



**Joint Colloquium of the IACA, PBSS and IAAHS Sections
of the International Actuarial Association**
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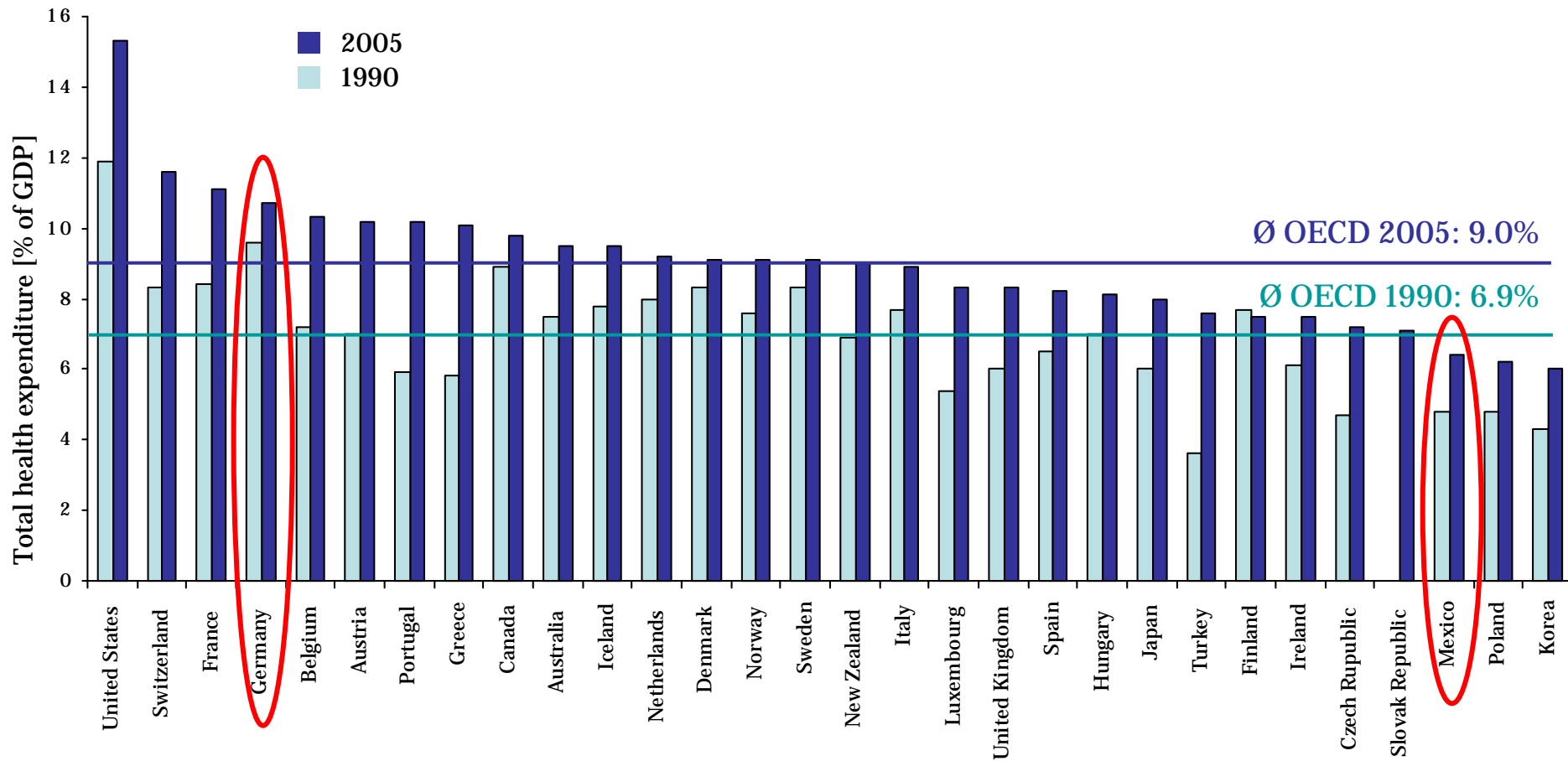
Two OECD countries: Mexico, Germany



