheit!**

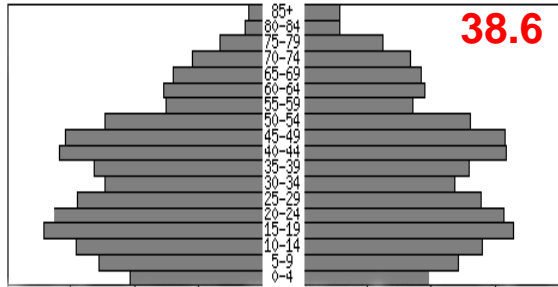
**Die EU erwirbt sich ein  
Altersheim**

**Und:**

**Verzichtet auf die Jugend der  
Mittelmeeranrainer**

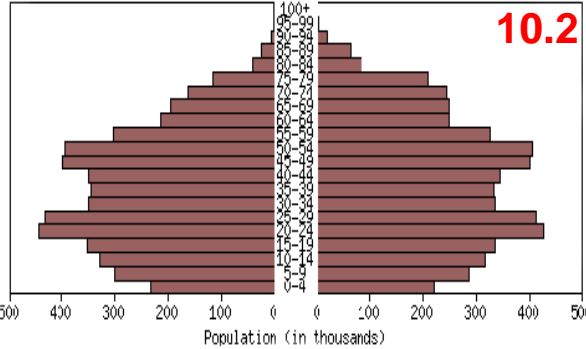
# Polen

2000

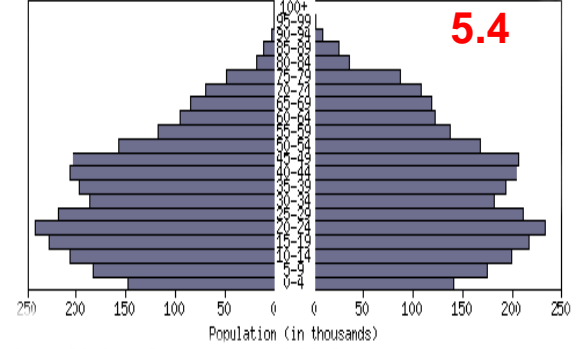


# Tschechien

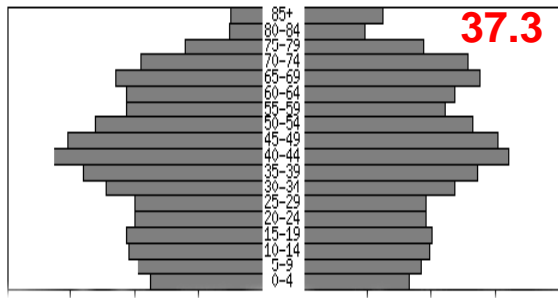
2000



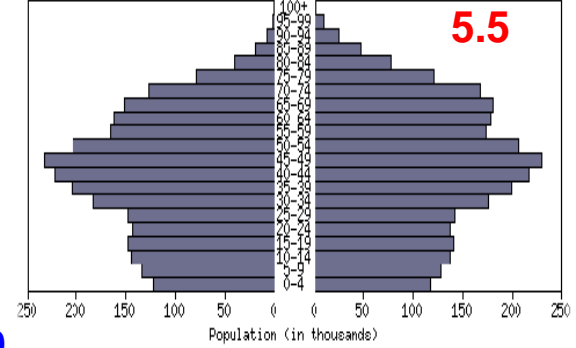
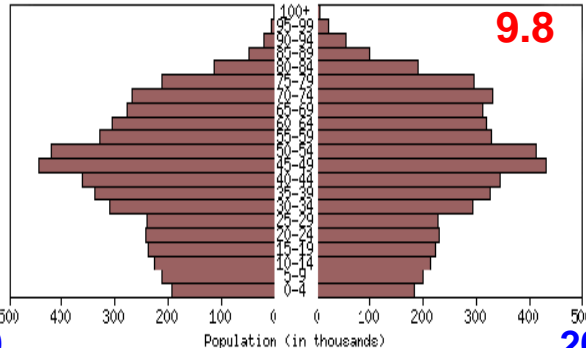
# Slowakei



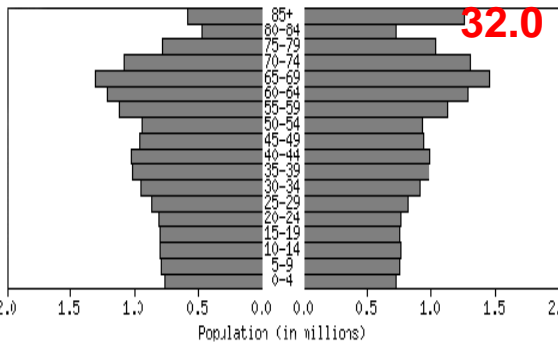
2025



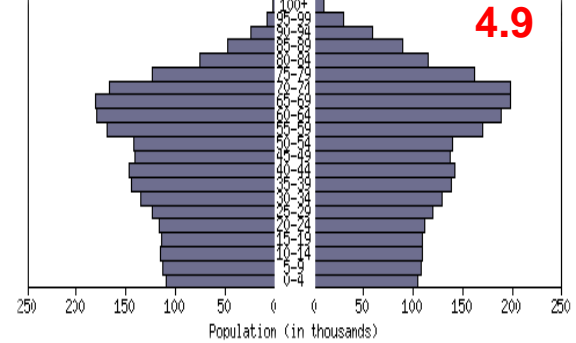
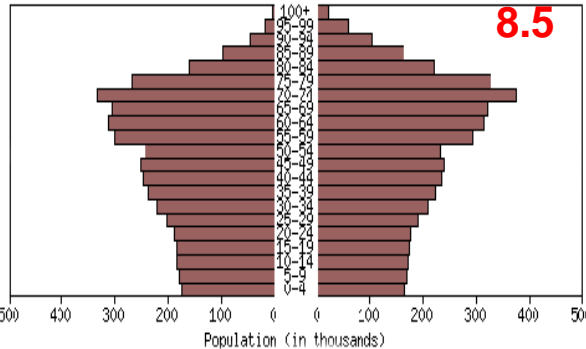
2025



2050

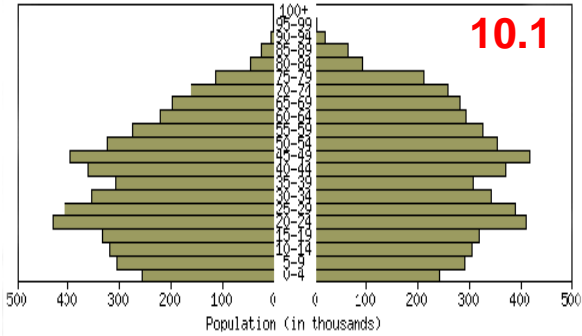


2050



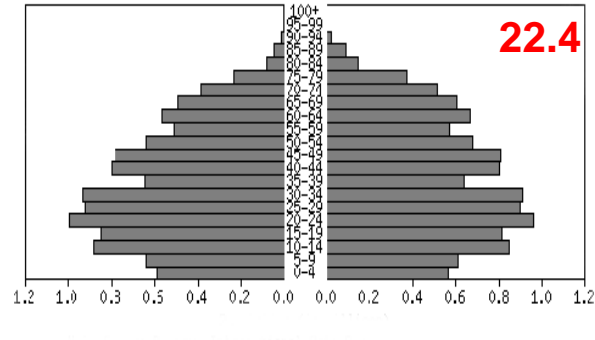
# Ungarn

2000



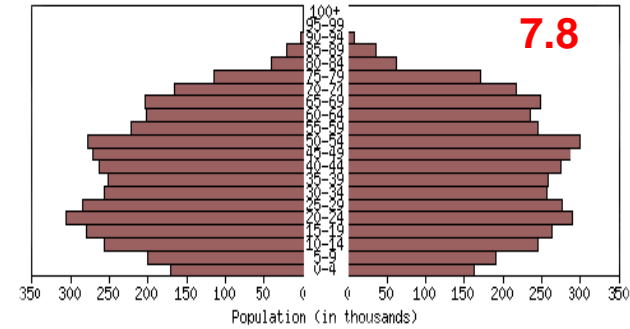
# Rumänien

2000

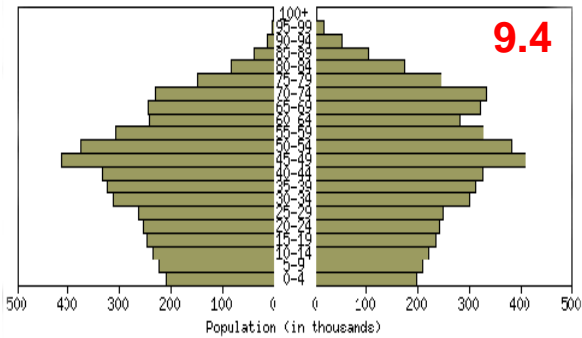


# Bulgarien

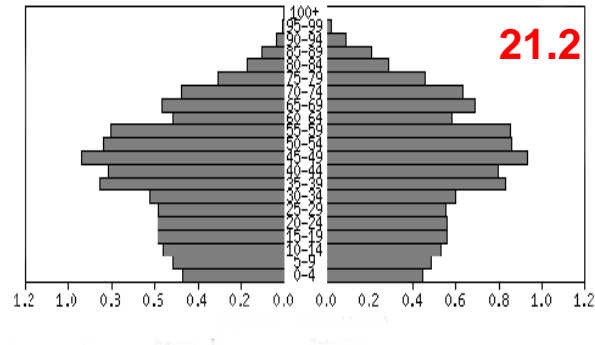
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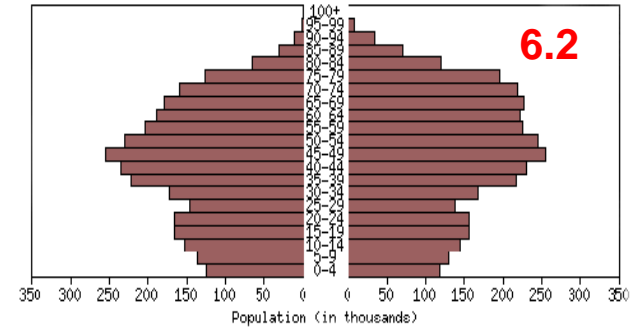
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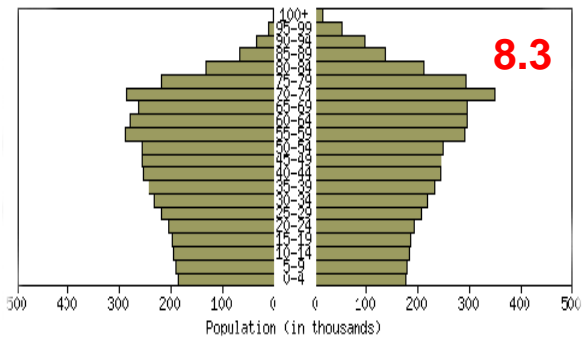
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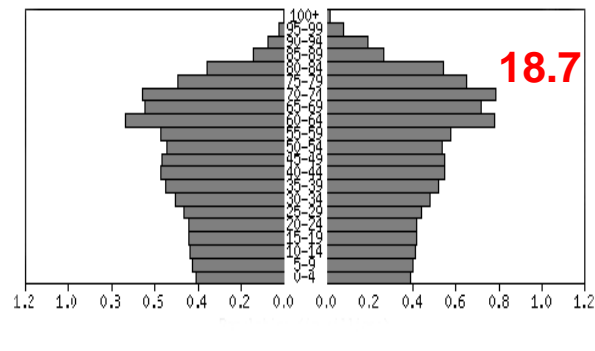
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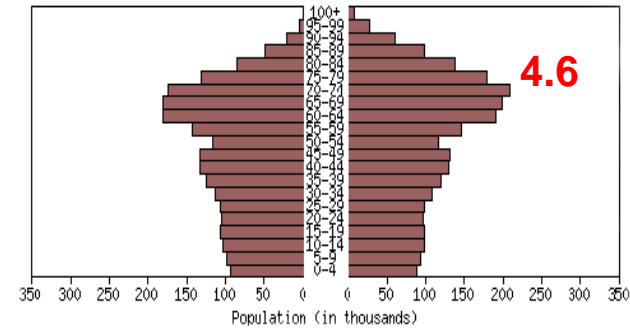
2050



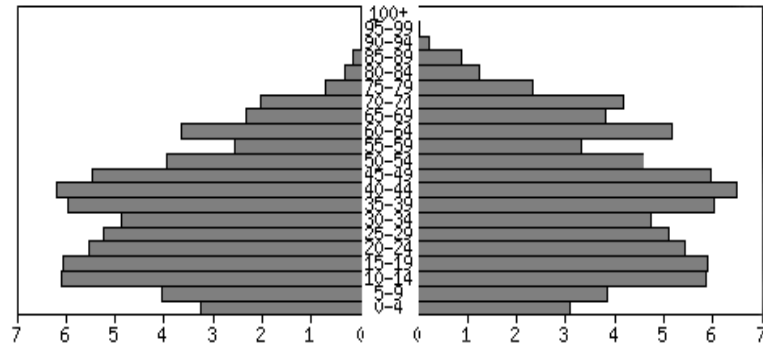
2050



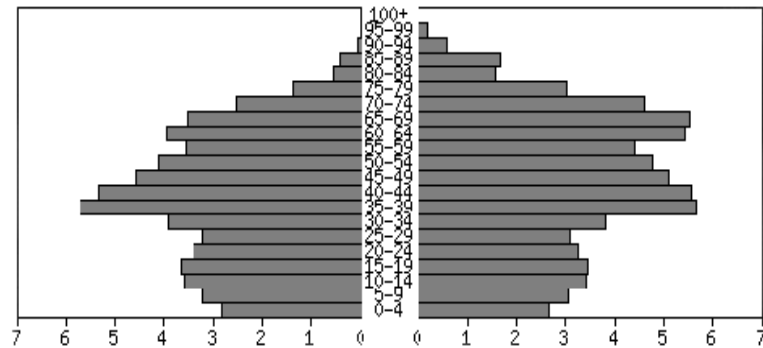
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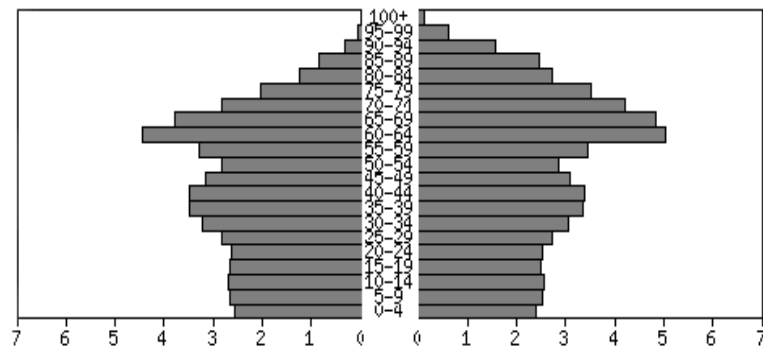
# Russland 2000 2050



**2000 =**  
**140.0 Mill.**



**2025 =**  
**135.9 Mill.**

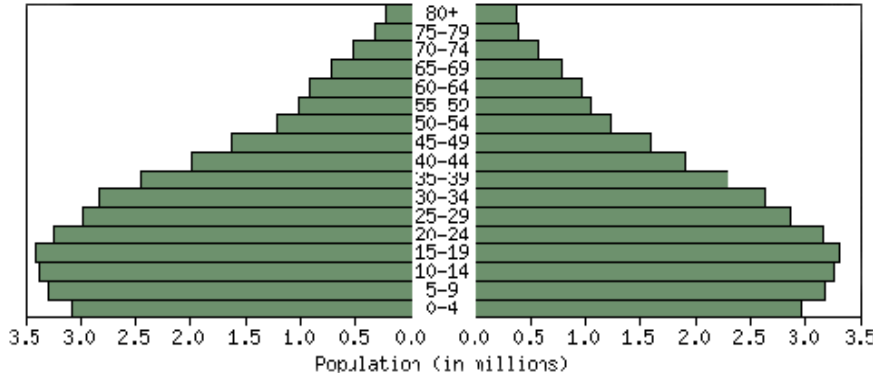


**2050 =**  
**118.2 Mill.**

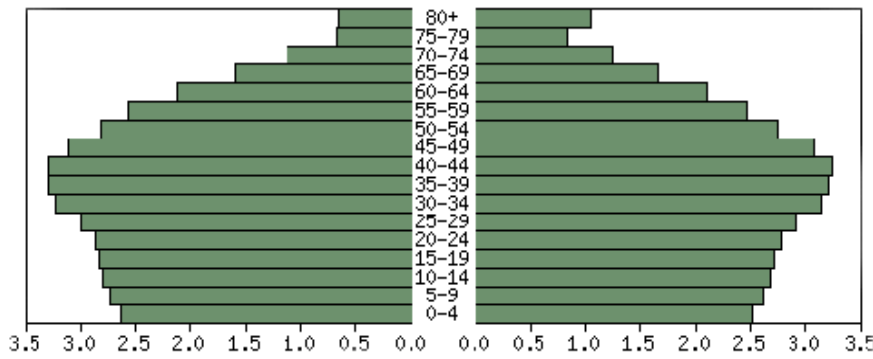
Bevölkerung in Millionen

Quelle: US Census Bureau, International Database, IDB

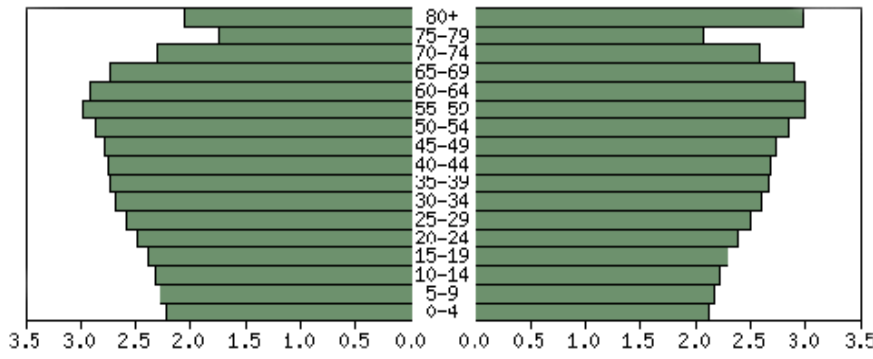
# Türkei 2000 2050



**2000 =**  
**65.6 Mill.**



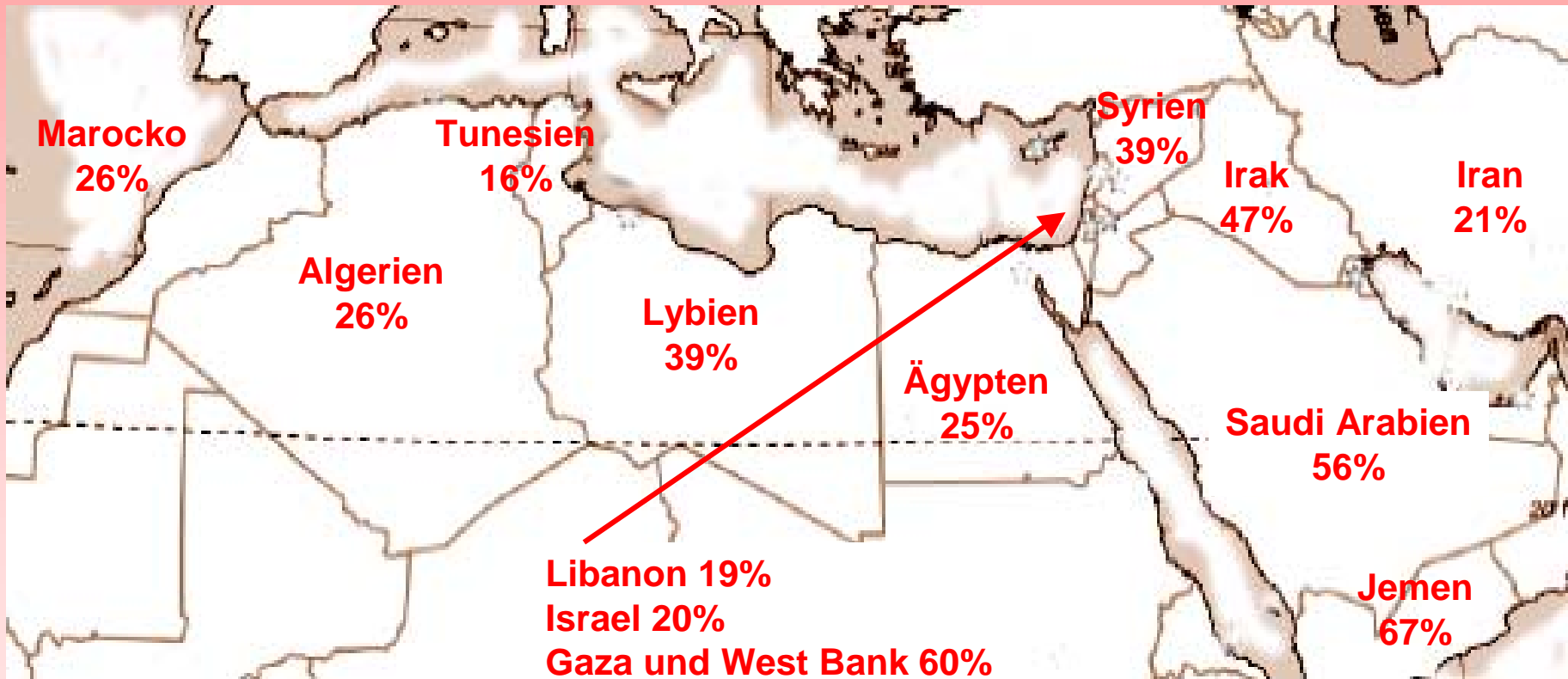
**2025 =**  
**82.2 Mill.**



**2050 =**  
**86.4 Mill.**

Quelle: US Census Bureau, International Database, IDB

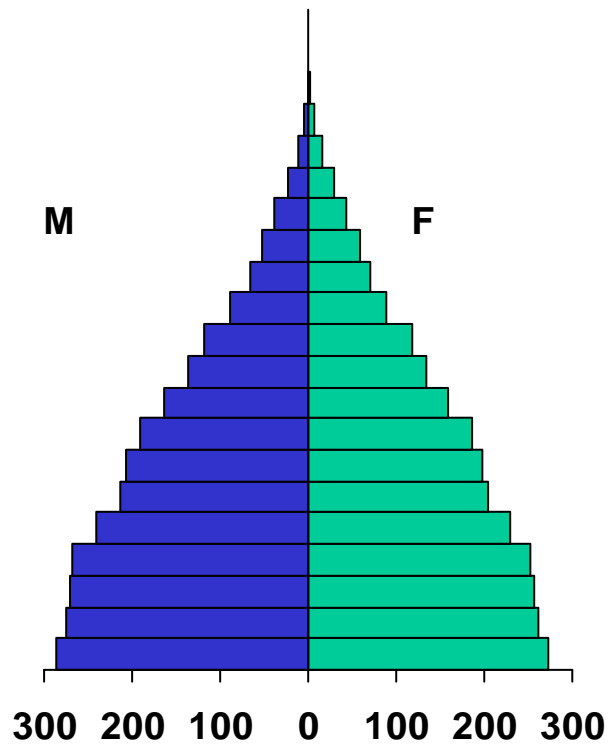
# Bevölkerungszuwachs der Mittelmeeranrainer und Nah-Ost-Staaten 2000-2015



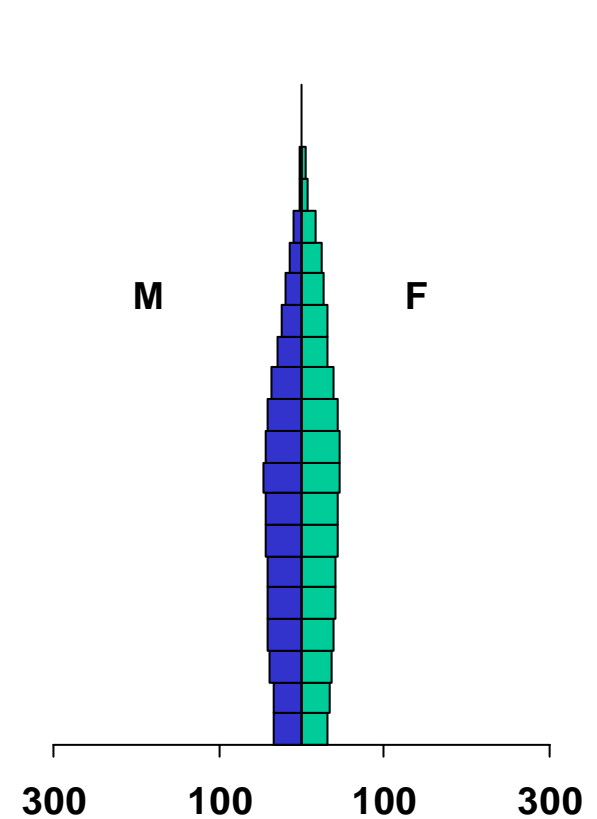
# Weltlage im Ganzen

# Altersstruktur der Weltbevölkerung 2005 in Millionen

Süd

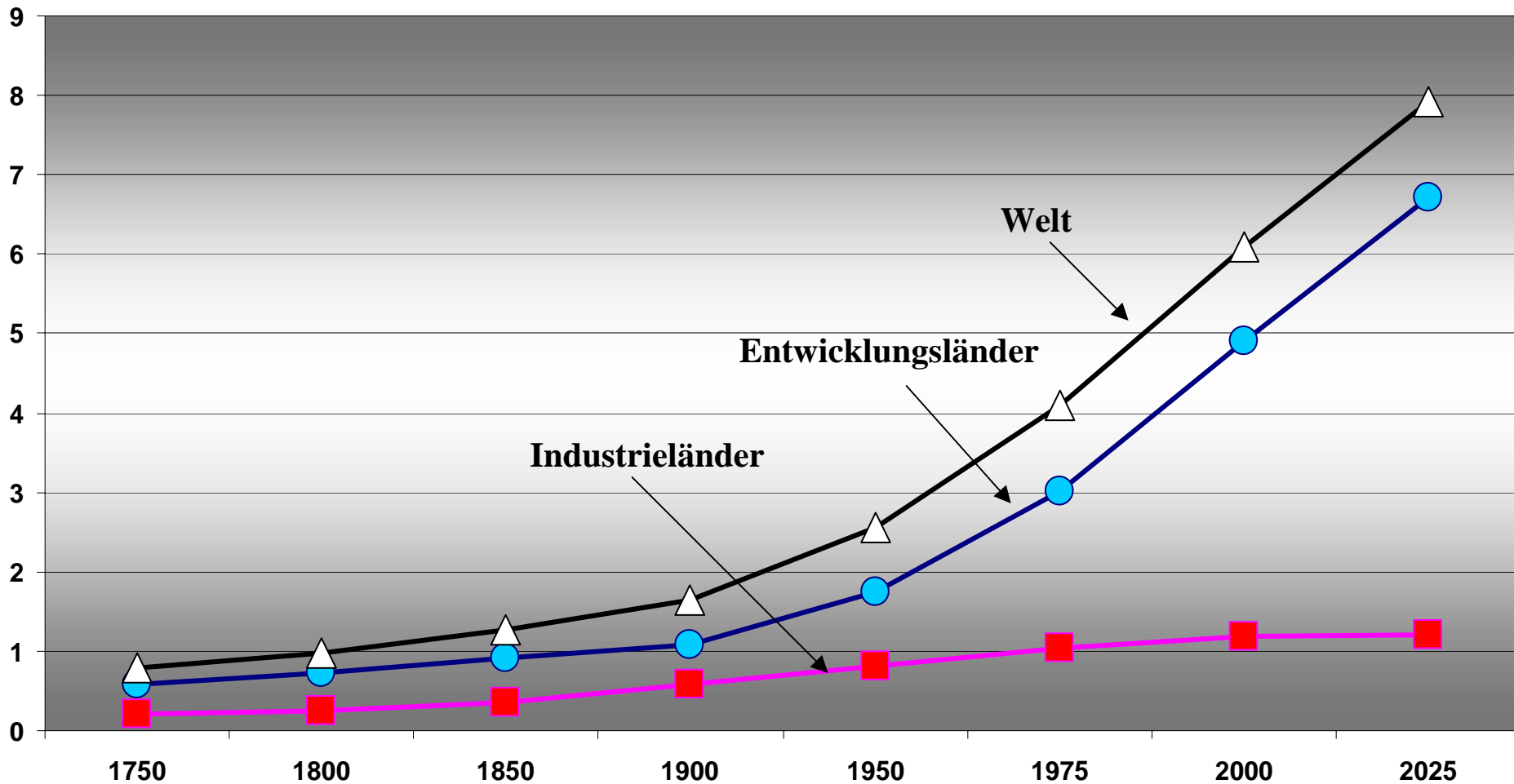


Nord



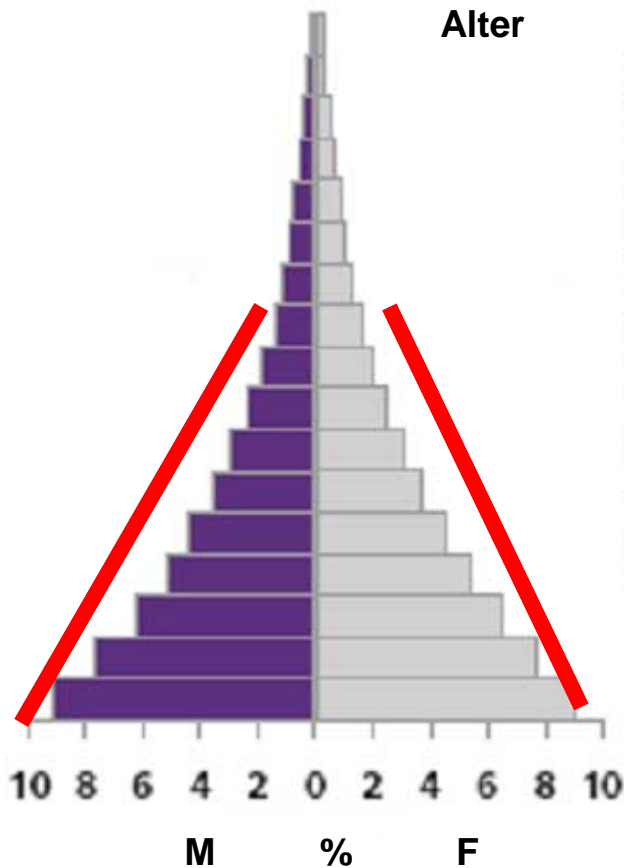
# Weltbevölkerungswachstum 1750-2025

in Milliarden



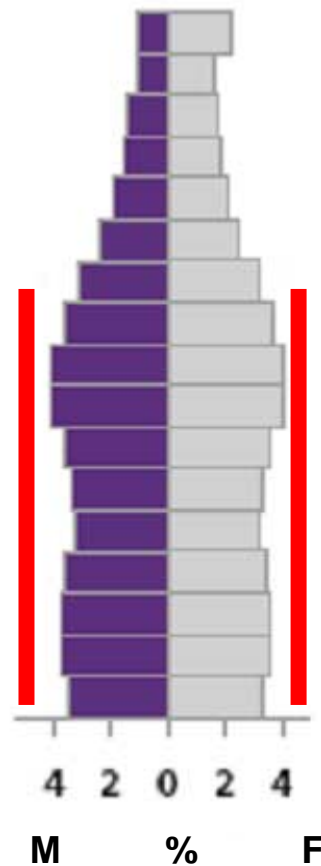
# Starkes, moderates und negatives Bevölkerungswachstum 2000

## Beispiele für die Pyramiden-, Säulen- und Sargform



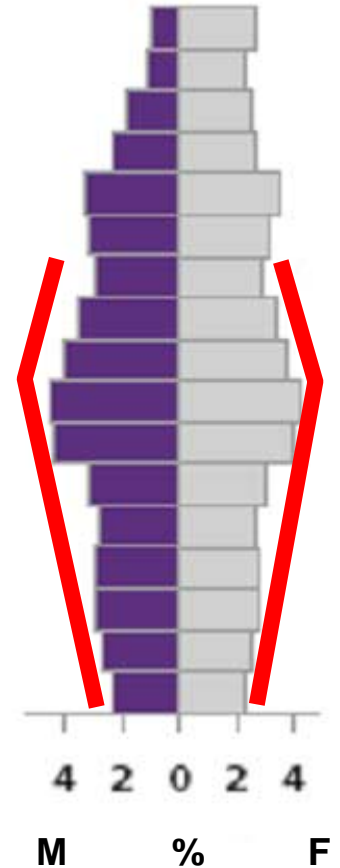
**Nigeria**

80+  
75-79  
70-74  
65-69  
60-64  
55-59  
50-54  
45-59  
40-44  
35-39  
30-34  
25-29  
20-24  
15-19  
10-14  
5-9  
0-4



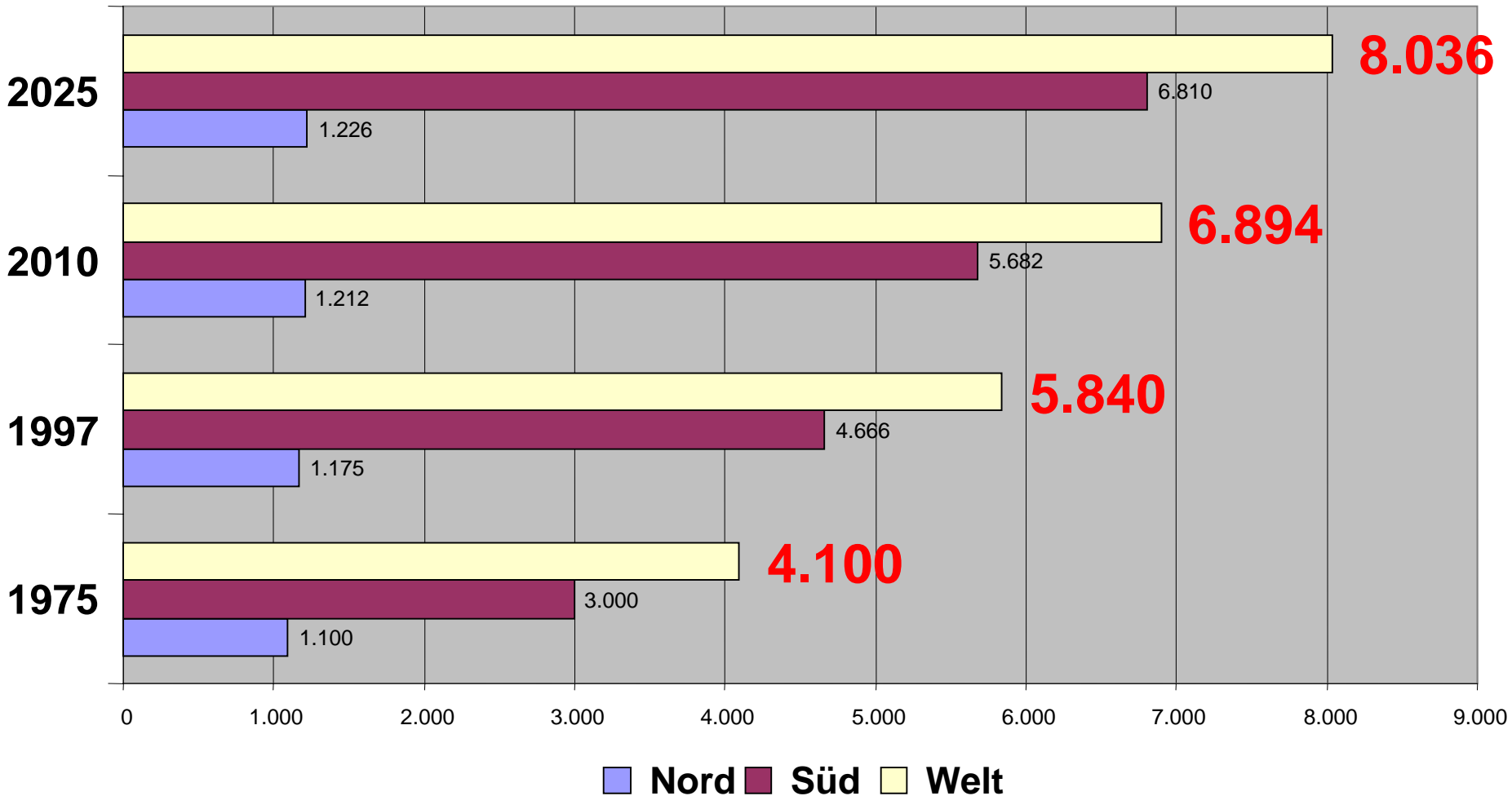
**USA**

1920-24  
1925-29  
1930-34  
1935-39  
1940-44  
1945-49  
1950-54  
1955-59  
1960-64  
1965-69  
1970-74  
1975-79  
1980-84  
1985-89  
1990-94  
1995-99



**Deutschland**

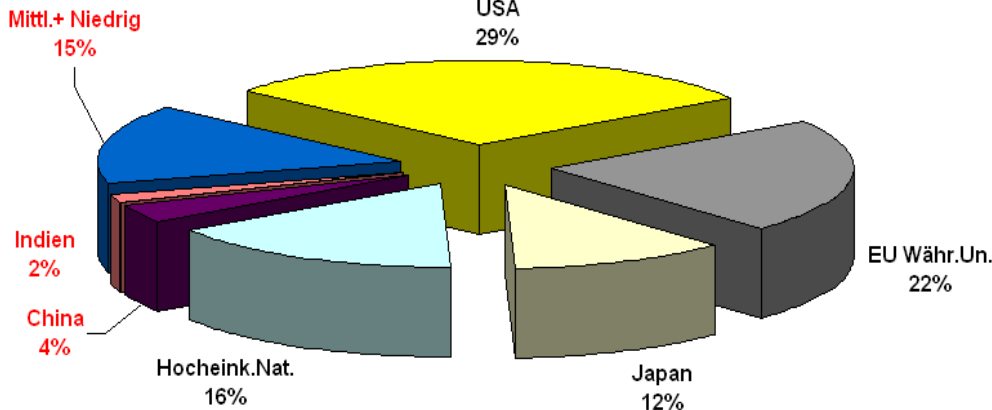
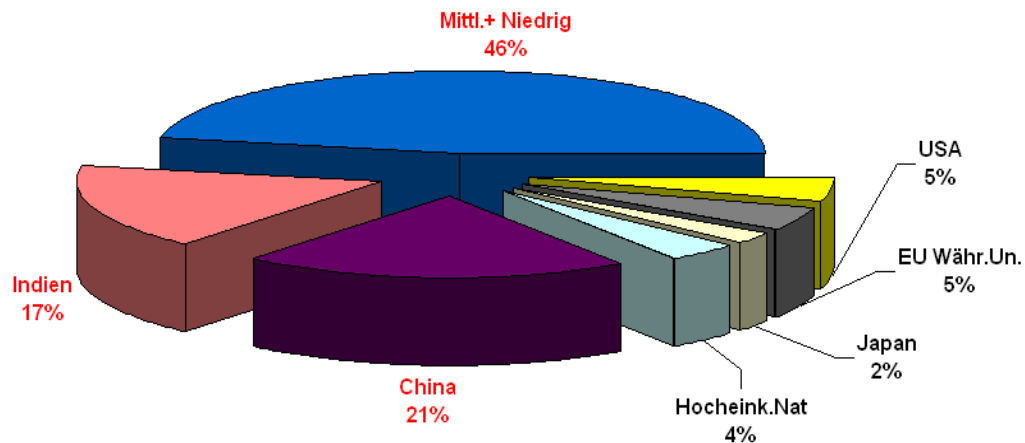
# Weltbevölkerung 1975-2025 in Milliarden



**Sieben gegen einen!**

# Weltbevölkerung und Weltprodukt GDP 2003

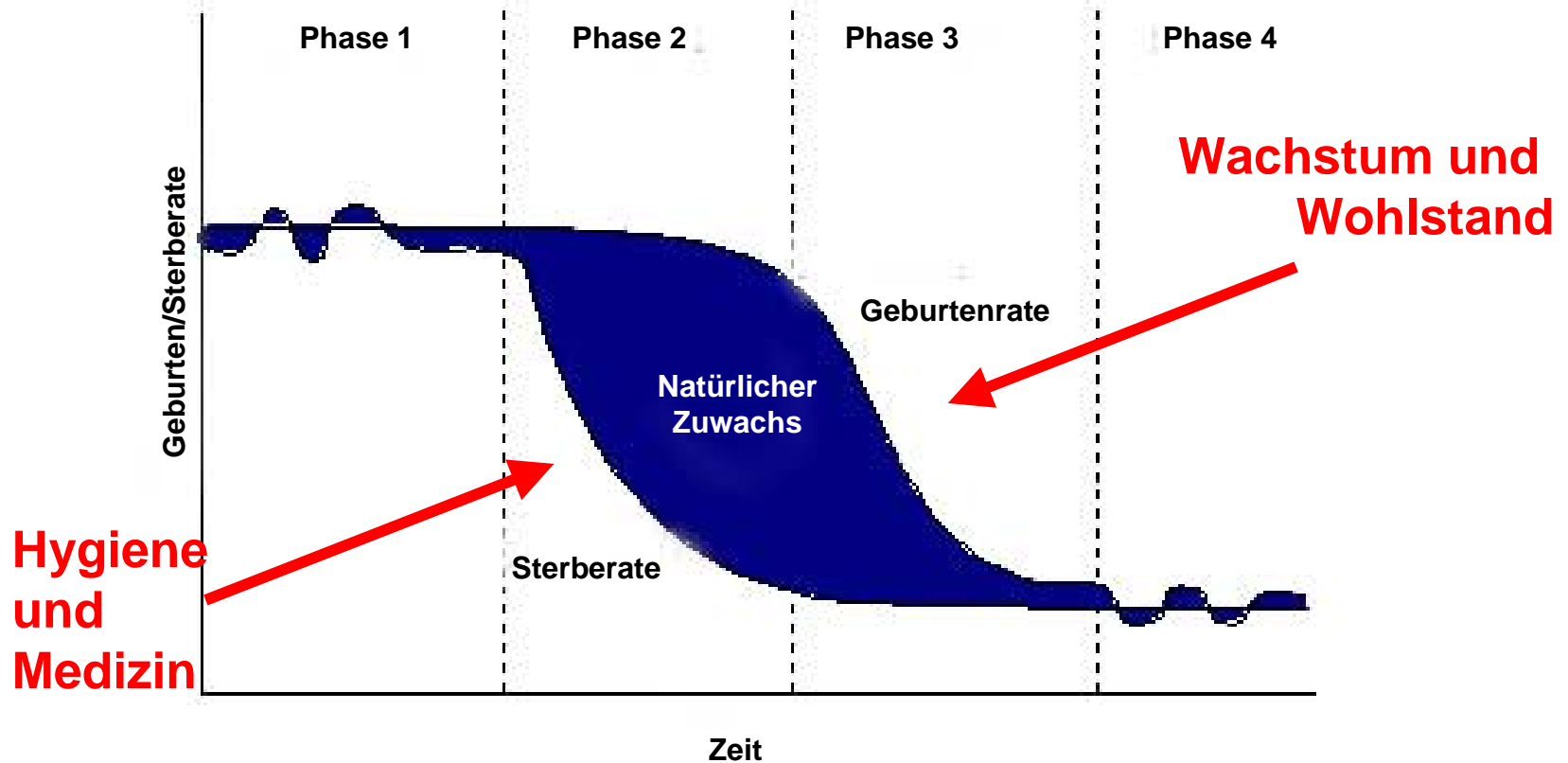
Bevölkerungsanteile →



← Produktanteile

**Theorie**

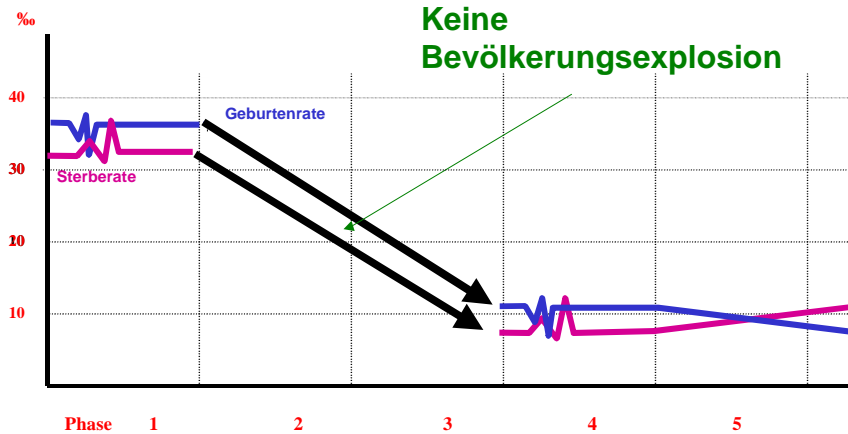
# Die allgemeinen Grundzüge des demographischen Übergangs



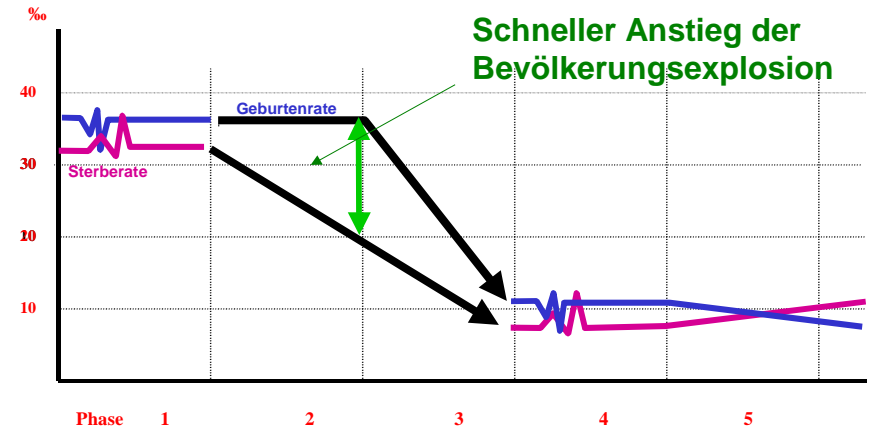
Anmerkung: Natürlicher Zuwachs wird von der Überzahl der Geburten über die Sterbefälle erzeugt