Karina Bährle

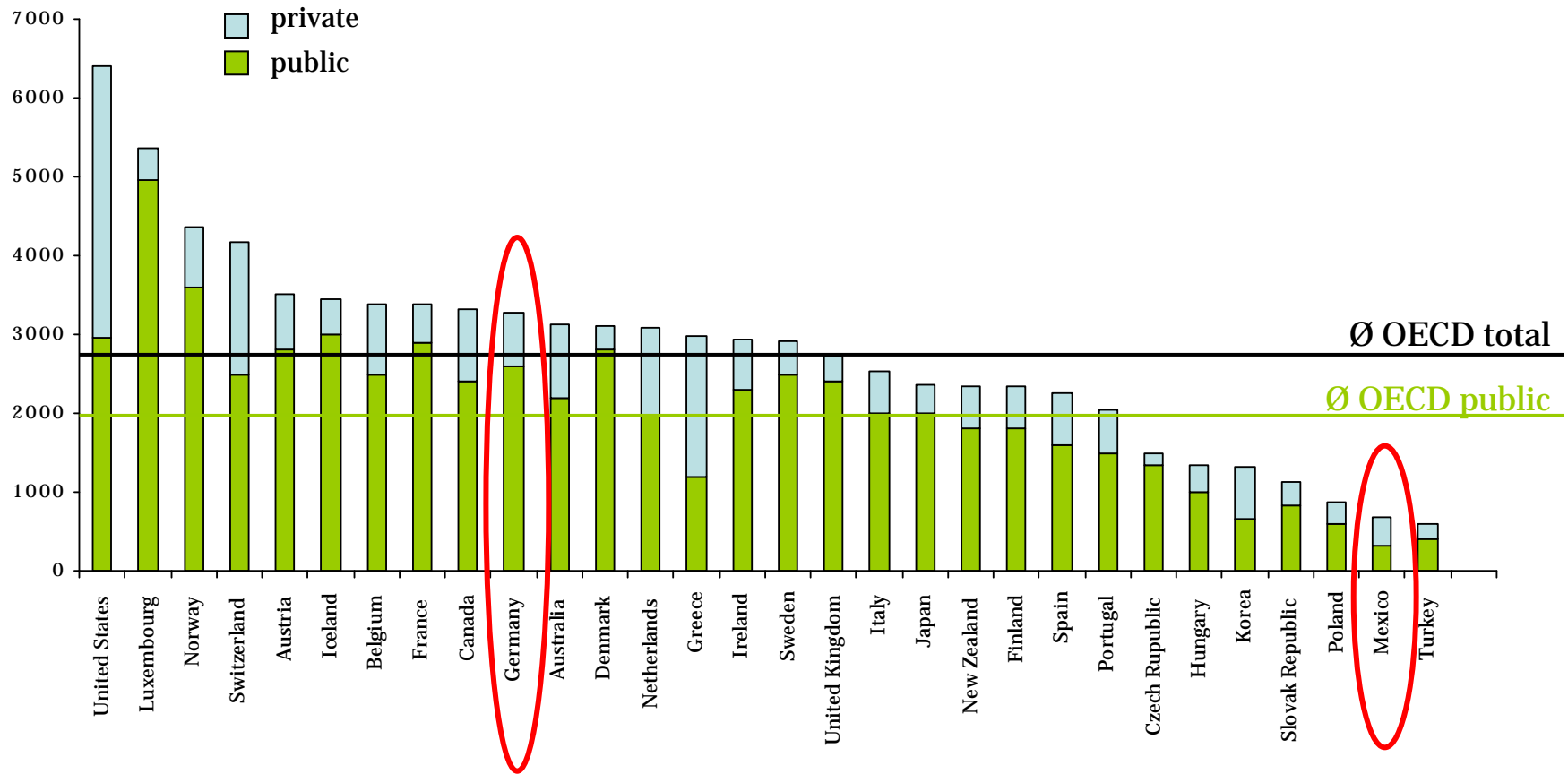


OECD health expenditure: Increasing share of GDP



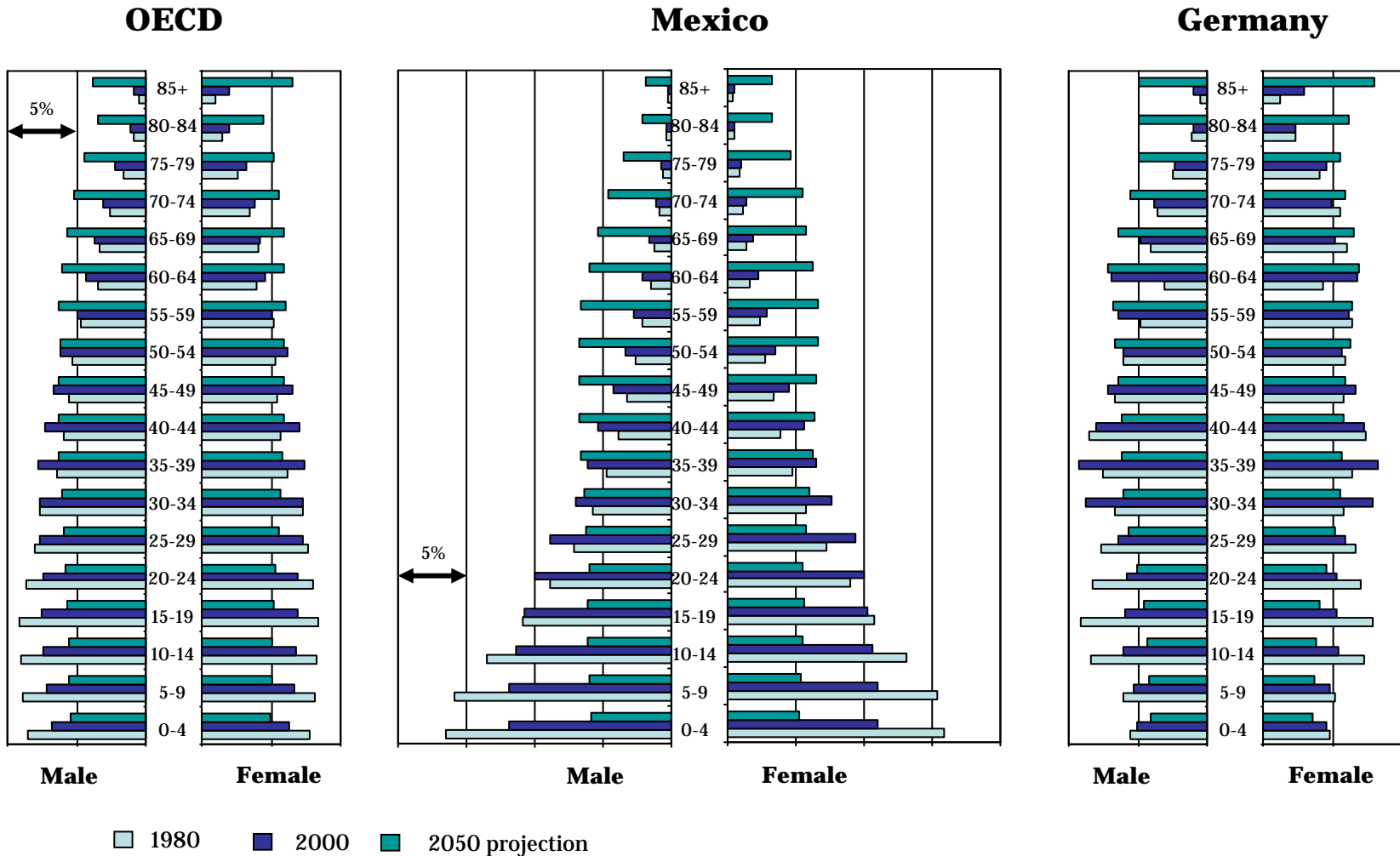
OECD health care financing is mainly public

Annual health expenditure 2005 [\$ per person]



OECD countries face an ageing population

Age distribution of population (in %)



Main challenge OECD-wide: Financing increasing costs

Increasing costs

- Ageing society and changing morbidity
 - Scientific and technical progress
 - Supplier-induced factors for higher utilization (e.g. advertising, lobbying)
- Existing systems are not prepared
- Inflationary spiral or cost control / rationing

Shifting roles private / public

- Dependent on economic cycles: tax-based and income-dependent sources of finance face basic questioning
- Public debate / realisation of fundamental institutional changes (e.g. Netherlands, Eastern Europe, Germany)
- More and more private sources must fill the gaps of public systems

Mexico



Overview

Population

- 109 Mill population (2008)
- Life expectancy: Male 73.7 years, Female 78.6 years
- Birth rate: 20.04 / 1,000 population (2008; prognosis: shrinks to 16 in 2025); fertility rate 2.4 / woman
- Population growth rate: + 1,14% (2008 est.)
- Migrants: -3.84 migrant(s)/1,000 population (2008 est.)



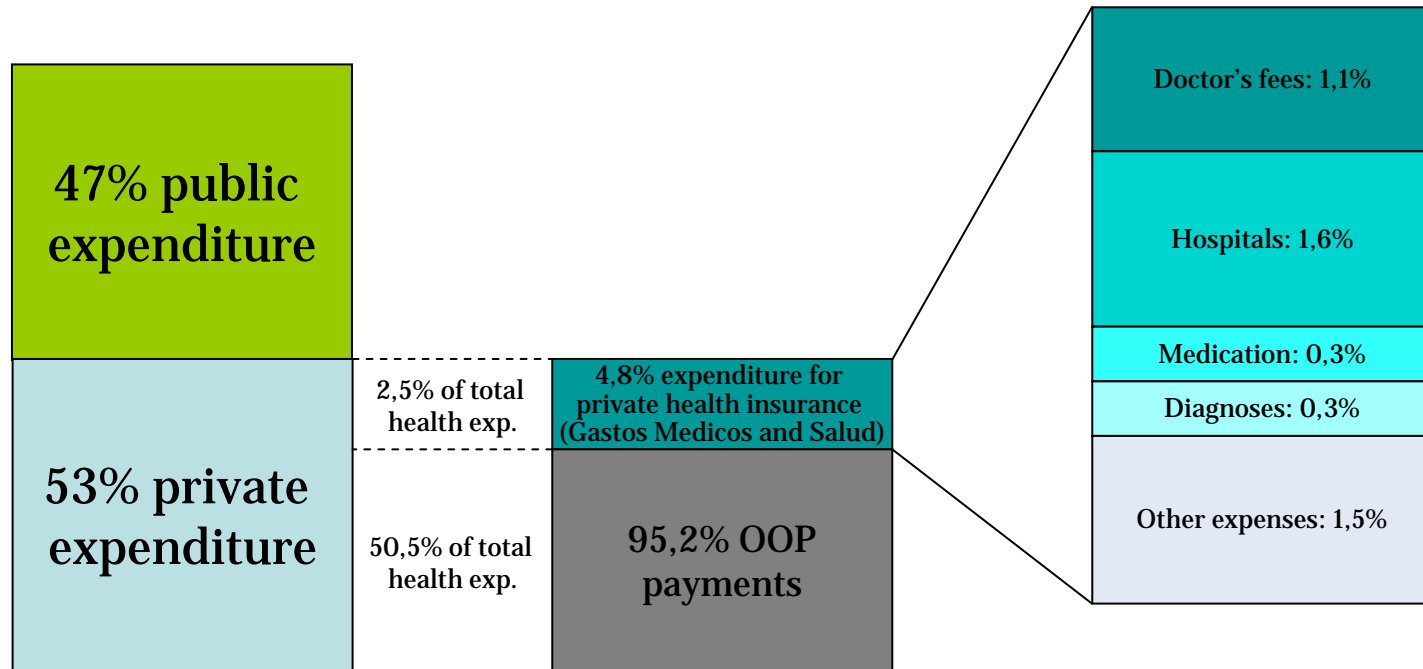
Ageing
effect

Economy

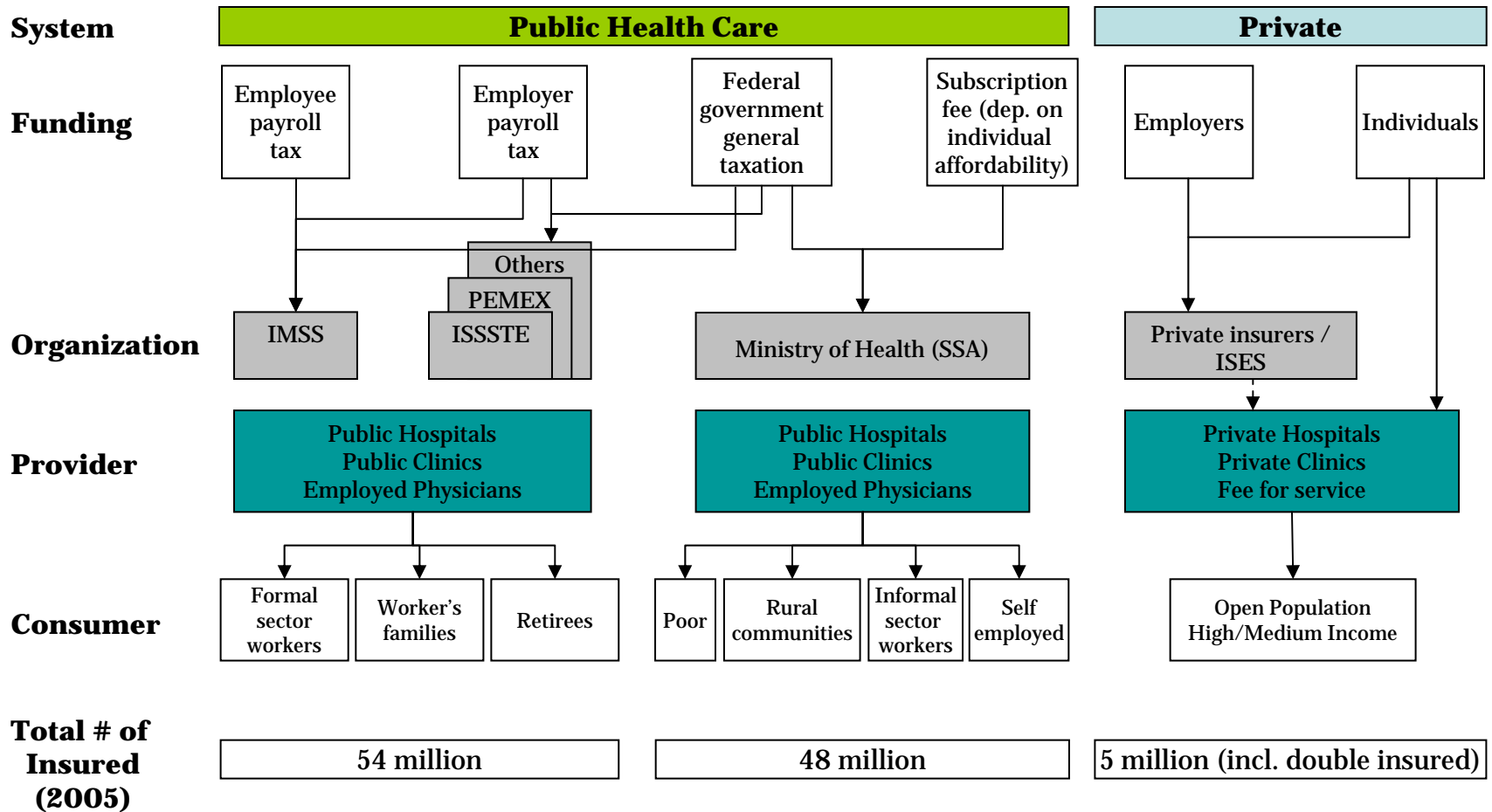
- Continued growth since 2003 (GDP growth in '06 was 4,7%)
Outlook for '07 and '08 positive (3,5-4%). Decreasing unemployment and lower trade deficit
- Mexico has the largest network of Free Trade Agreements in the world (e.g. NAFTA) with 43 countries, in three different continents
- Stable inflation (3,6% in 2006) with the tendency to decrease by 2008
- Health expenditure is 6,4% of GDP (2005)

Healthcare Financing: 95% of private spending are out of pocket payments

Sources of healthcare financing (2005)



The Mexican health insurance system



ISSSTE = Institute of Security and Social Services for Government Workers; PEMEX = state oil company; IMSS = Mexican Institute of Social Security; ISES = Specialist Health Insurance Institutions

For private persons up to 29% of the health costs are tax deductible (including insurance premiums and OOP-payments) without limits.