# Vier Varianten des demographischen Übergangs

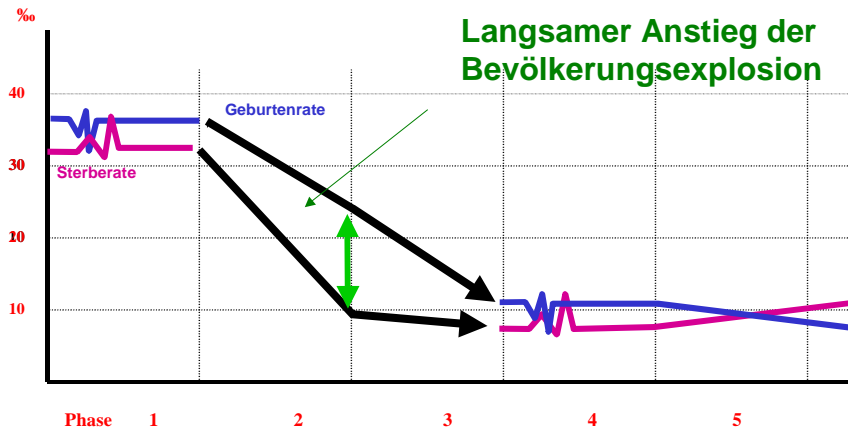
## Übergangsvariante 1



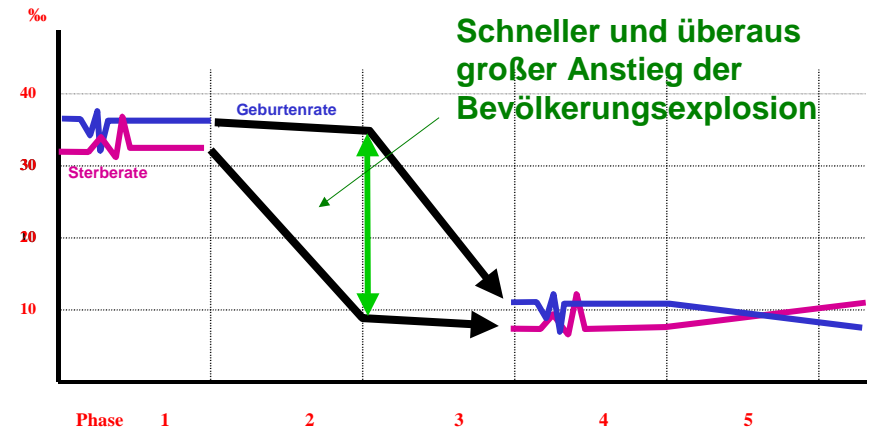
## Übergangsvariante 2



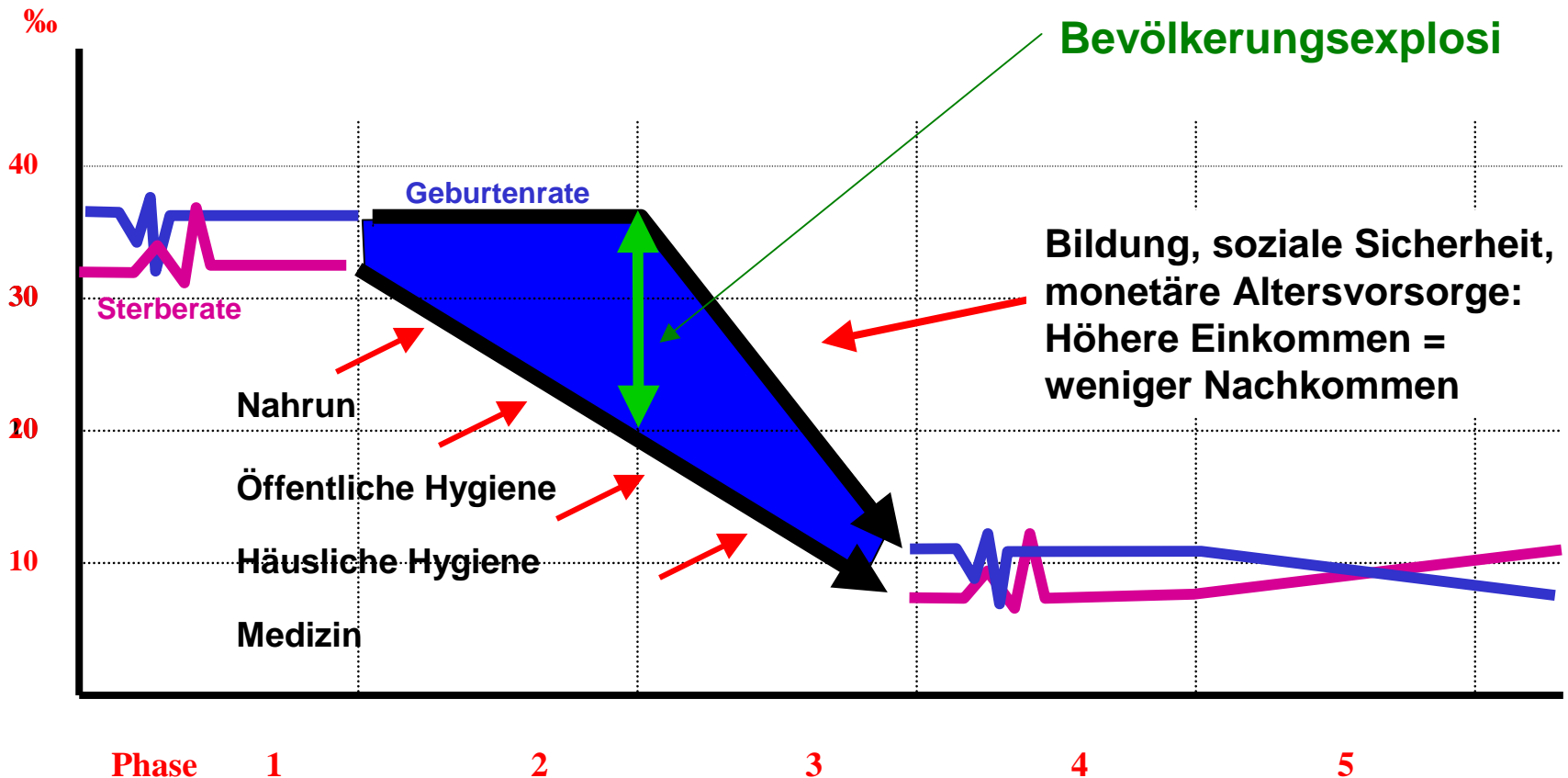
## Übergangsvariante 3



## Übergangsvariante 4

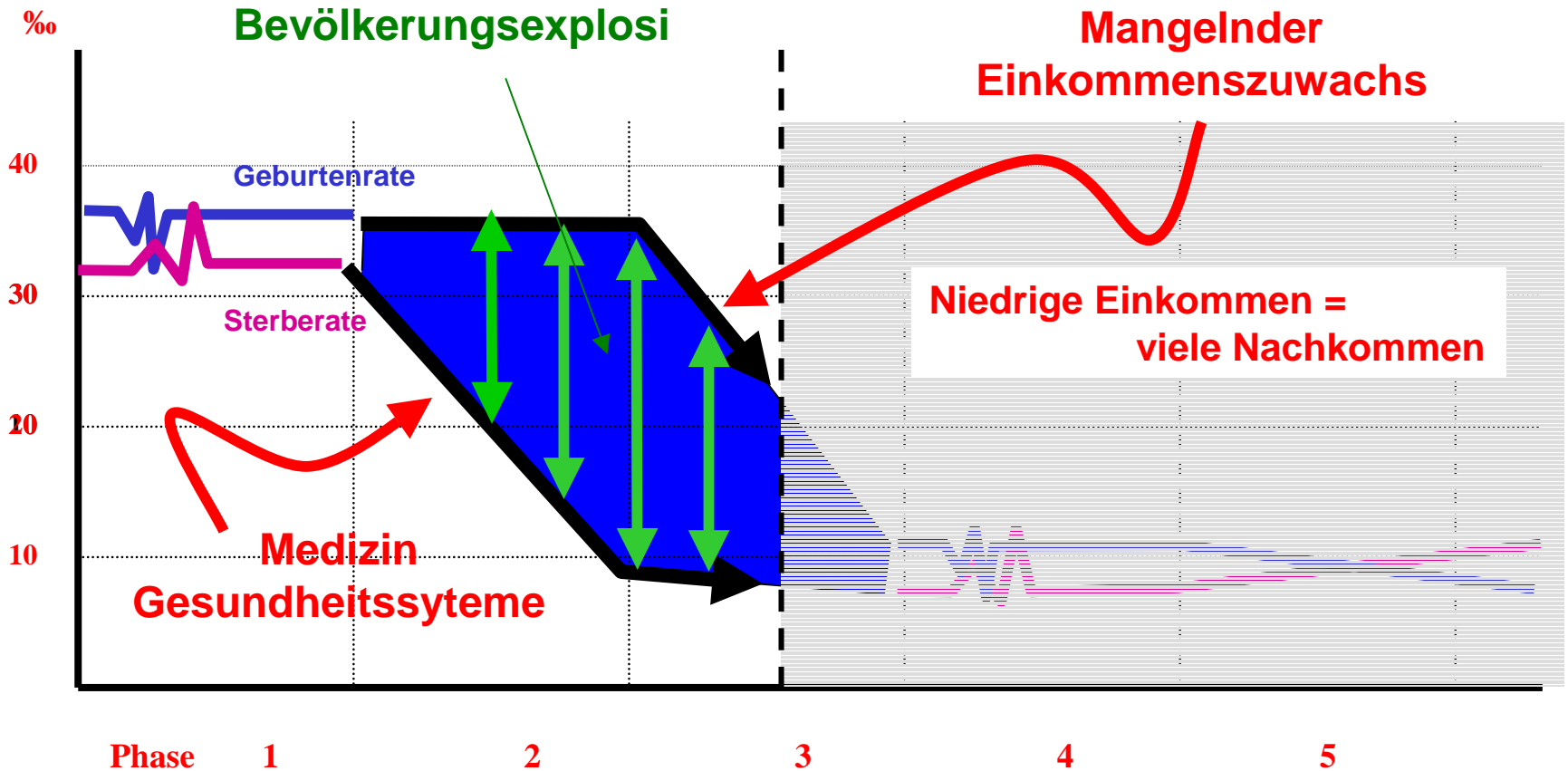


# Bevölkerungsdynamik in den Stammländern des Kapitalismus



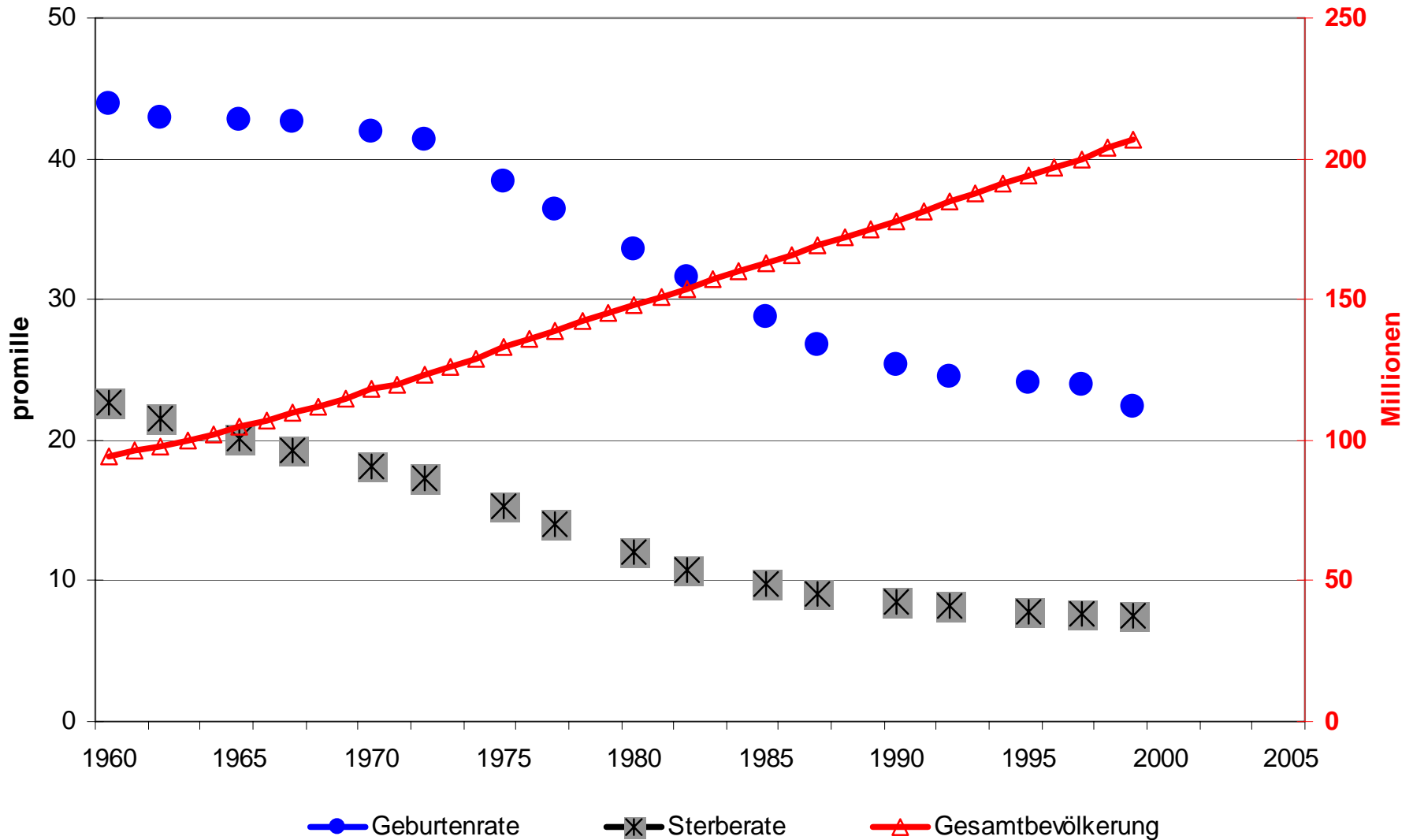
Geradliniger Abschwung der Sterbe- und zeitverzögerter Abschwung der Geburtenraten mit daraus resultierendem Bevölkerungswachstum

# Bevölkerungsdynamik in den Entwicklungsländern

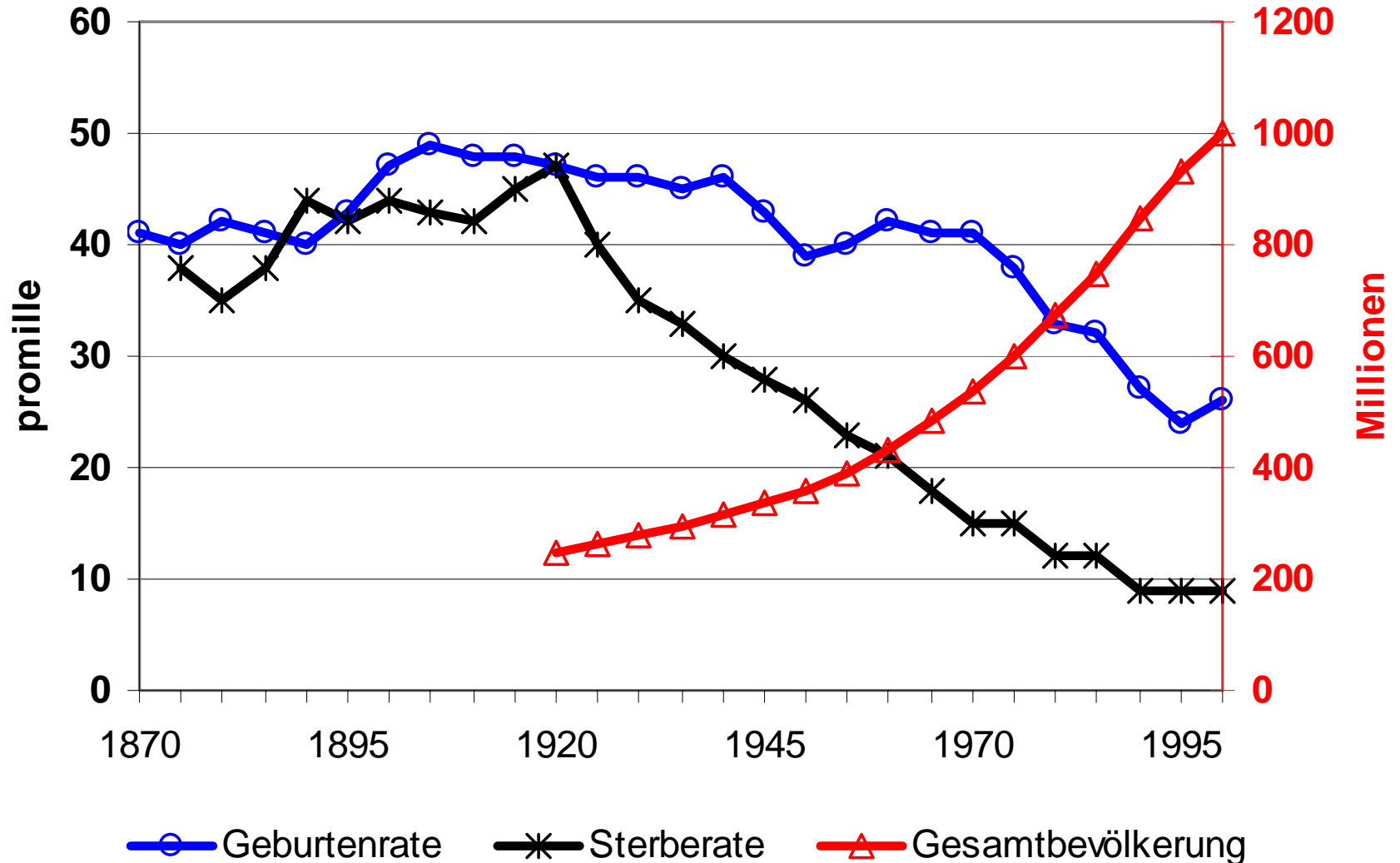


**und Praxis**

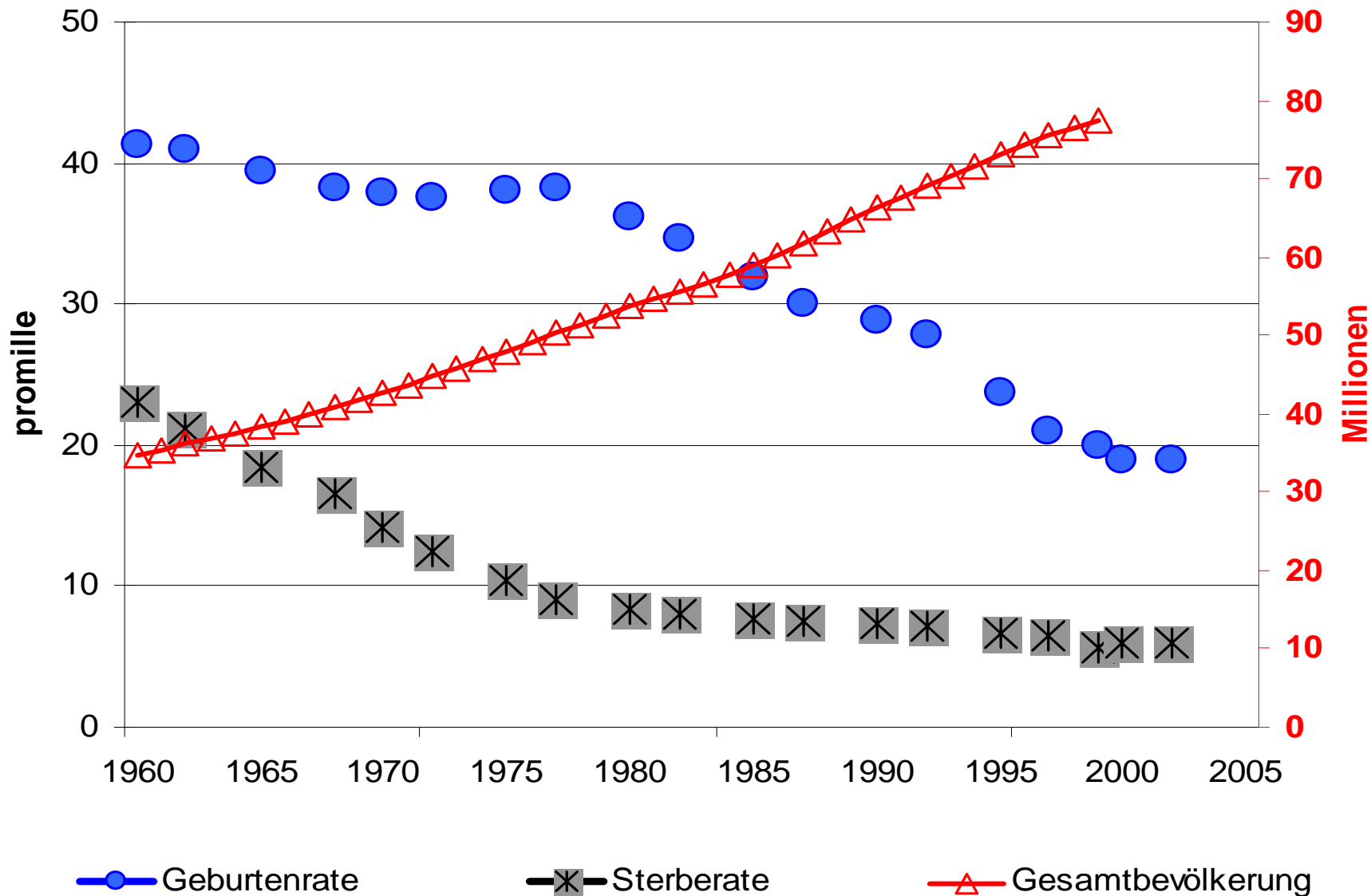
# Indonesien Geburten-, Sterberaten und Gesamtbevölkerung 1960-2005



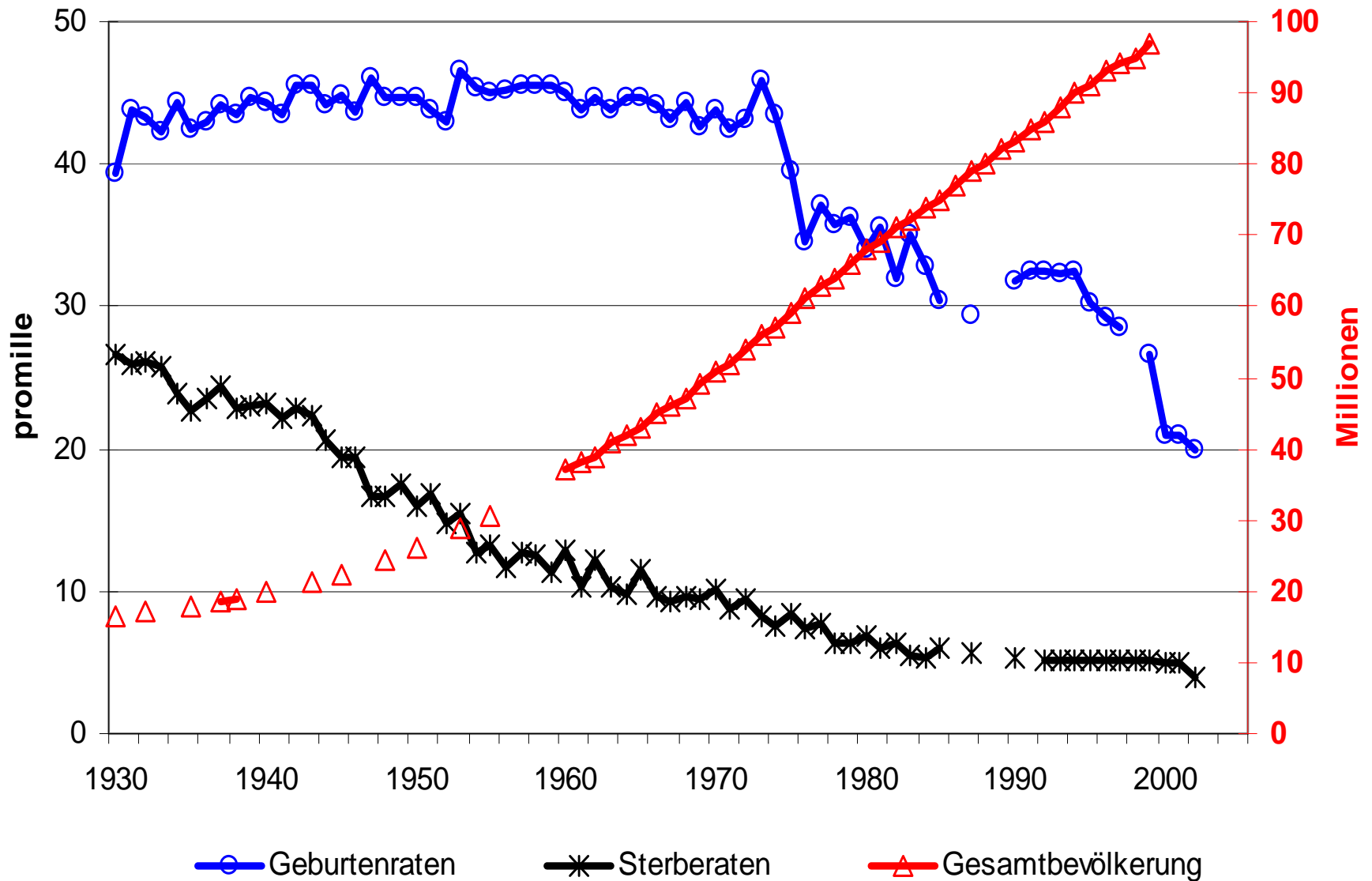
# Indien Geburten-, Sterberaten und Gesamtbevölkerung 1870-2000