Public vs. Private health insurance

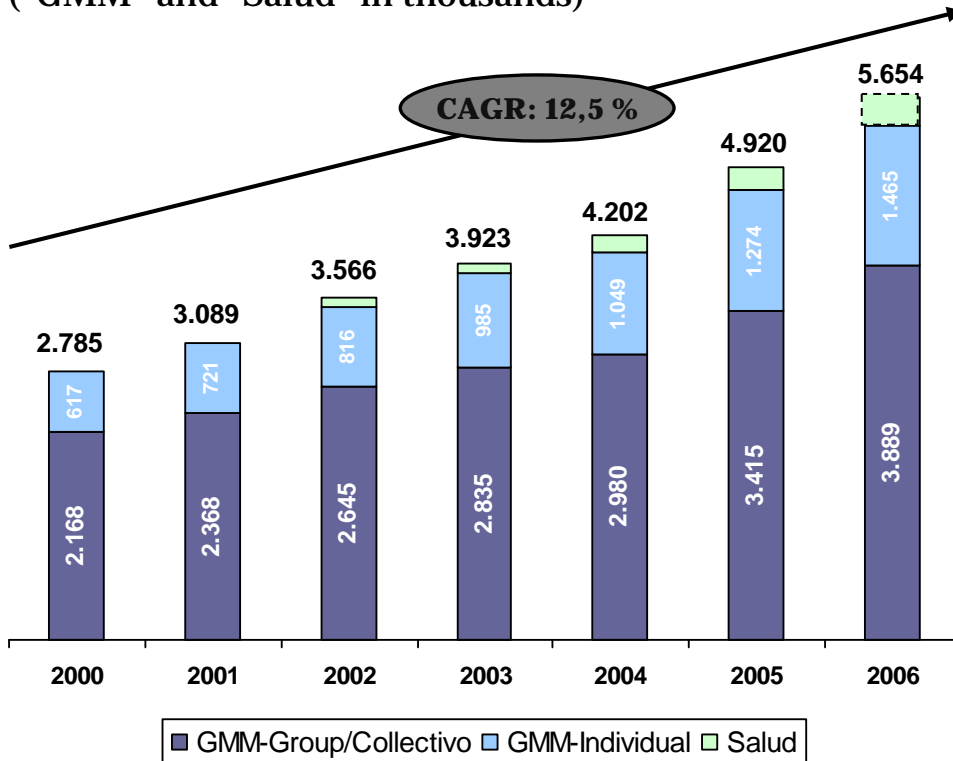
	Public	Private
Basic characteristics	<ul style="list-style-type: none"> • Membership is compulsory for all workers and employees • IMSS, ISSSTE and the Ministry of Health (SSA) are the principal providers of public healthcare in Mexico • IMSS, ISSSTE: consultations, outpatient and hospital care for members and their families • SSA: healthcare for all other citizens who do not belong to IMSS or ISSSTE or state facilities 	<ul style="list-style-type: none"> • Premiums for medical expenses and health policies are tax deductible (up to 29% of total cost) for both employers and employees • Insurance companies are not permitted to own healthcare providers, but ISES* may do so • Medical inflation exceeds the level of general inflation - in the last decade overall hospital expenses have increased by 150%
Covered population	<ul style="list-style-type: none"> • 51% insured population under social security systems (IMSS, ISSSTE and others) • 49% uninsured population may access public health facilities, however for approx. 3% access out of reach 	<ul style="list-style-type: none"> • Approx. 5% of population (a large portion of them double insured)
Funding	<ul style="list-style-type: none"> • Health expenditure is funded by employers and employees as well as by federal and state government • Additionally there are small contributions of the population to the public system based on the family income • Both IMSS and ISSSTE are severely under funded 	<ul style="list-style-type: none"> • PHI premiums (mainly drawn from high income groups) • Out-of-pocket payments (~22 billion USD in 2005): Direct payments to private physicians and institutions • 50% of private health insurance is sponsored through group plans by employers
Current situation	<ul style="list-style-type: none"> • Presence of several vertically integrated insurers/providers serving different parts of the population with little connection between them • Approx. 50% of population face barriers to access to care and significant health expenses that are largely financed out-of-pocket • Low level of per capita health spending (second to last place in OECD before Turkey), particularly among those who do not belong to the social security system 	<ul style="list-style-type: none"> • Large proportion of doctors have private practices on a fee-for-service basis • Private hospitals are concentrated in larger cities in richer states with nearly half of private hospital facilities found in Mexico City. • Lack of capacity to serve the health needs in the public sector has led to demand spilling over into the private sector