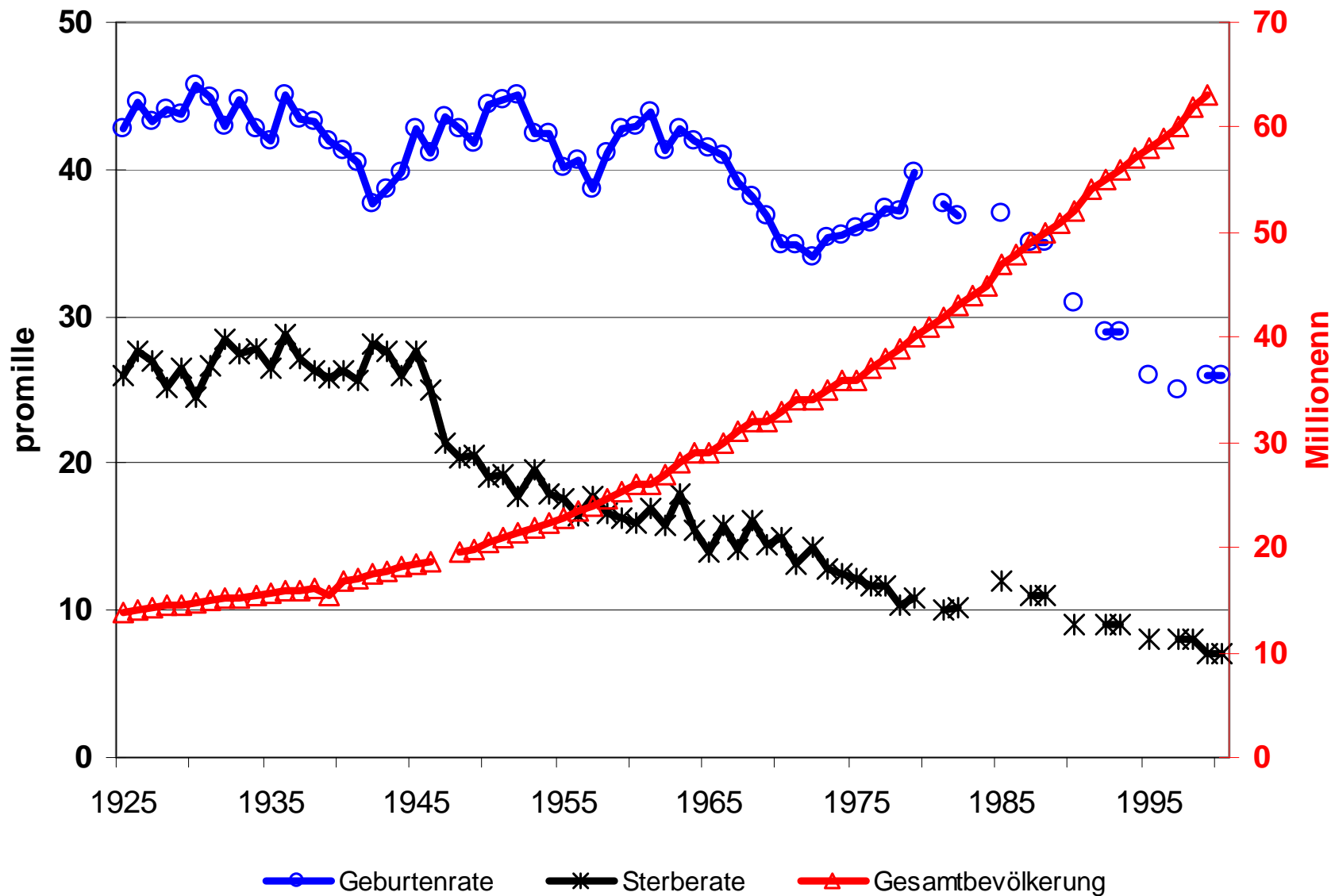
# Vietnam Geburten-, Sterberate und Gesamtbevölkerung 1960-2005



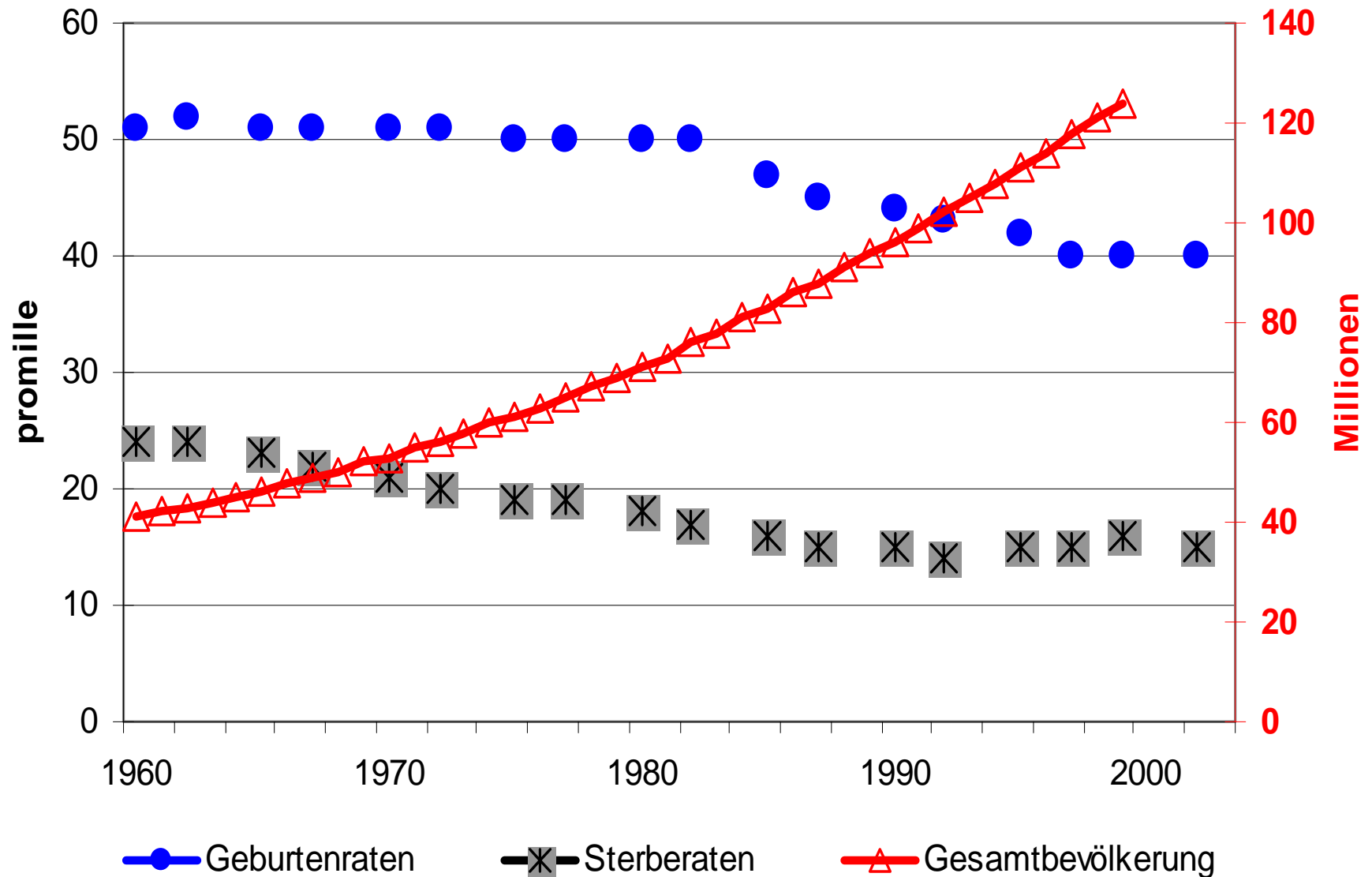
# Mexiko Geburten-, Sterberaten und Gesamtbevölkerung 1930-2005



# Ägypten Geburten-, Sterberaten und Gesamtbevölkerung 1925-2000

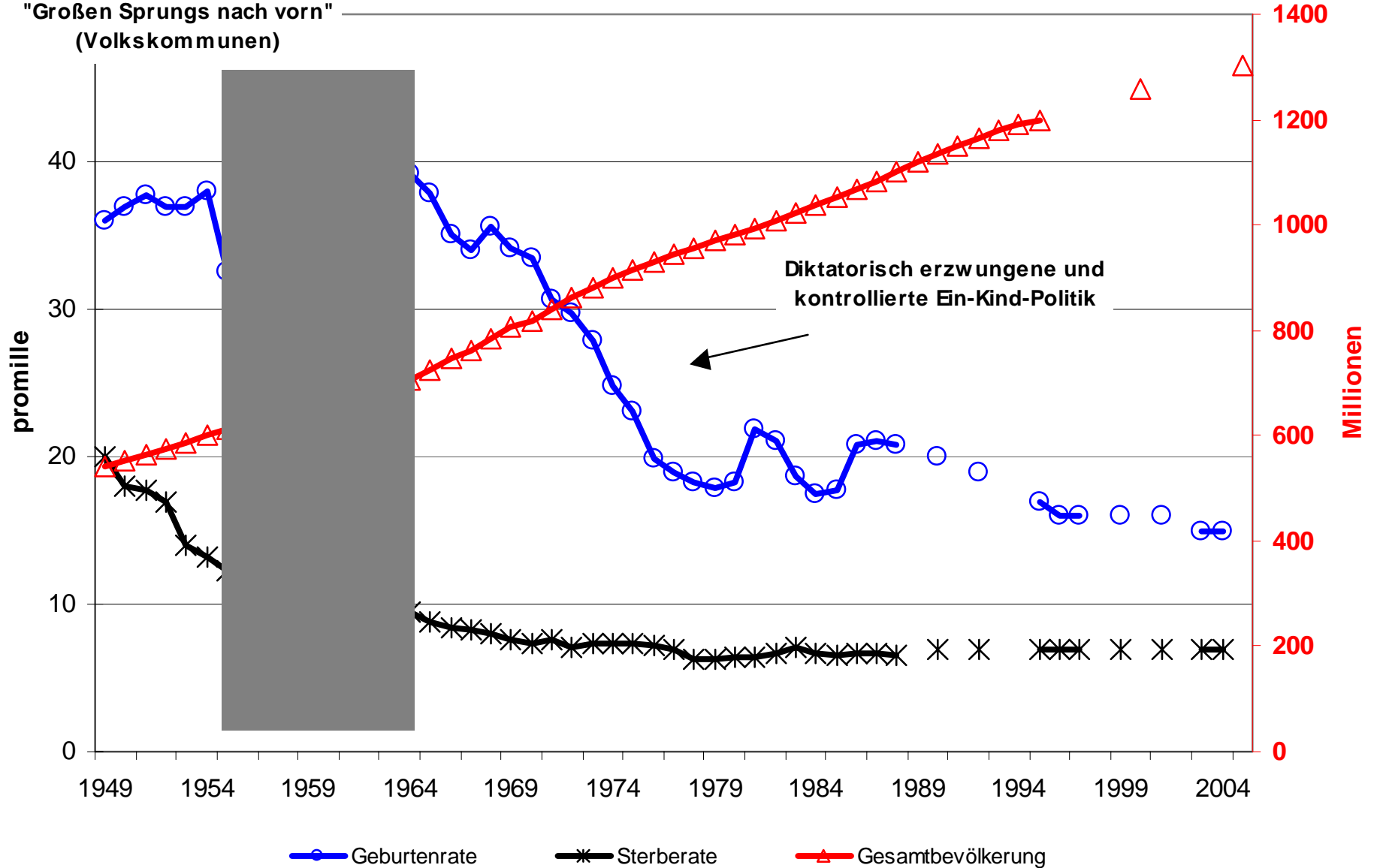


# Nigeria Geburten-, Sterberaten und Gesamtbevölkerung 1960-2005

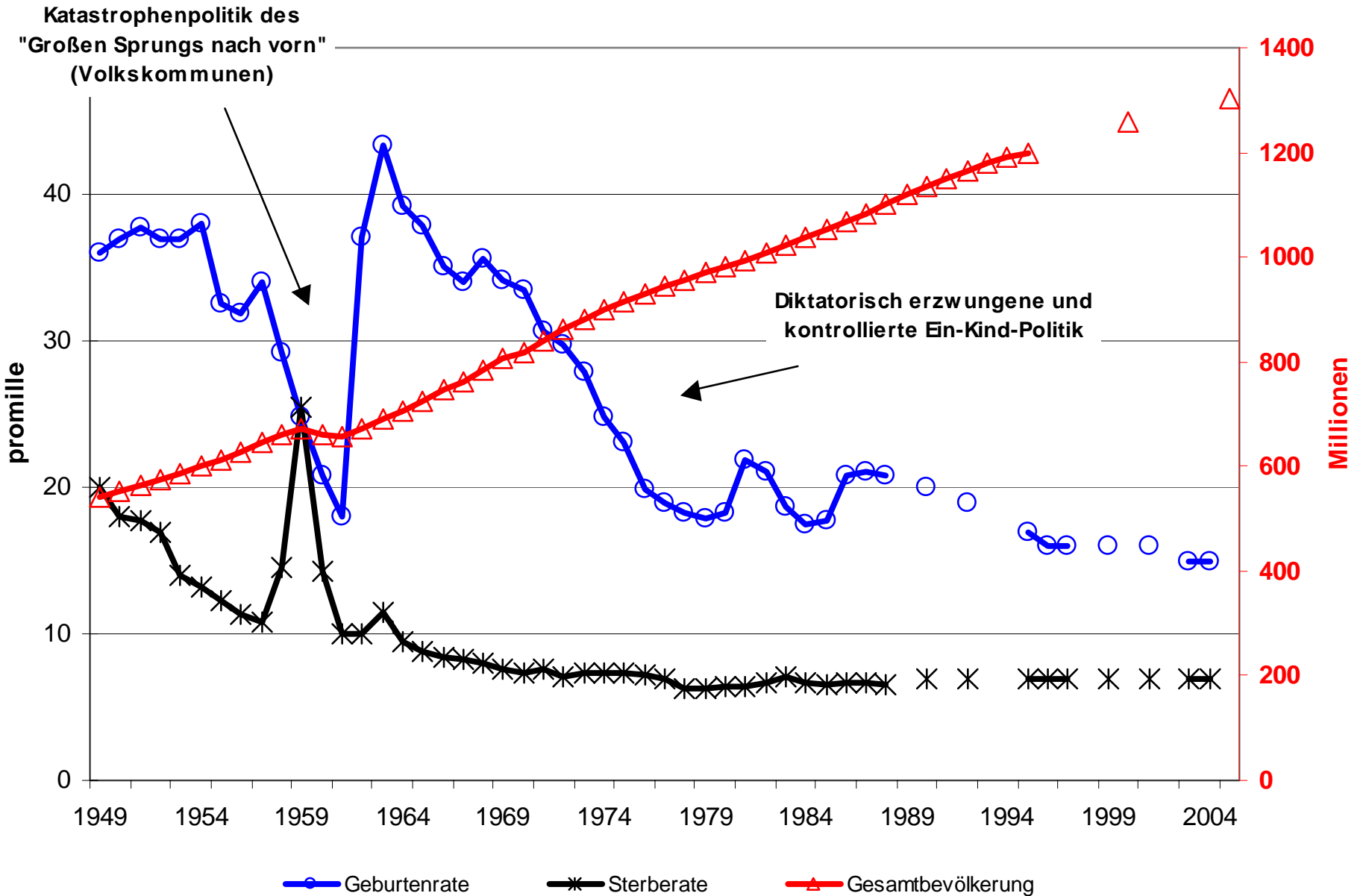


# China Geburten-, Sterberaten und Gesamtbevölkerung 1949-2005

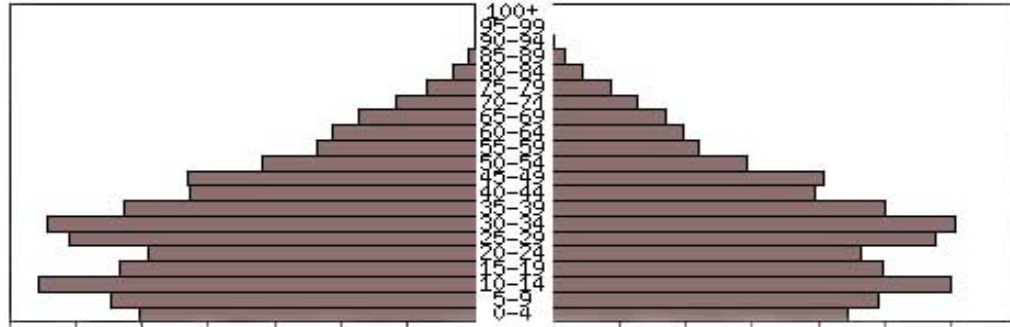
Katastrophenpolitik des  
"Großen Sprungs nach vorn"  
(Volkskommunen)



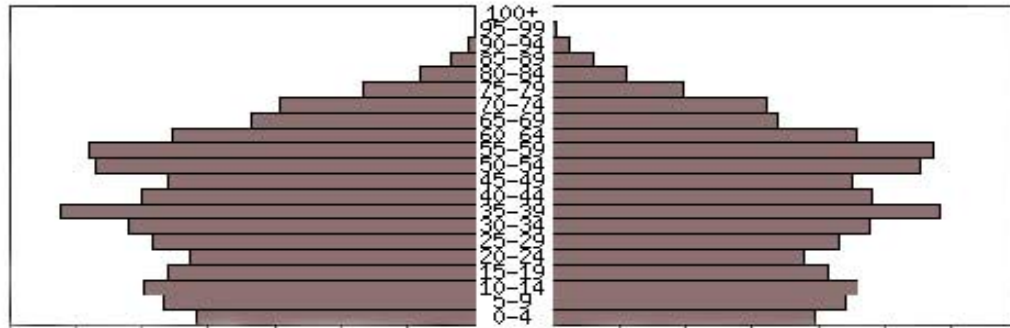
# China Geburten-, Sterberaten und Gesamtbevölkerung 1949-2005



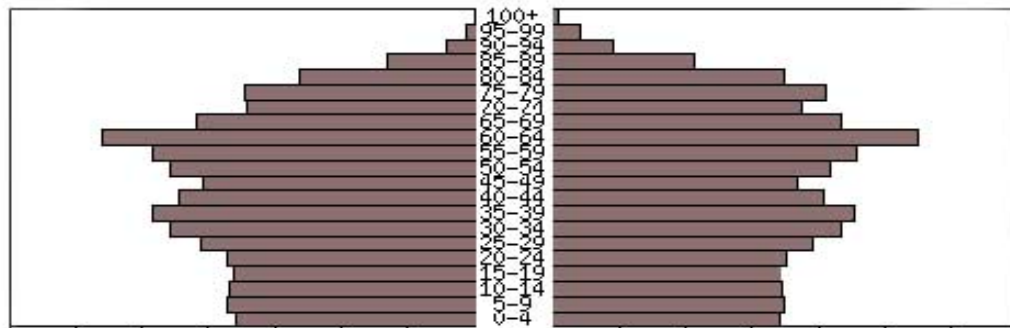
# China 2000 2050



**2000 =**  
**1268 Mill.**



**2025 =**  
**1453 Mill.**



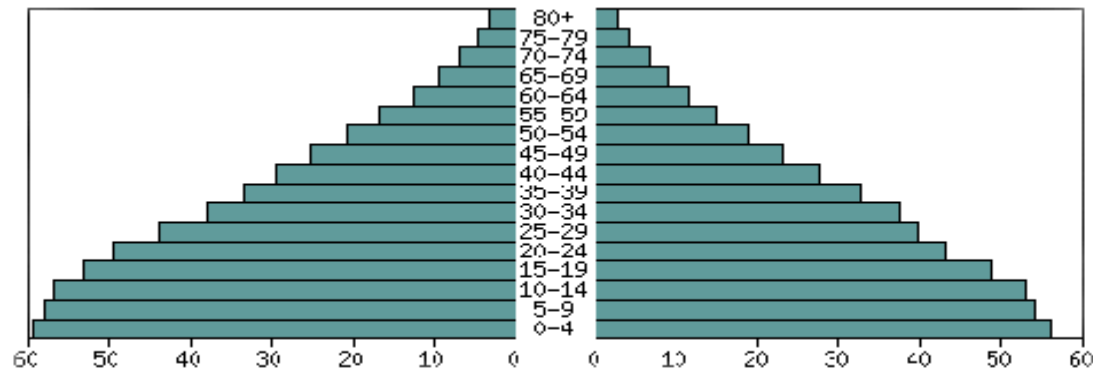
**2050 =**  
**1424 Mill.**

Bevölkerung in Millionen

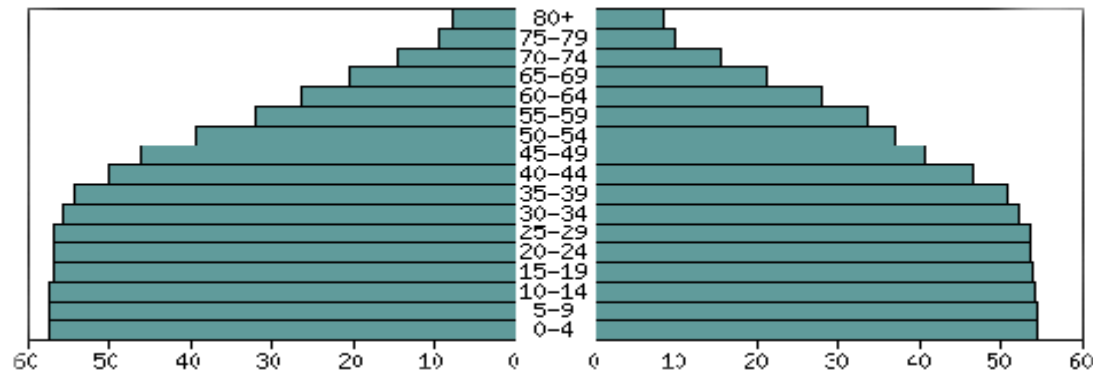
Quelle: US Census Bureau, International Database, IDB

# Indien 2000-2050

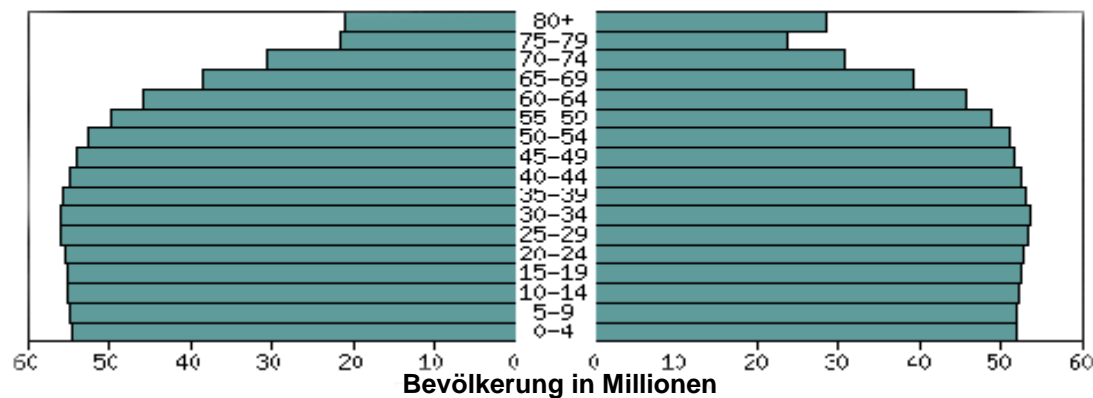
**2000 =**  
**1002 Mill.**



**2025 =**  
**1361 Mill.**



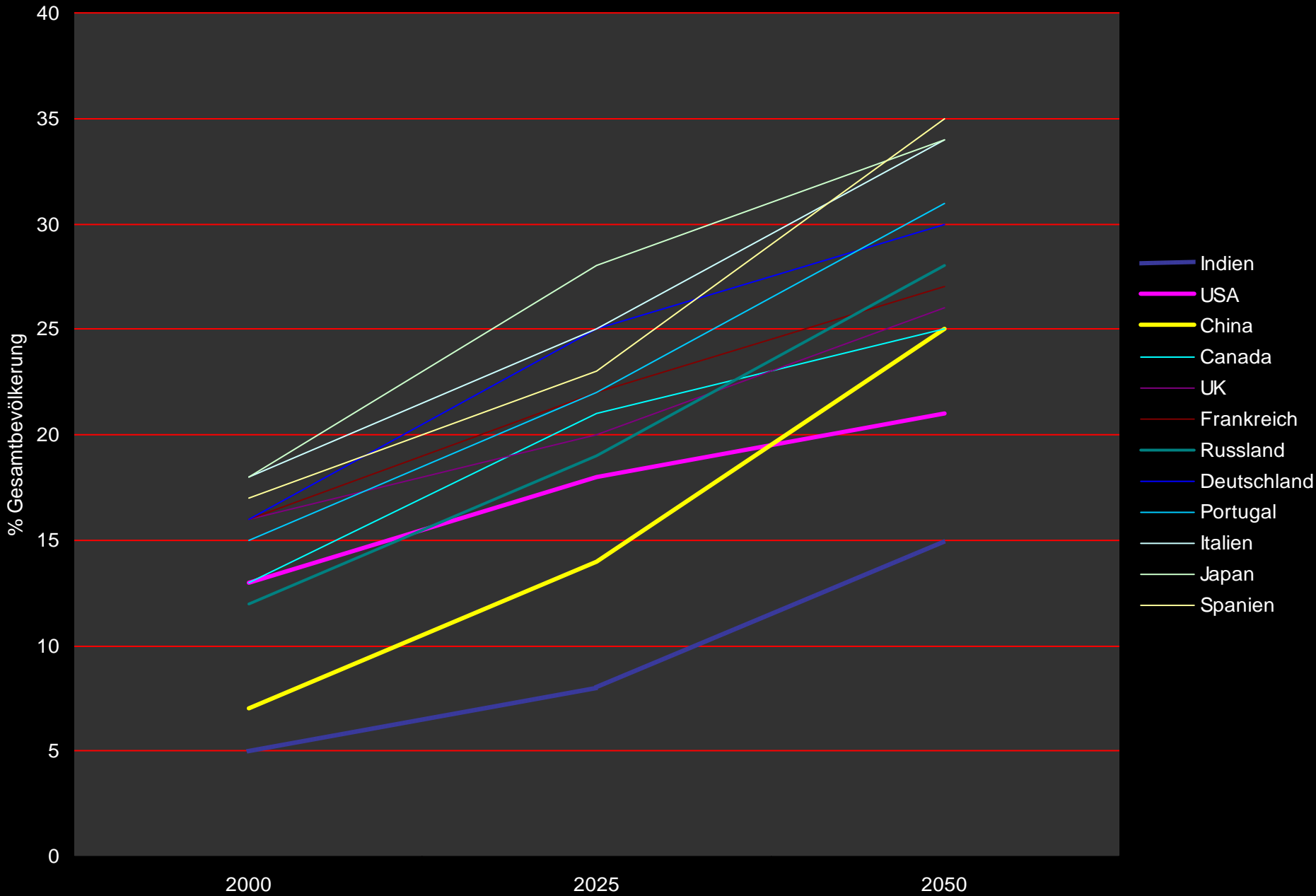
**2050 =**  
**1601 Mill.**



Bevölkerung in Millionen

Quelle: US Census Bureau, International Database, IDB

# Über-65-Jährige

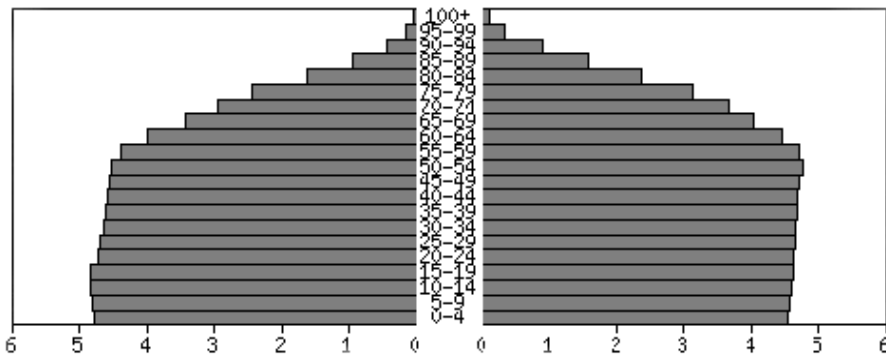
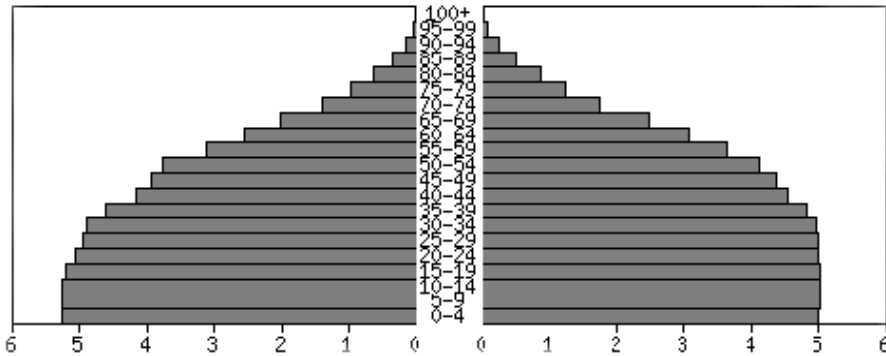
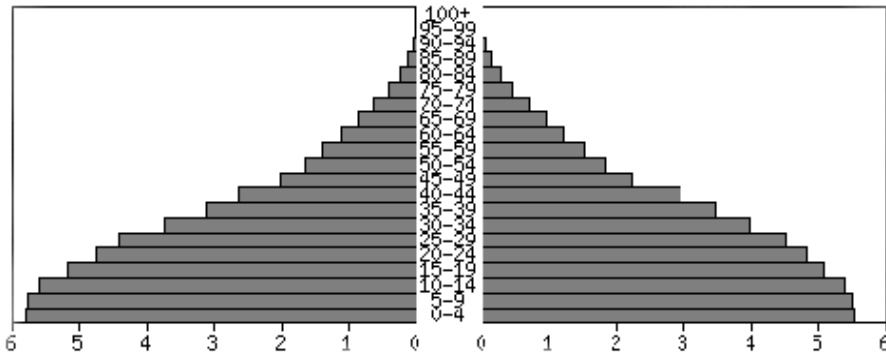


# Mexiko 2000 2050

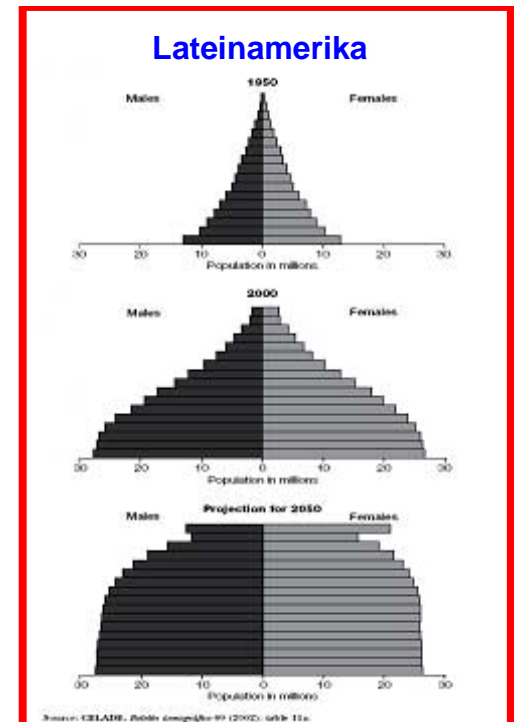
2000 =  
100.3 Mill.

2025 =  
133.8 Mill.

2050 =  
153.1 Mill.



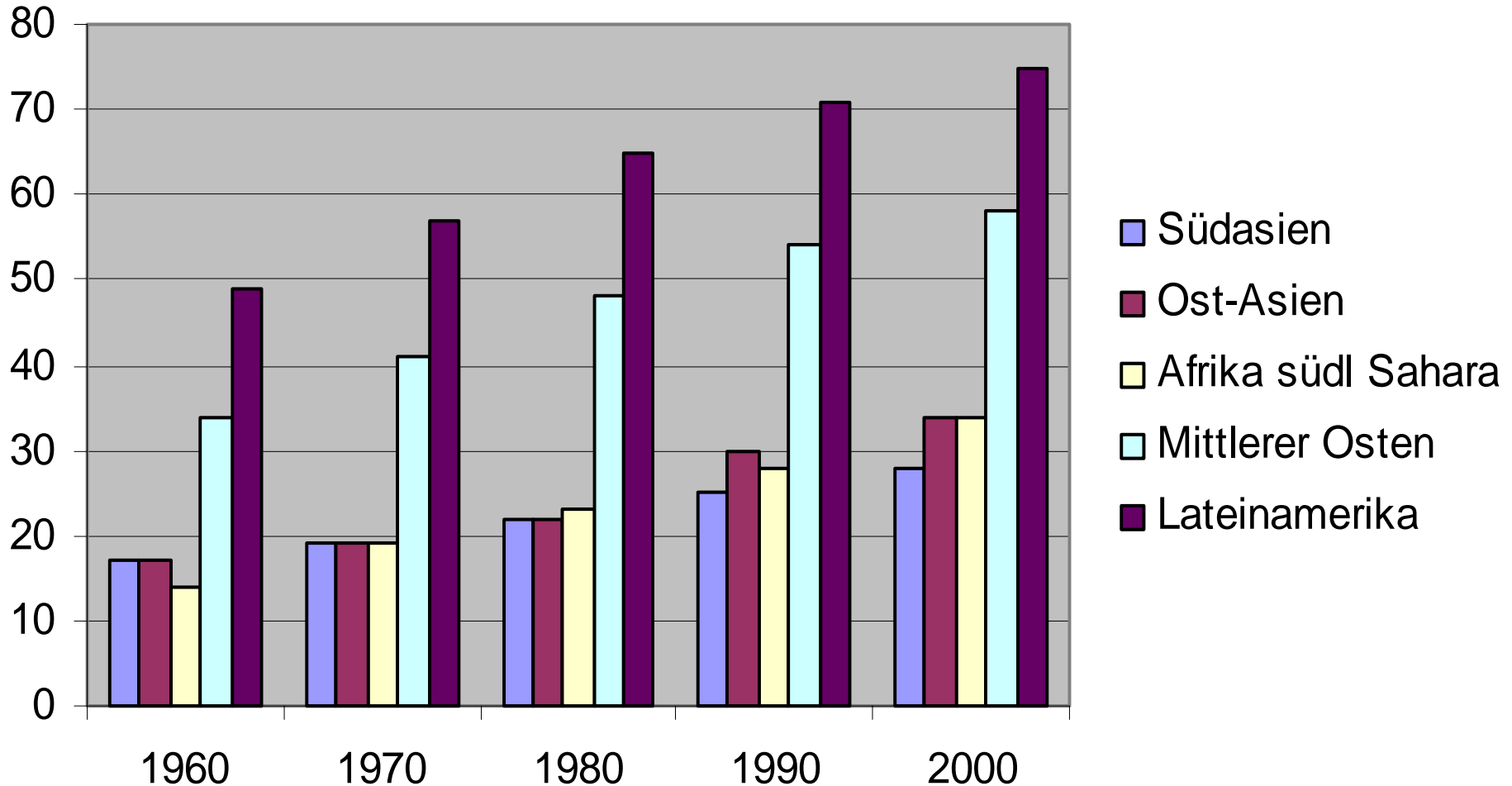
Bevölkerung in Millionen



Quelle: US Census Bureau, International Database, IDB

# Metropolisierung des Südens 1960-2000

in Prozent der Gesamtbevölkerung

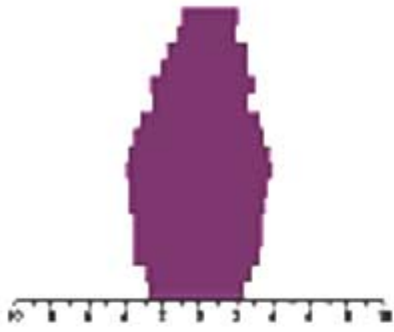


# Metropolenwachstum in der Dritten Welt bis 2015

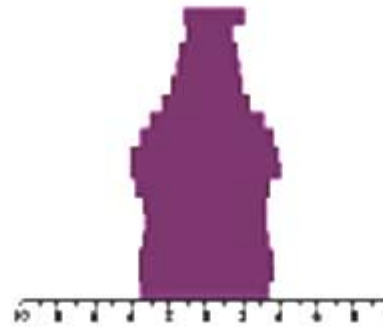


**Afrika**

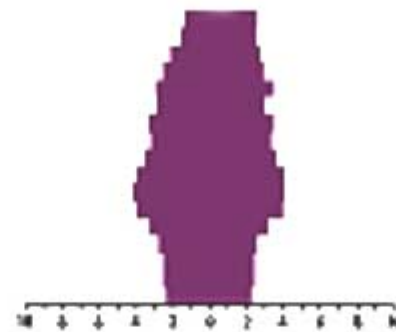
# Typen des Altersaufbaus in der Welt im Jahr 2000



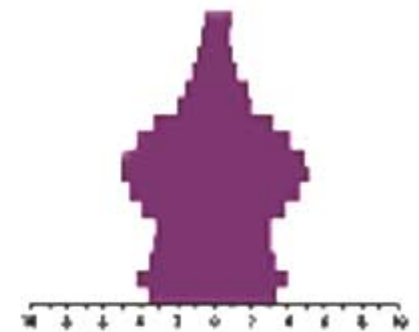
Europa



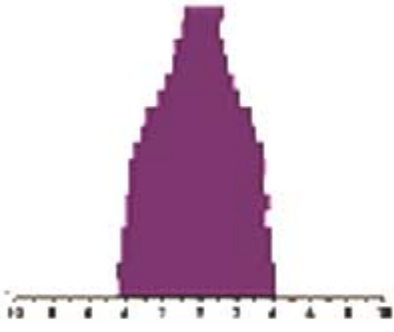
Nordamerika



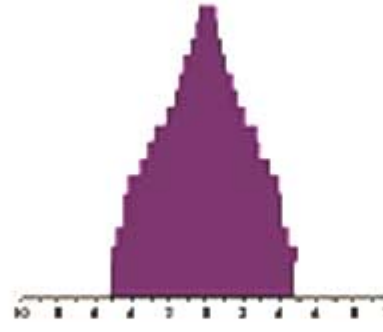
Italien



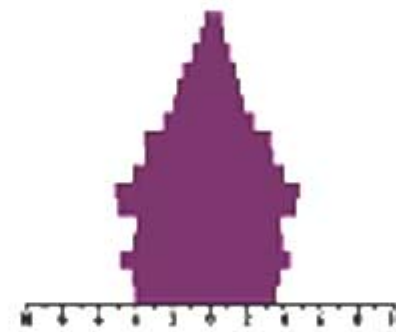
Singapur



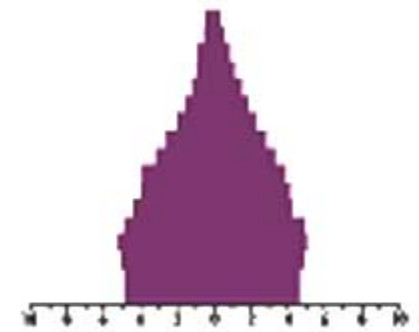
Ozeanien



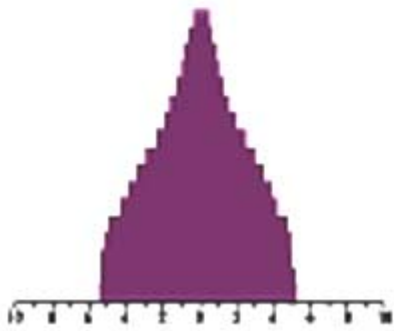
Asien



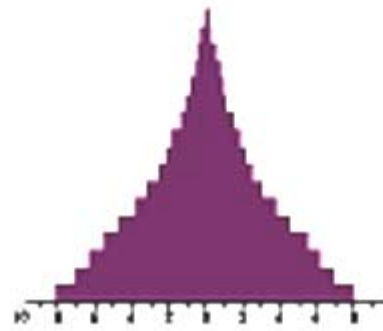
China



Brasilien



Lateinamerika



Afrika

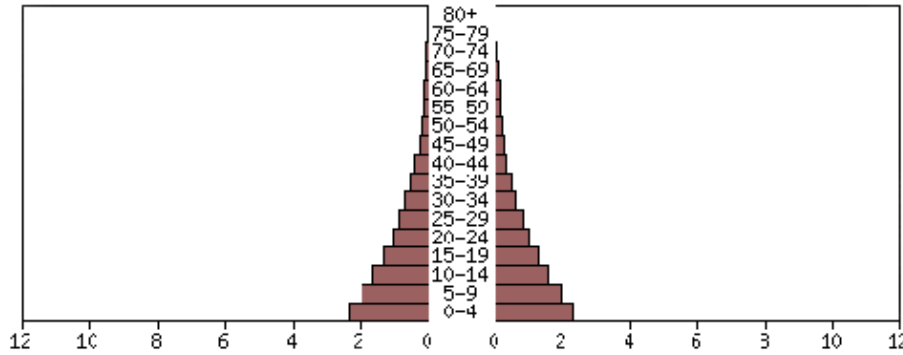


Nigeria

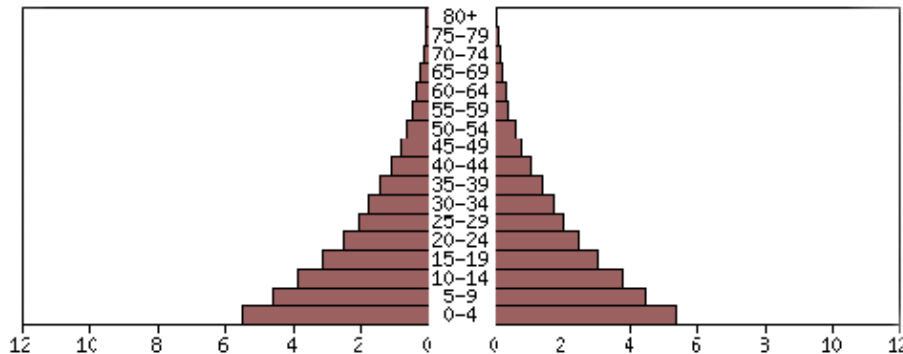


Äthiopien

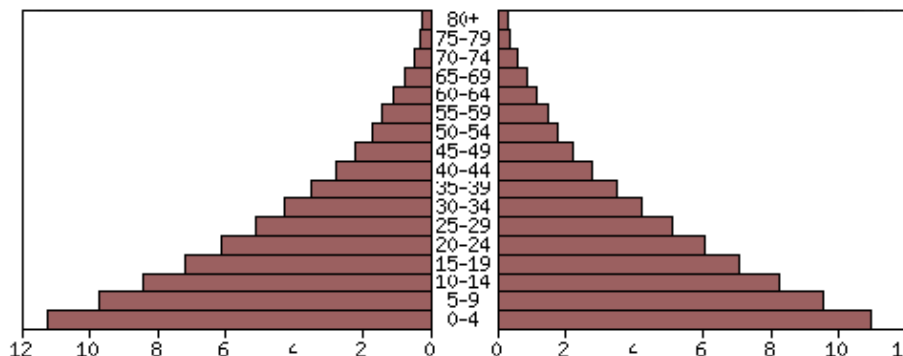
# Uganda 2000-2050



**2000 =**  
**23.2 Mill.**



**2025 =**  
**56.5 Mill.**

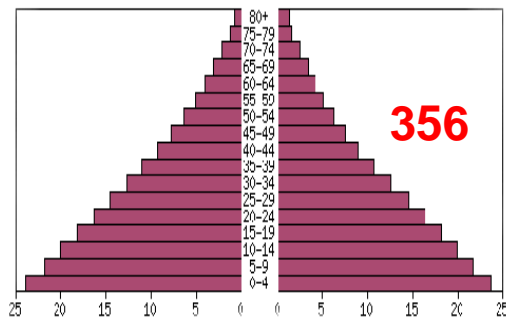
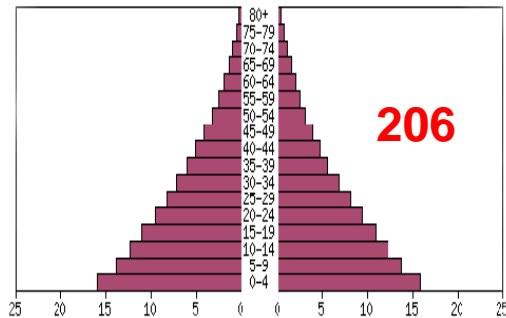
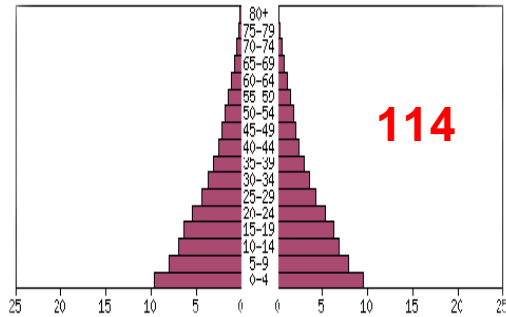


Bevölkerung in Millionen

**2050 =**  
**132.7 Mill.**

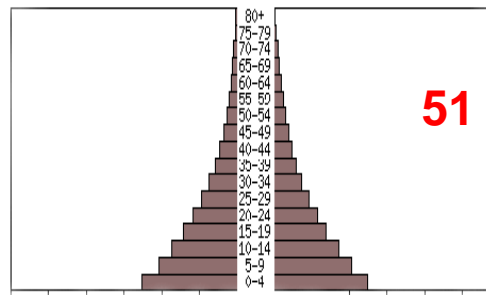
Quelle: US Census Bureau, International Database, IDB

# Nigeria

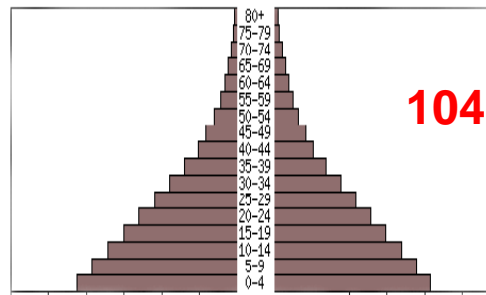


# Dem. Repl. Kongo

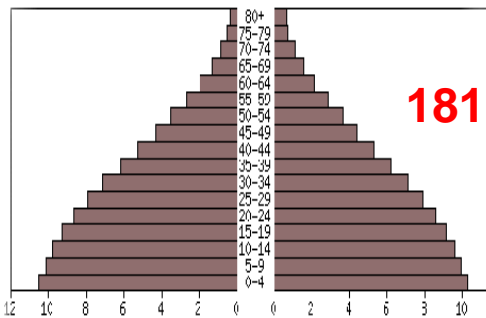
2000



2025

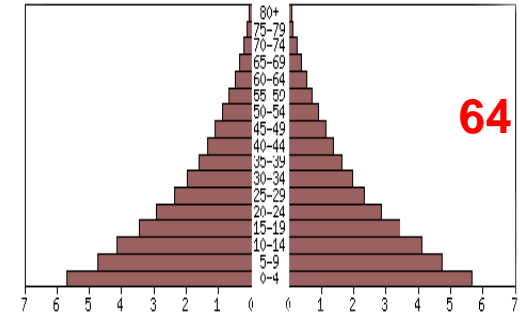


2050

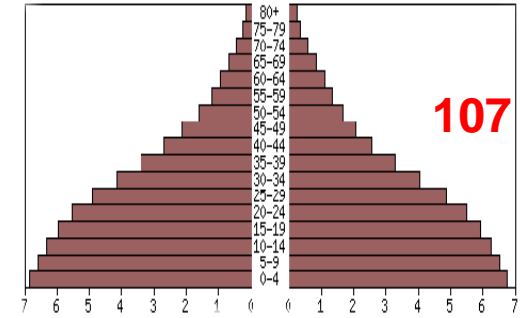


# Äthiopien

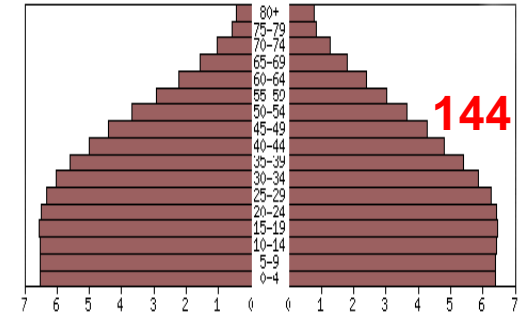
2000

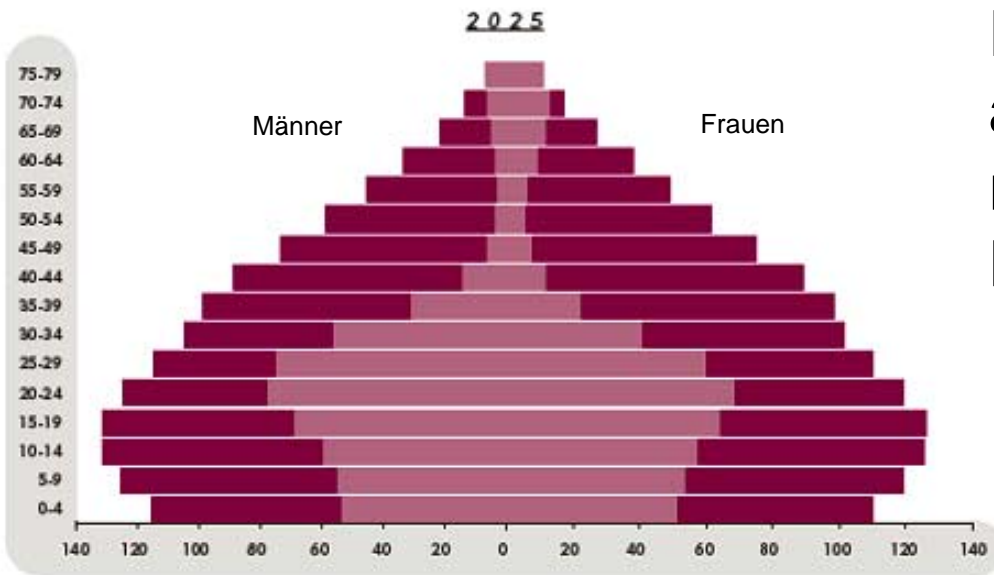
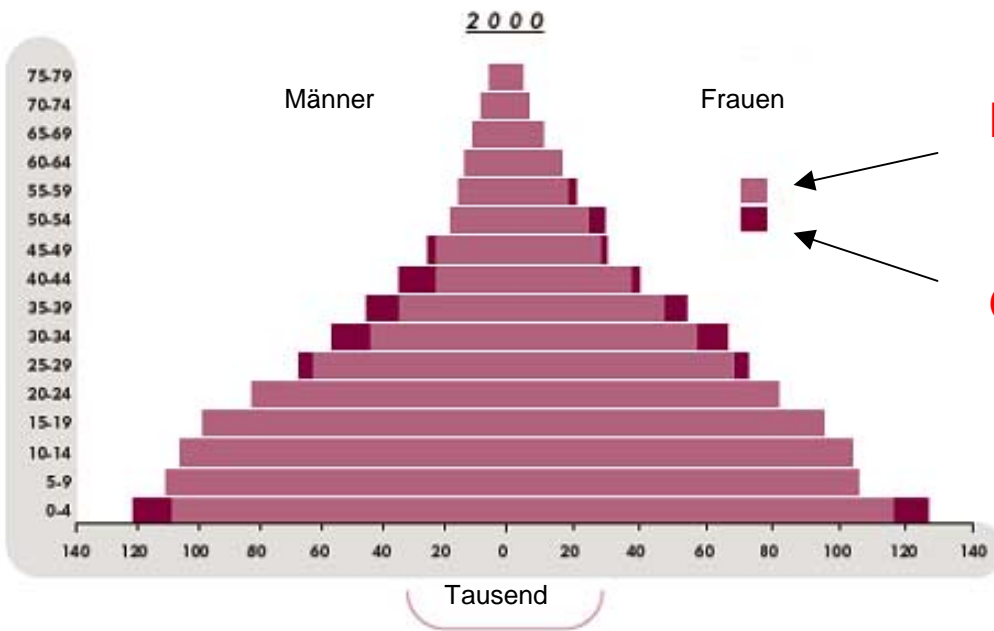


2025



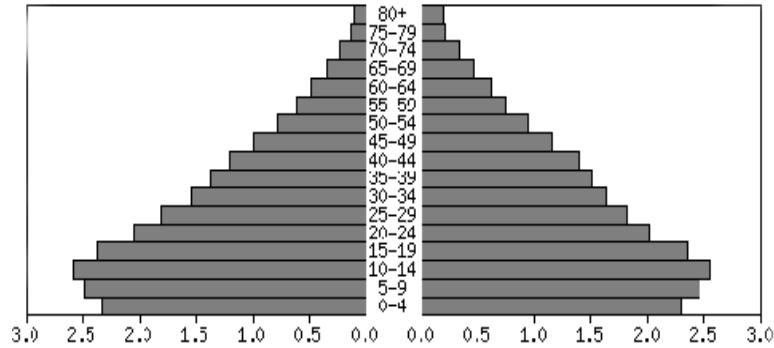
2050



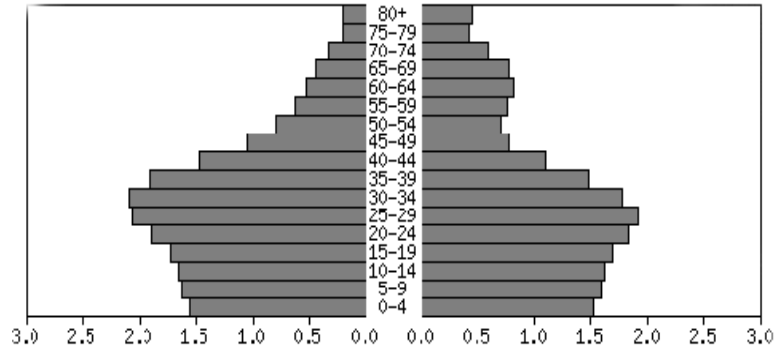


**Bevölkerungsstruktur in  
Botswana 2000 und 2025  
aktuell und projiziert  
mit und ohne  
HIV/Aids**

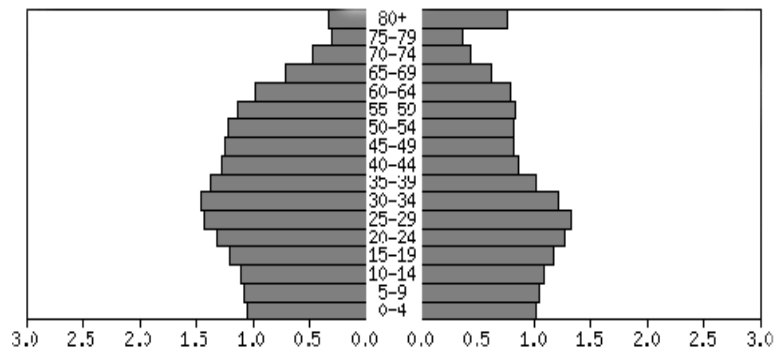
# Südafrika 2000-2050



**2000 =**  
**44 Mill.**



**2025 =**  
**40 Mill.**



**2050 =**  
**33 Mill.**

Bevölkerung in Millionen

Quelle: US Census Bureau, International Database, IDB

# Naher Osten

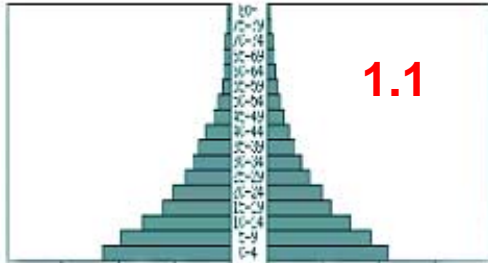
# Gaza

# Palästinenser

# Westjordanland

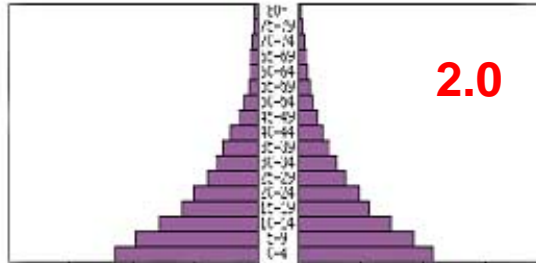
# Israel

2000

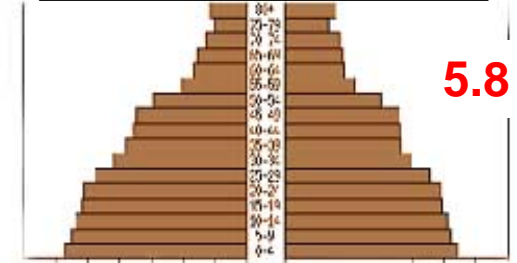


1.1

2000

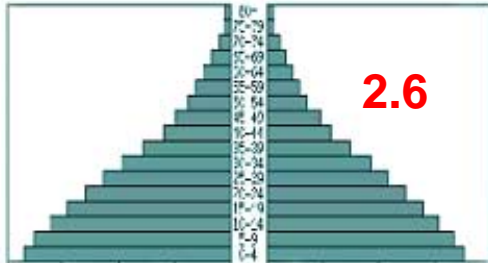


2.0



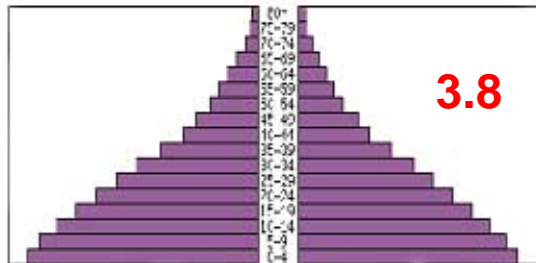
5.8

2025

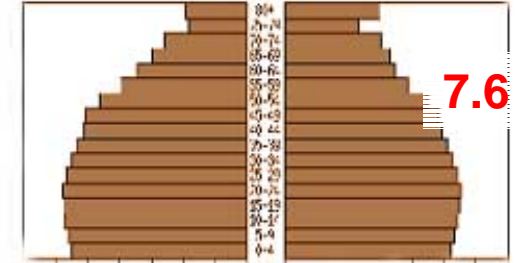


2.6

2025

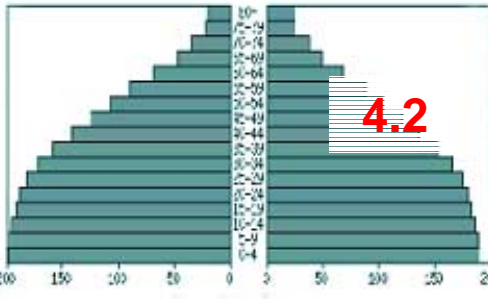


3.8



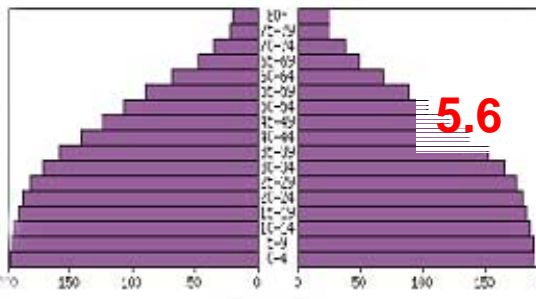
7.6

2050

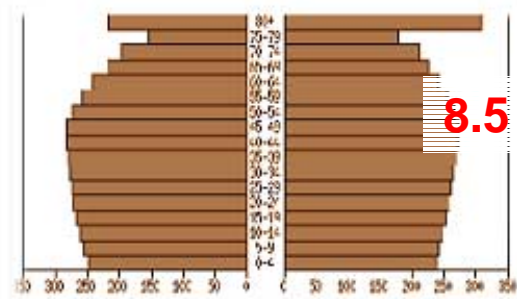


4.2

2050



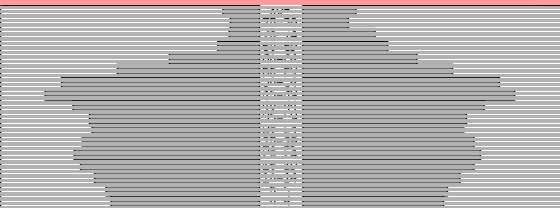
5.6



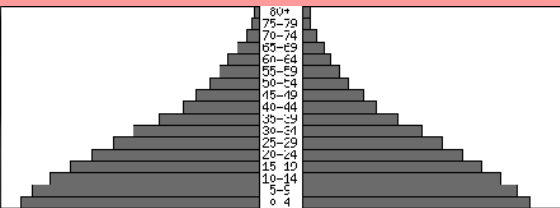
8.5

# Bevölkerungswachstum der Nachbarn Israels 2000-2050 in Millionen und Alterspyramiden für 2025

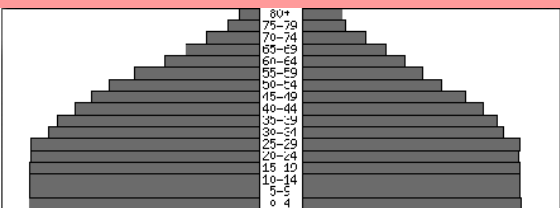
**Libanon:**  
3.5 auf 5



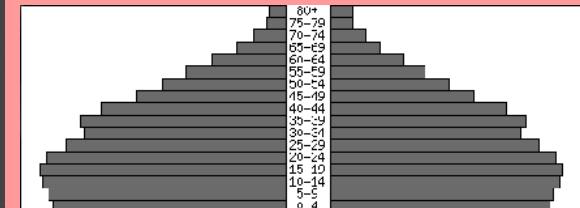
**Palästinenser:**  
3 auf 10



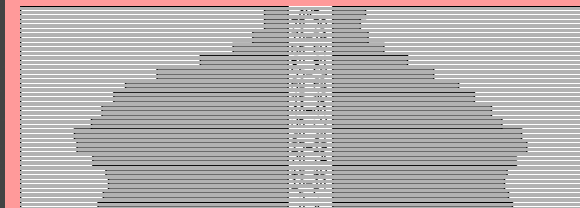
**Ägypten:**  
70 auf 126



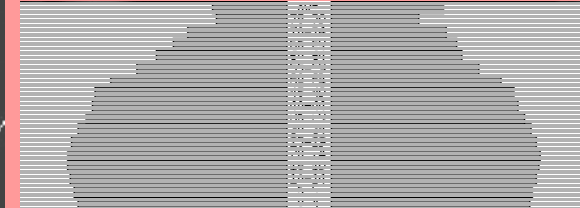
**Syrien:**  
16 auf 34



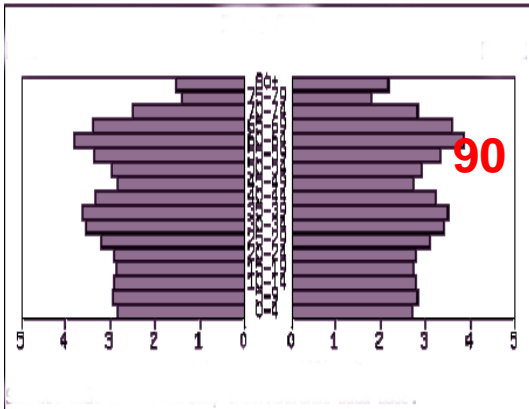
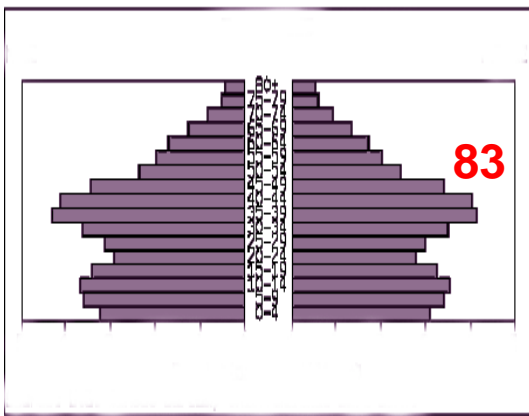
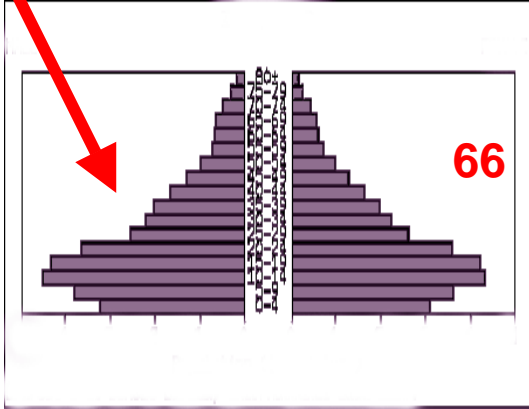
**Jordanien:**  
5 auf 12



**Israel**  
6 auf 8.5

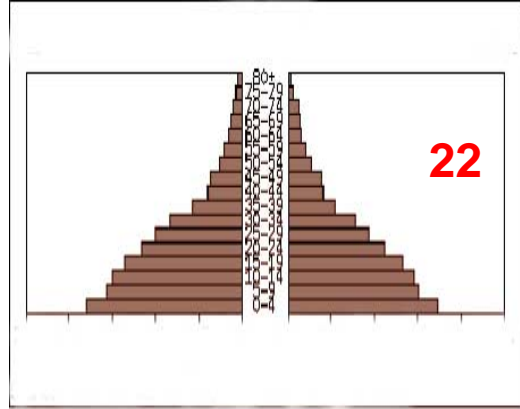


# Iran

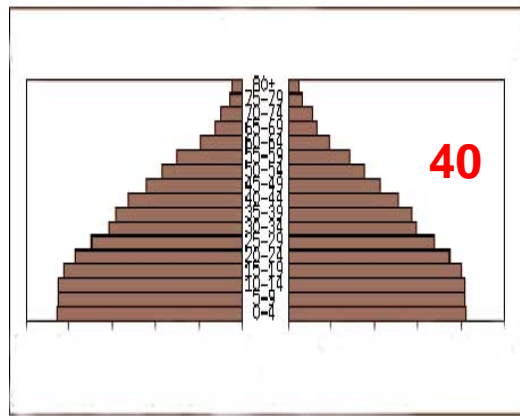


# Irak

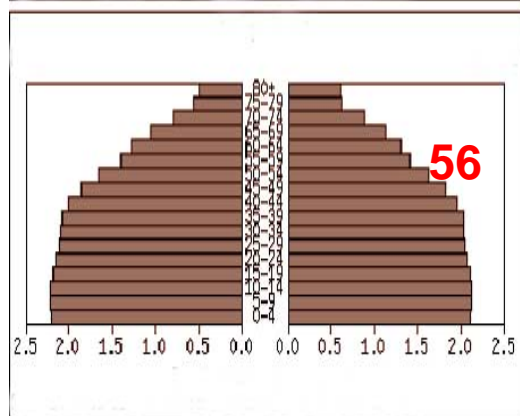
2000



2025

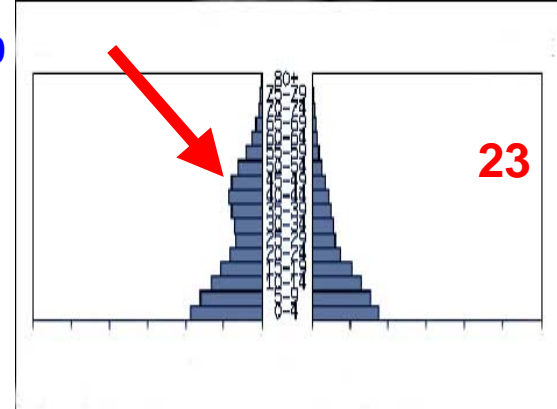


2050

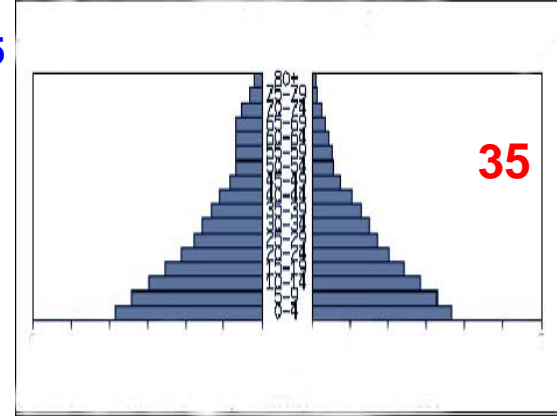


# Saudi Arabien

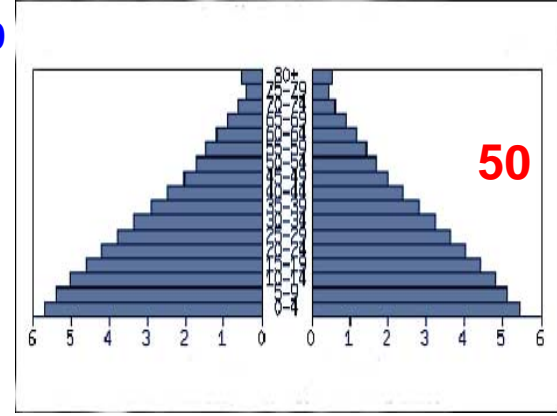
2000



2025



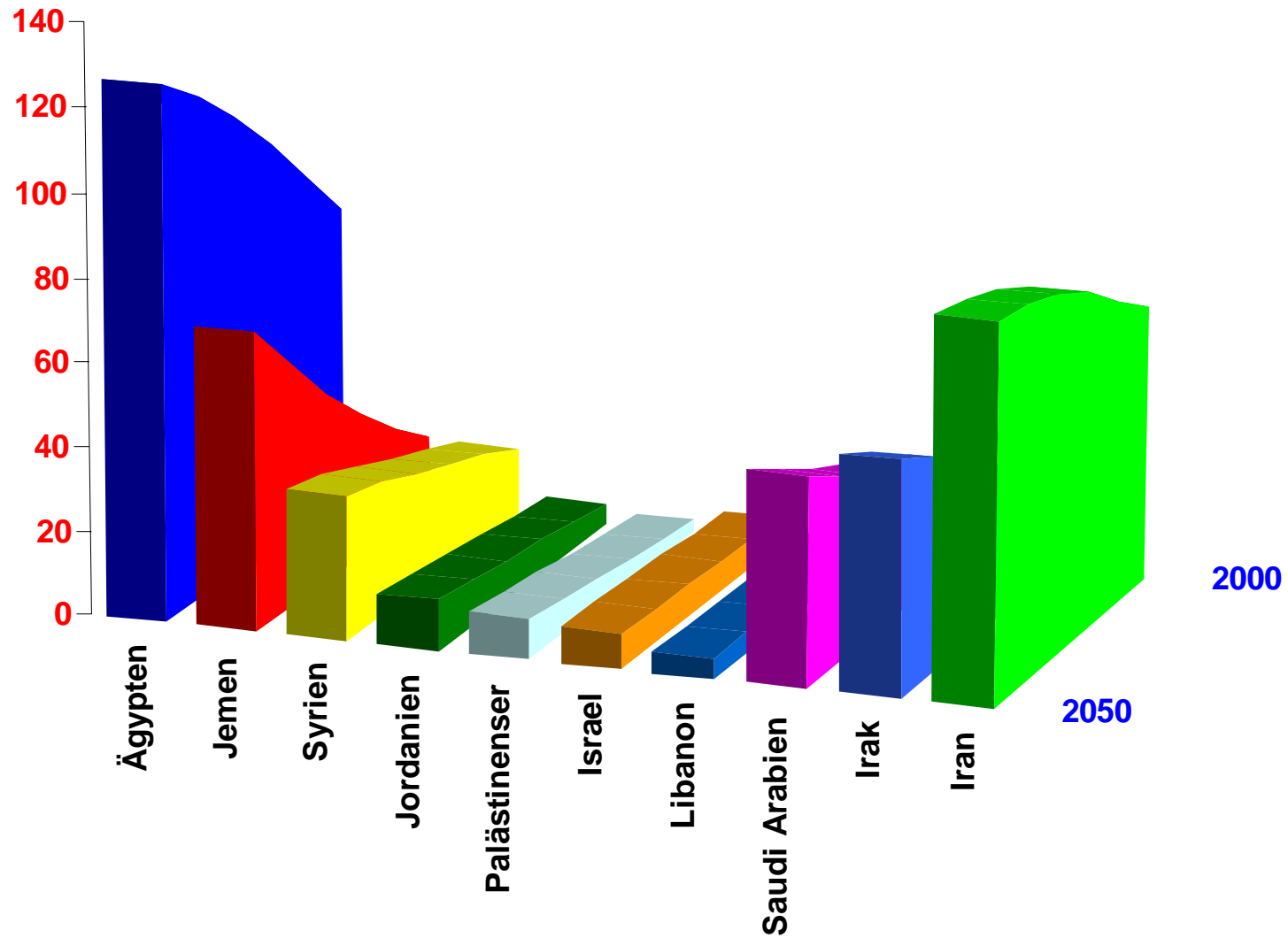
2050



# **Die drei Golfkriege: Auftakte und Schlussakte**

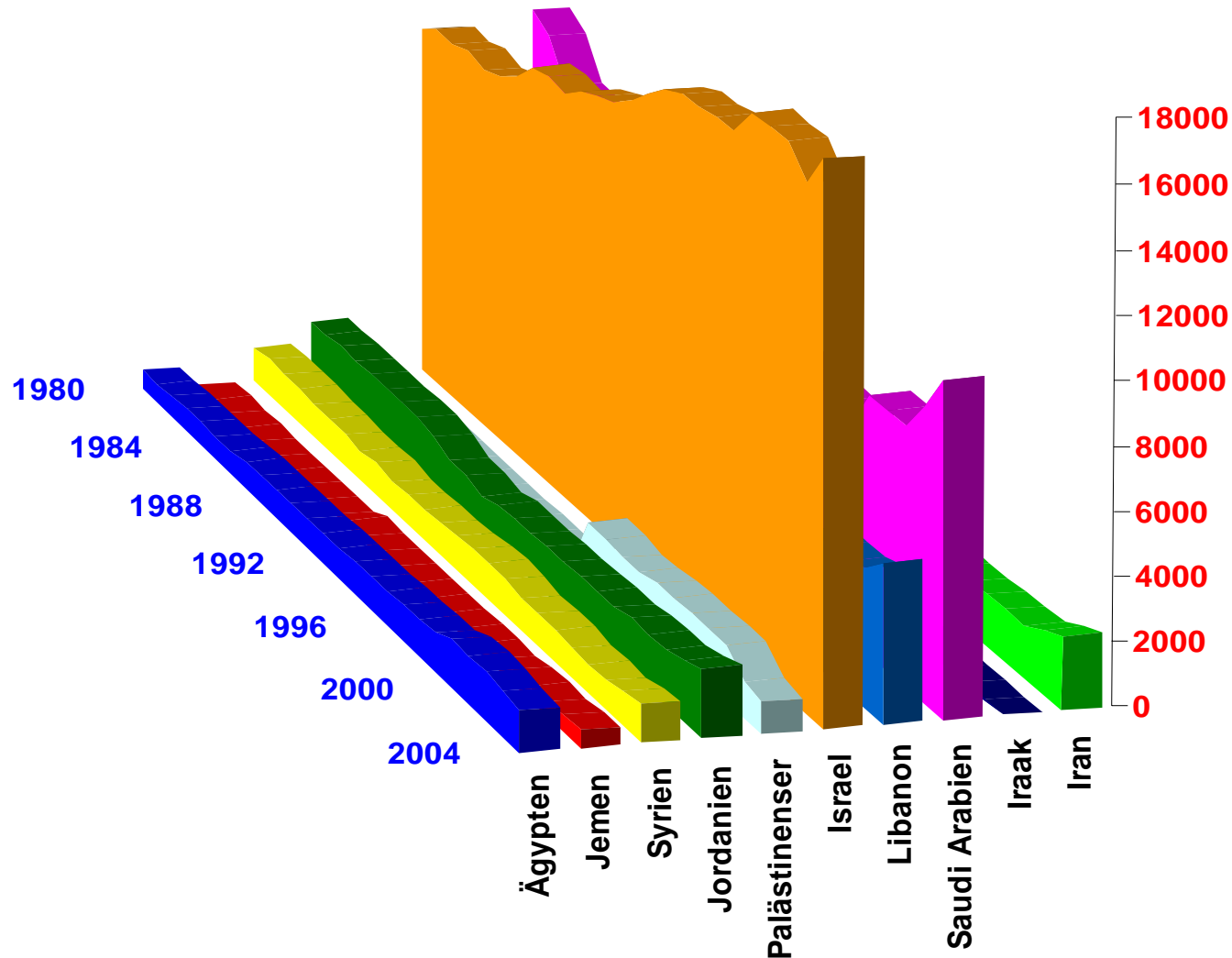
- 1. Letzter klassischer Krieg + fundamentalistische Massenkamikaze, Märtyrerkult, Selbstmordattentäter**
- 2. Erster nachklassischer Krieg + Ende der klass. Sicherheit durch Miniapokalypse 9/11**
- 3. Zweiter nachklassischer Krieg + nichtklassische Stärke der Schwachen: Terrorismus**

# Bevölkerungswachstum Naher Osten 2000-2050 in Mill.



# Naher Osten: Bruttoprodukt der Vergangenheit und Bevölkerungswachstum der Zukunft

Naher Osten Bruttoprodukt pro Kopf 1980-2004 (Dollar)



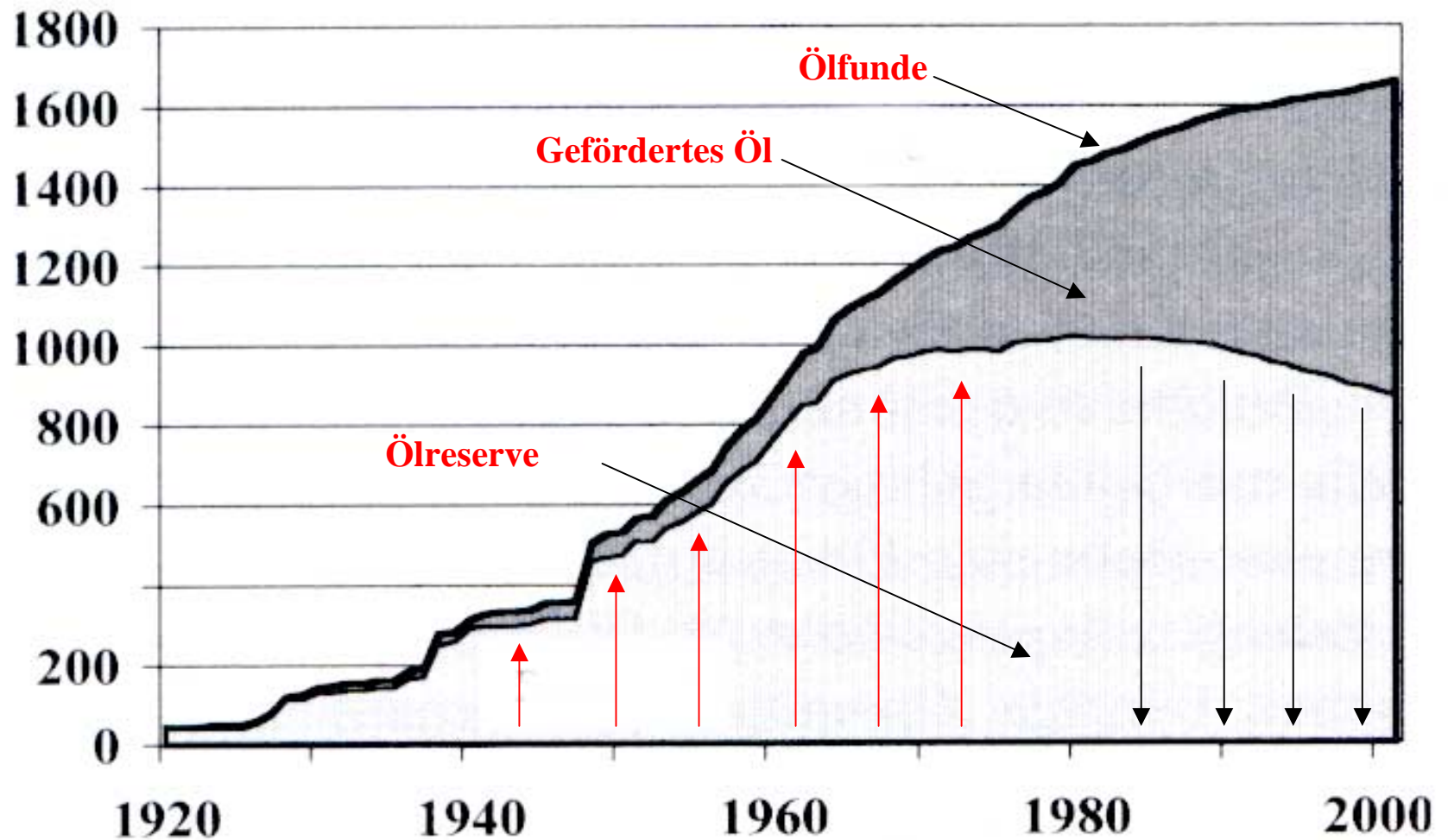
**Auf einen Israeli kommen heute 16 Muslime**

**2050 entfallen auf einen Israeli 50 Muslime**

.....sollten wir sie nicht vielleicht zu uns einladen?

# Die Sache mit der Öl-Zivilisation

# Historische Entwicklung der globalen Festlandölfunde und der Reserven nach Abzug der Produktion in Gb

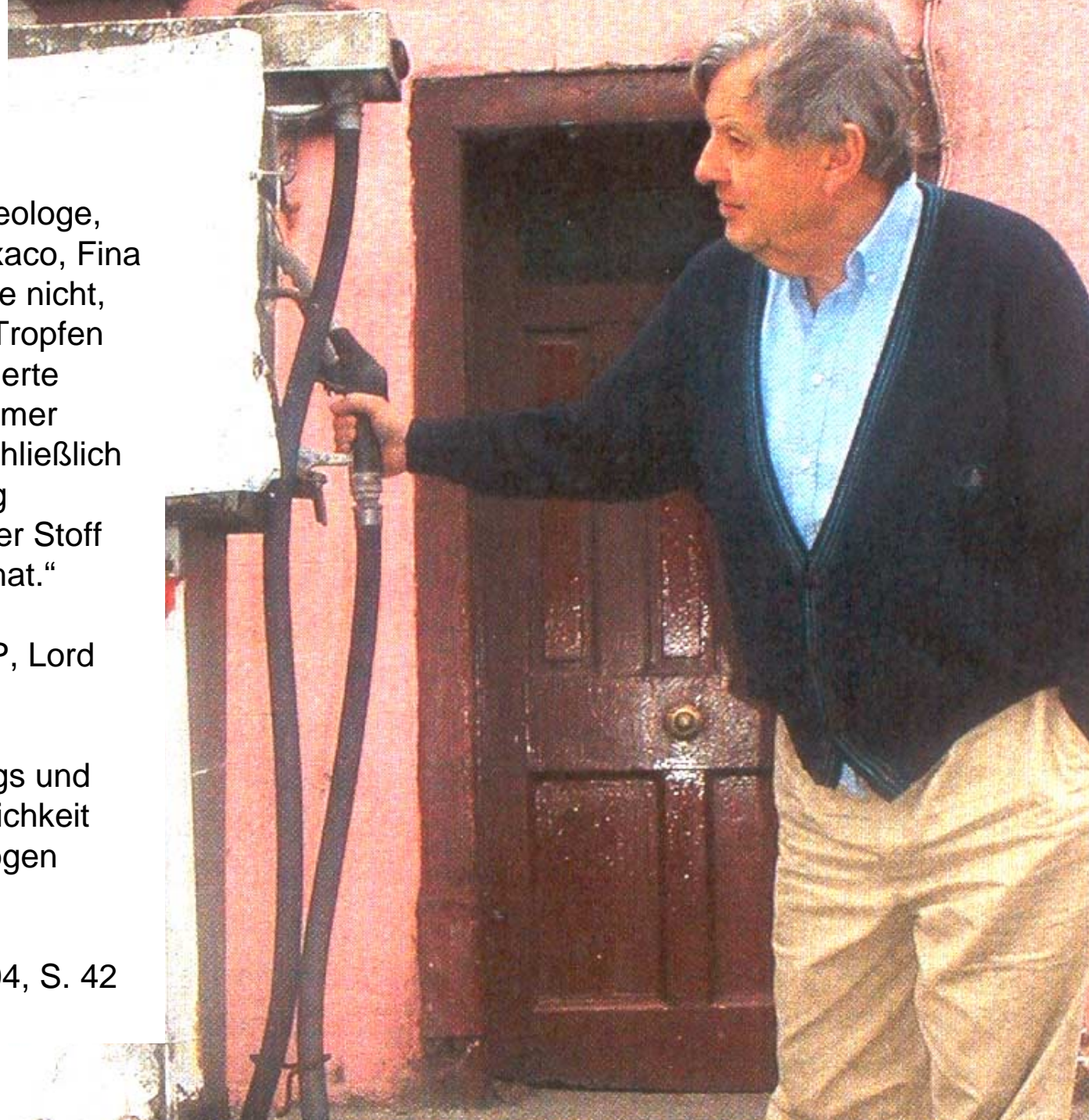


## Ausverkauf?

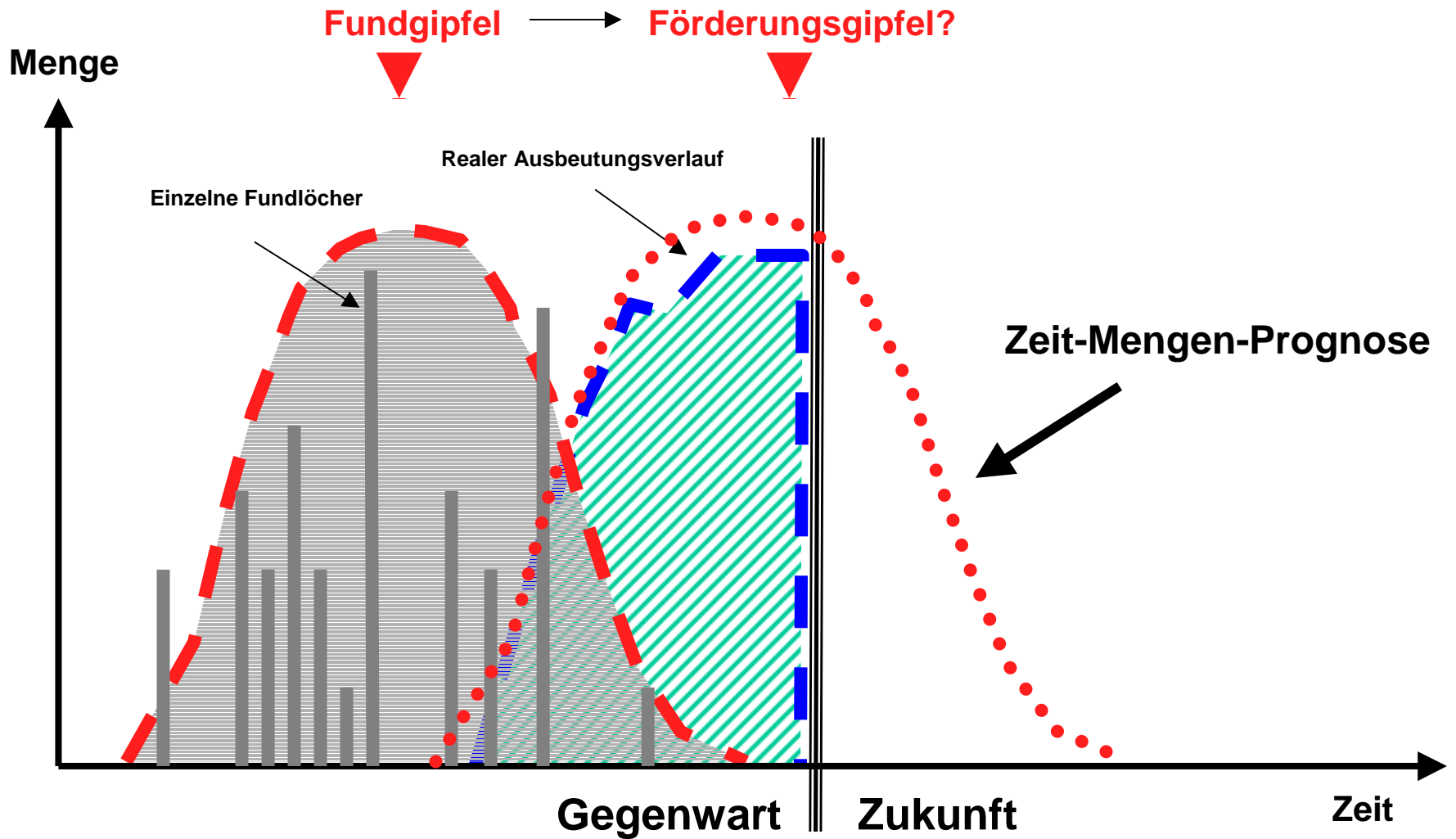
Colin Campbell, 73, Geologe, Explorateur für BP, Texaco, Fina und Amoca: „ich glaube nicht, dass es einen letzten Tropfen geben wird. Die geförderte Menge wird einfach immer kleiner werden, und schließlich wird nur noch so wenig vorhanden sein, das der Stoff keine Relevanz mehr hat.“

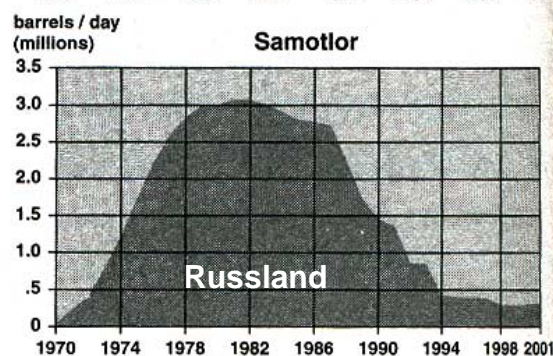
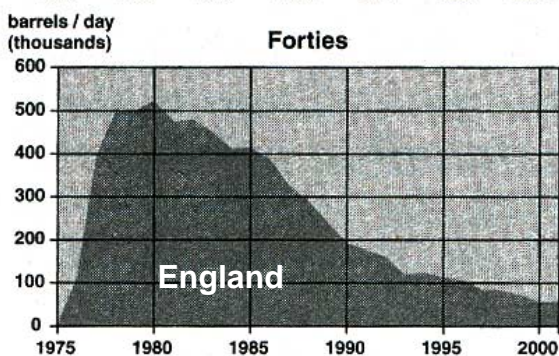
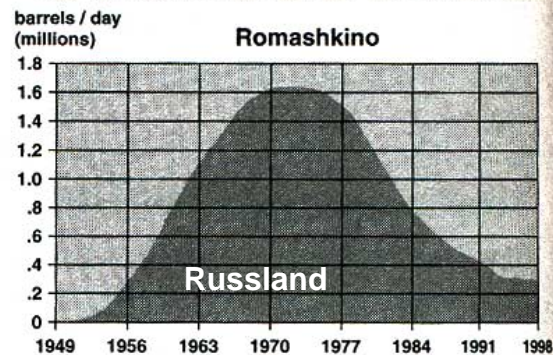
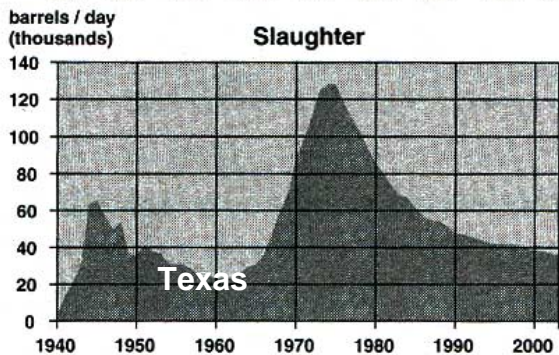
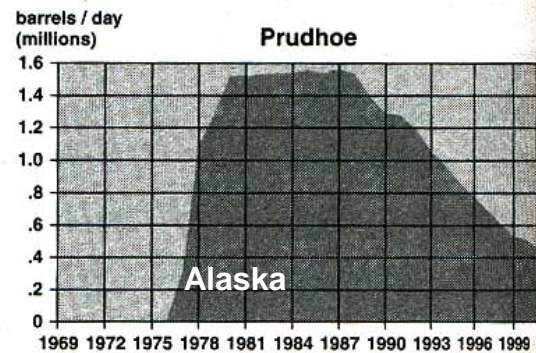
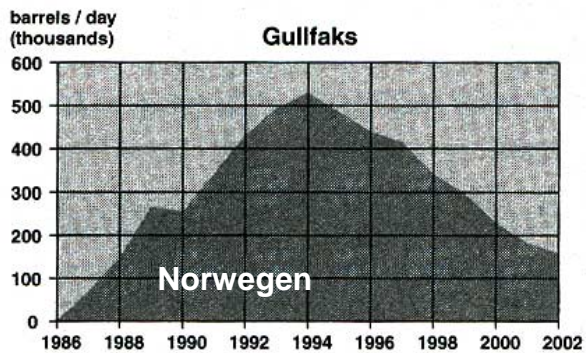
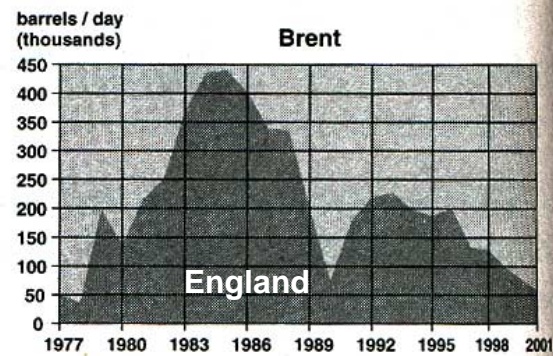
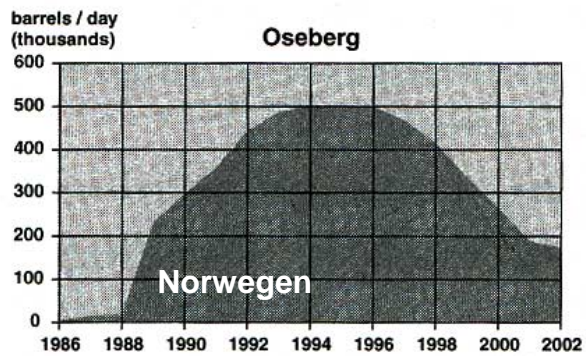
Wenn der CEO von BP, Lord John Browne, anderes behauptet, sollte er „deshalb wegen Betrugs und Irreführung der Öffentlichkeit aus dem Verkehr gezogen werden.“

NZZ *FOLIO*, Sept. 2004, S. 42



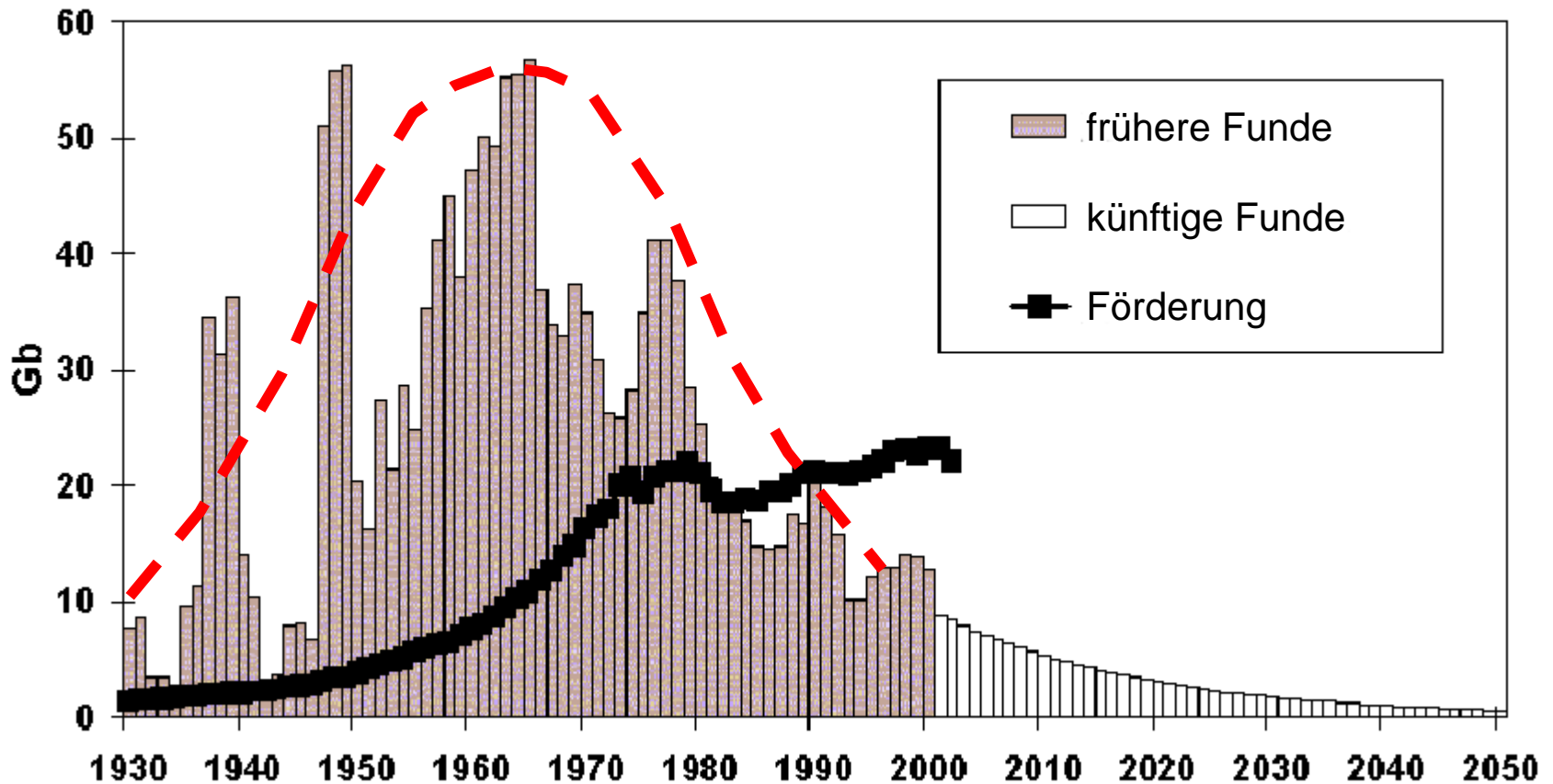
# Voraussagen über die Erschöpfung eines Öl-Feldes





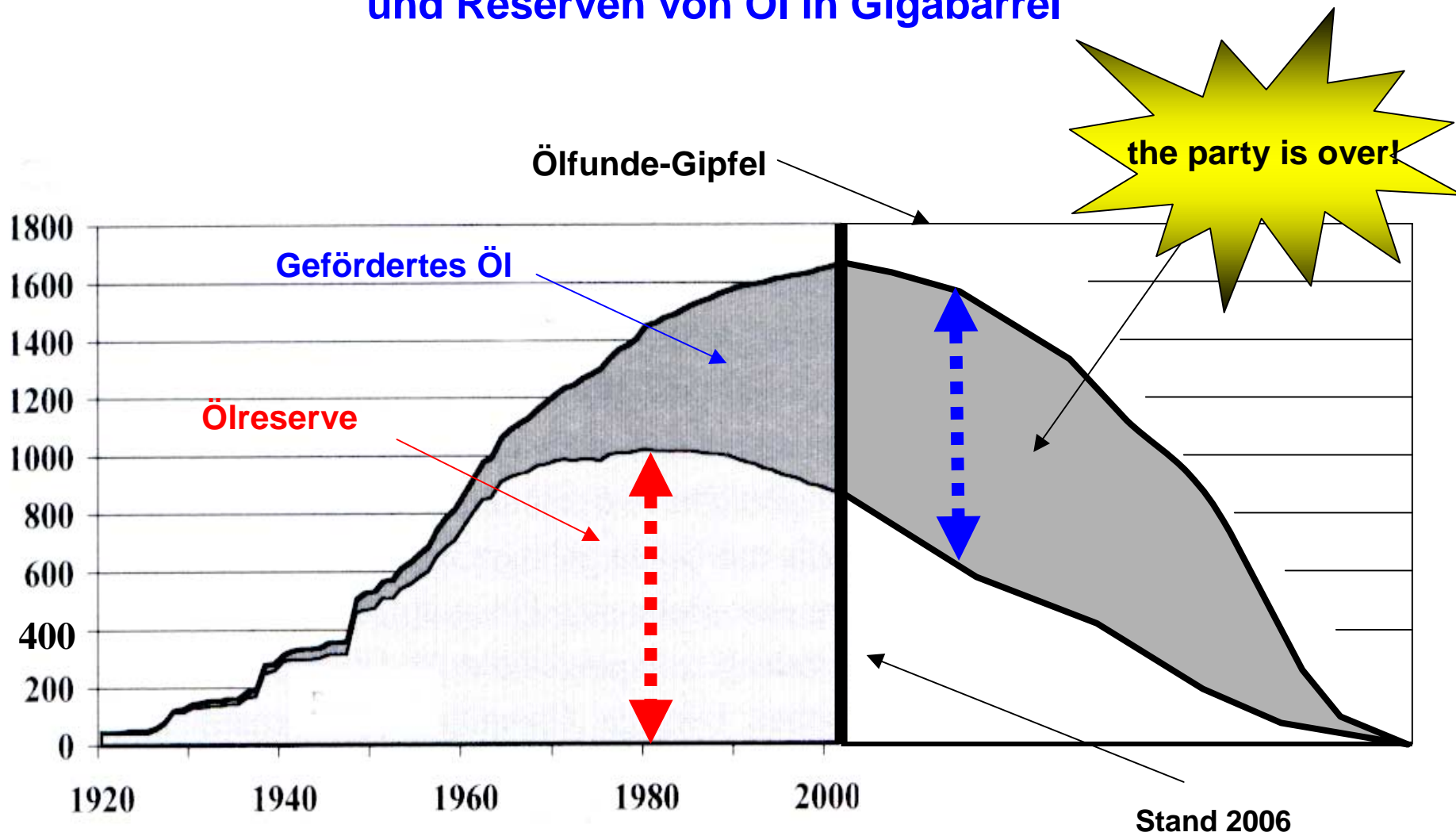
**Steilabfall  
der Förderung  
bei der  
Erschöpfung  
größter  
Ölfelder**

# Die wachsende Lücke zwischen neuen Öl-Funden und laufender Förderung in Gigabarrel pro Jahr



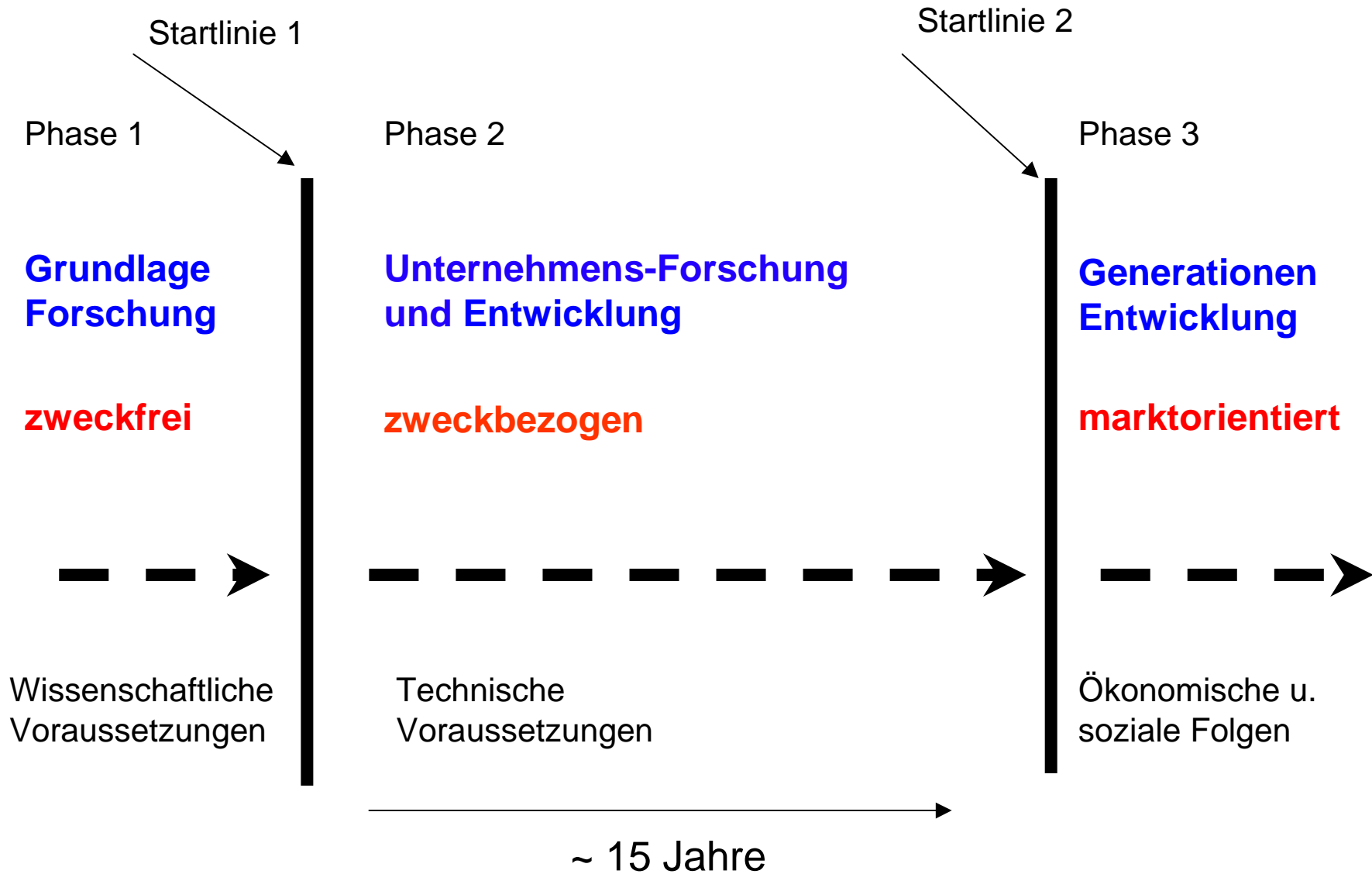
**Auf je ein Barrel neue Funde kommen drei Barrel geförderte.**

# Historische und künftige Entwicklung aller Funde, Förderungen und Reserven von Öl in Gigabarrel

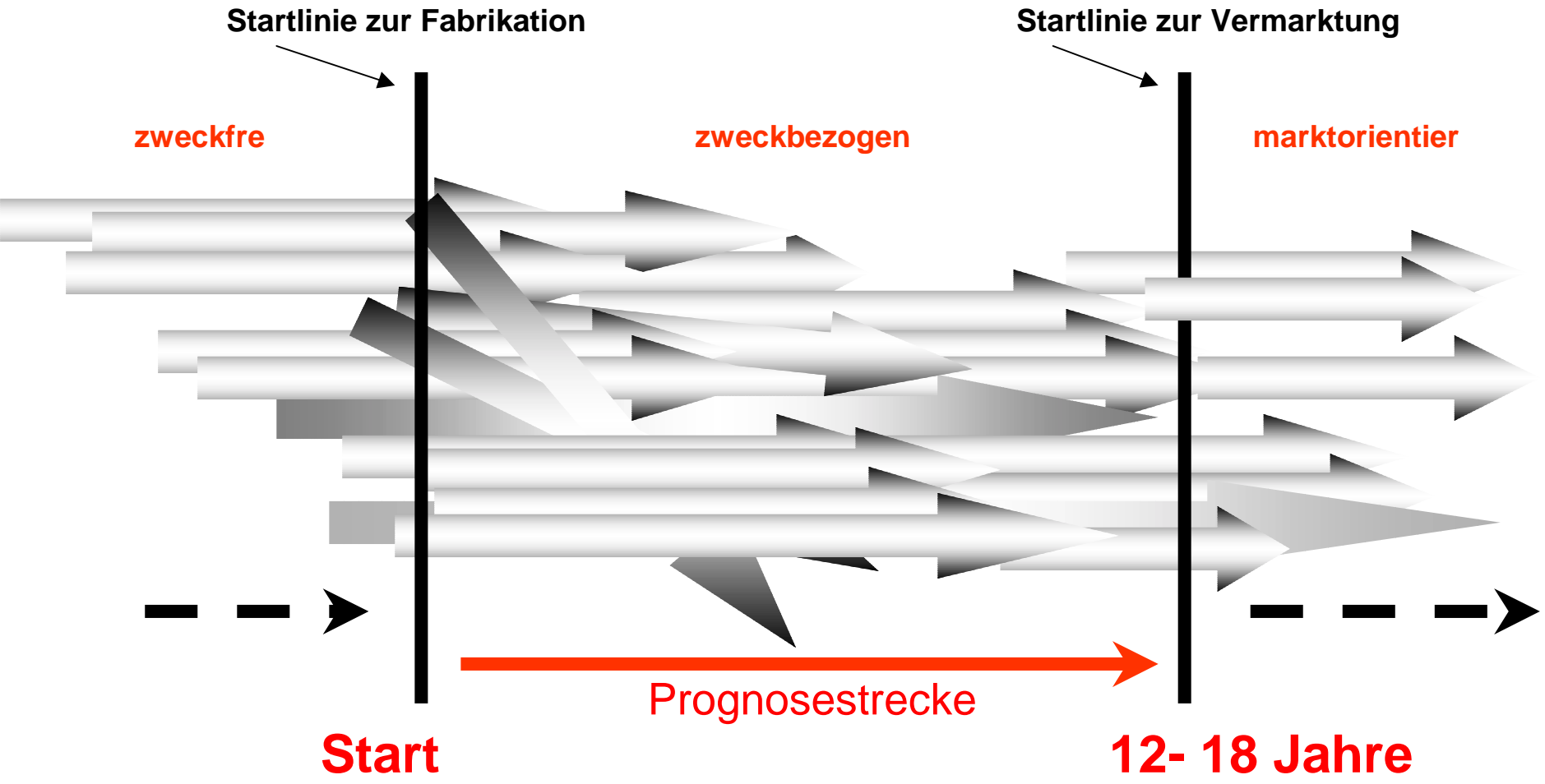


**Was bleibt zu tun?**

# Technologische



# Technologische Durchbrüche in diversen Branchen



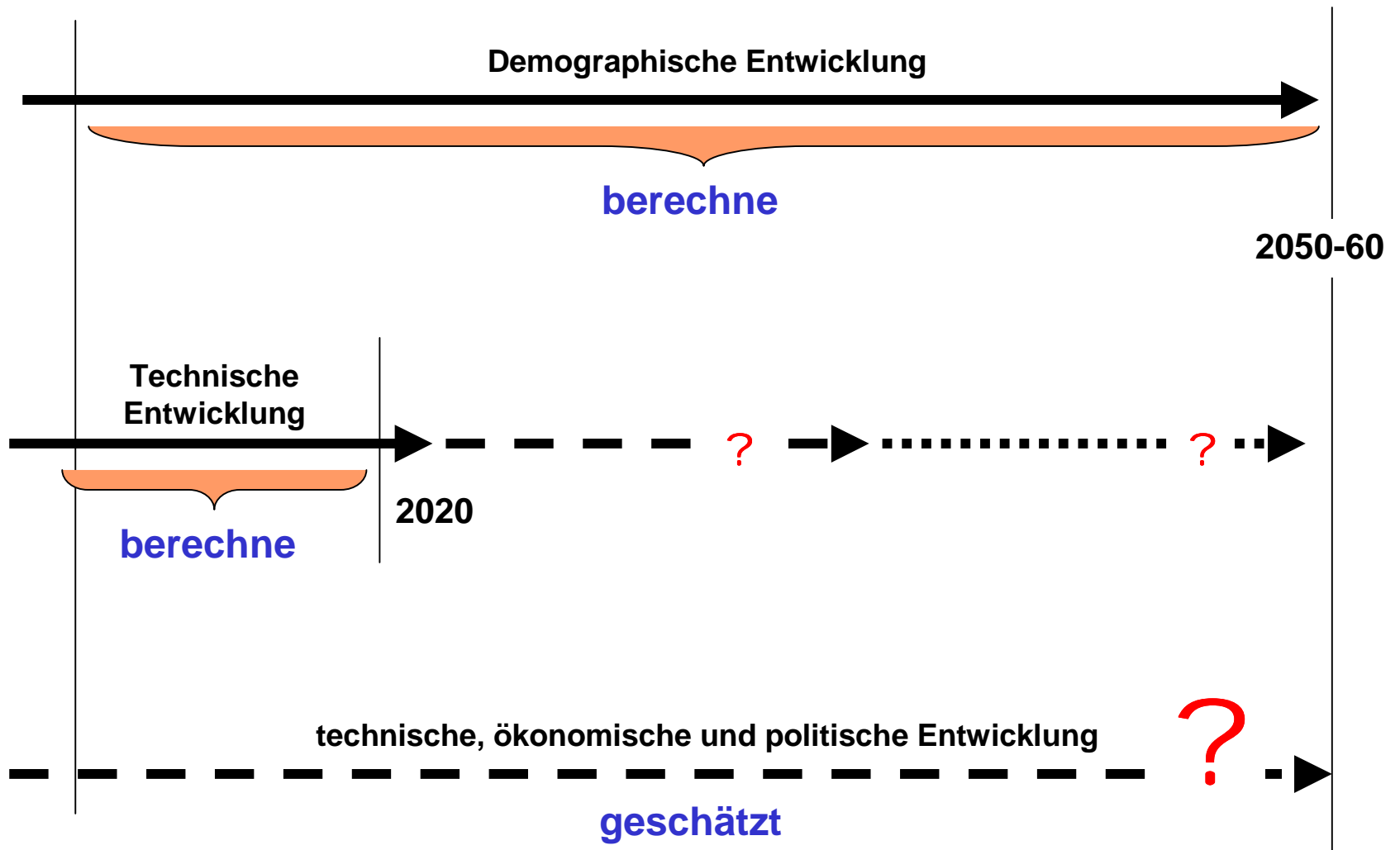
## Drei Entwicklungs-Schrittlängen:

Technologie: 15 Jahre

Demographie: 40-60 Jahre

Ideologie: Themenunterschiedlich von kurzlebig bis zu Jahrhunderten

# Berechnete und geschätzte



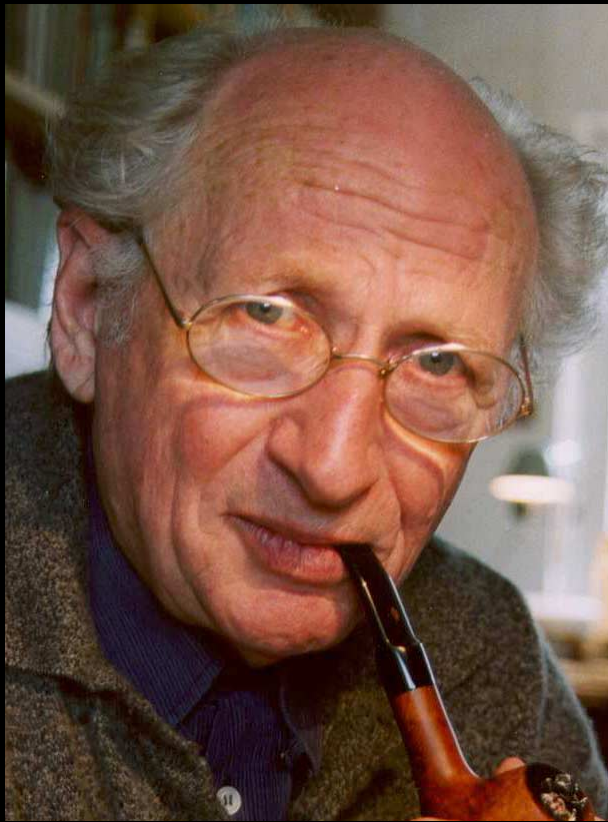
**Vier Krisen:**

**Renten- und Altersversorgungskrise**

**Eins zu Sieben: Nord-Süd Krise**

**Metropolisierung- und Fundamentalismuskrise**

**Ressourcenkrise**



**Claus D. Kernig**

**dankt für freundliche  
Aufmerksamkeit !**

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