* ISES = specialized health insurance institutions providing more comprehensive health insurance cover than the health insurance companies

Development of Private health insurance (PHI)

PHI persons covered (in 1,000)

("GMM" and "Salud" in thousands)



Gastos Medicos (GMM) sector

- Premium income 2006: USD 1.9 bn
- Insured lives covered 2006:
 - 3,889,000 Group
 - 1,465,000 Individual
- Annual growth rate from 2000 to 2006: 12,5% (15,5% Individual / 10,2% Group)
- Premiums experienced a annual growth rate of 14% in the same period

Salud sector

- Premium income 2006: USD 108 mn
- Insured lives covered 2006: approx. 300.000
- Annual growth rate from 2000 to 2006: 30%

Products

Share individual / group business (2005):

- Individual: USD 830 mn (48%)
- Group and Collective: USD 899 mn (52%)

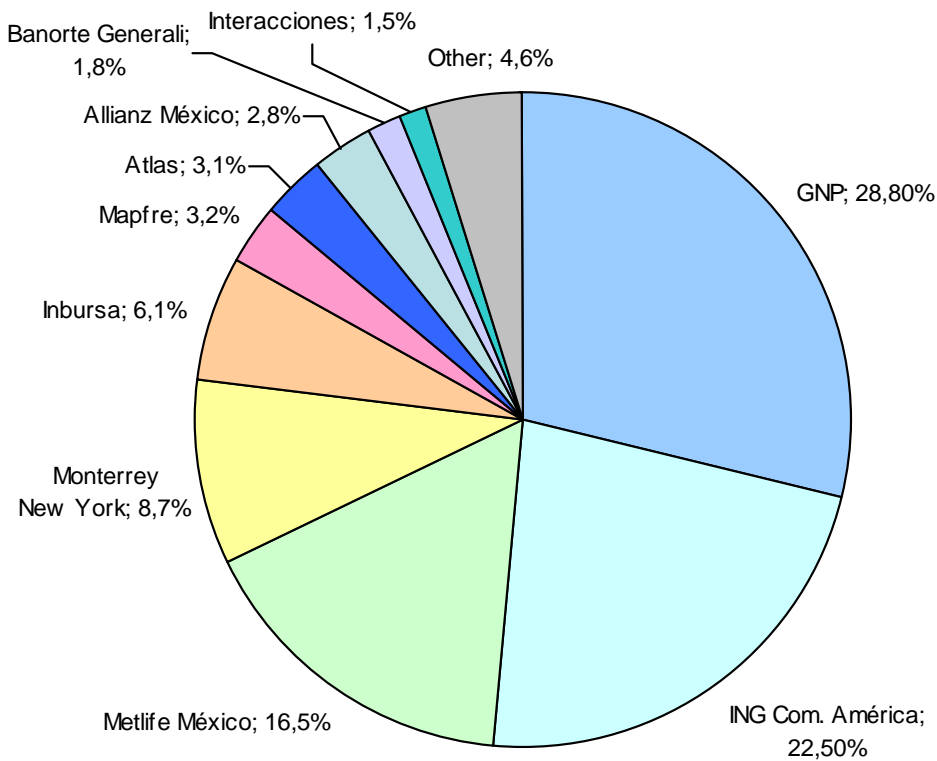
Product range:

- **Major Medical (Gastos Médicos Mayores / GMM)** is offered by all PHI insurers mainly with local and international coverage:
 - o Indemnity private insurance schemes covering cost of large cases, i.e. major interventions and hospital care
 - o Products design is differentiated along deductibles, coinsurance, network access and sub-limits / limits; however, products are very similar to each other, none of the players has a visible unique selling proposition
- **Salud**
 - o Objective is to promote preventive and managed care and not simply to purely cover the insurance risk
 - o Provides services through the administration or management of its own resources or those of a third party.
 - o Provides managed healthcare by education, preventive medicine, research and claims management.
 - o Can only be offered by ISES (institutions with authorization to operate comprehensive health insurance; as of 2005 there were twelve authorized ISES: seven run by insurers, two by hospitals, and three by medical groups)
- Some PHI offer additional covers like Dread Disease, Hospital Cash, Emergency Treatment abroad.
- Product trends head toward hybrid products, i.e. combination of minor and major medical, comprehensive health or stand alone dental or optical coverage.

Competition: 3 players control 68% of market

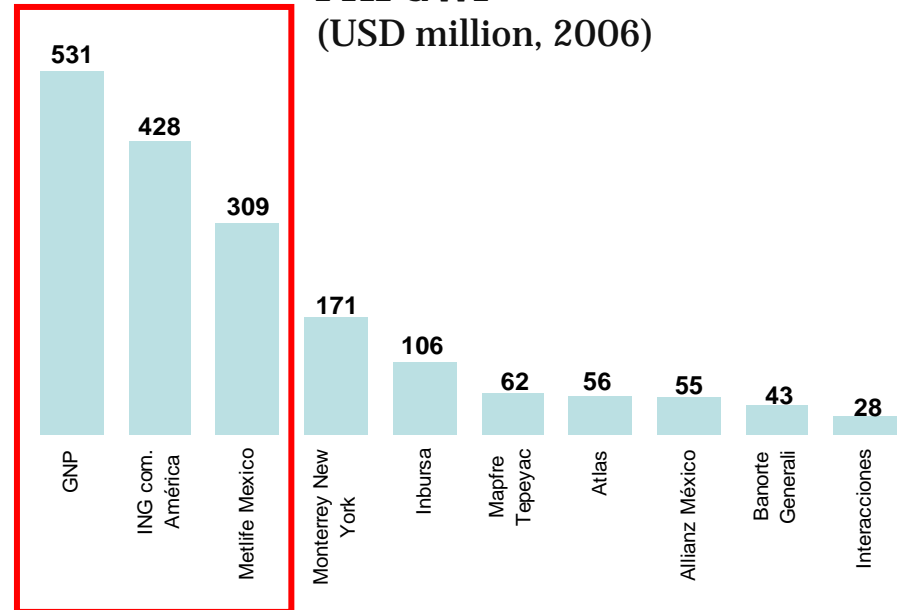
PHI market shares

Gastos Medicos Mayores (% , 2006)



PHI GWP

(USD million, 2006)



- PHI market is mainly concentrated on 5 players (GNP, ING, Metlife, Monterrey, Inbursa)
- All players offer GMM as supplement to Life (multi-liners); no specialised health insurer in the market
- GNP (35,54%) and ING (26,69%) are the leaders in Individual and Metlife (28,88% due to ins. of state functionaries) and GNP (21,58%) in Group business

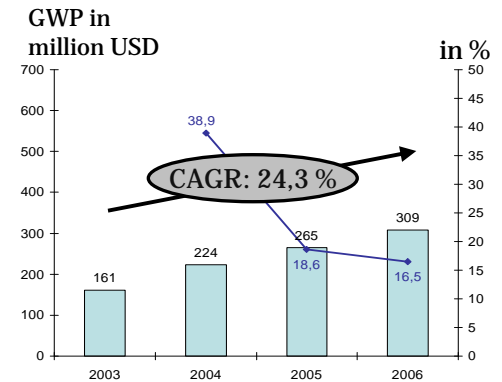
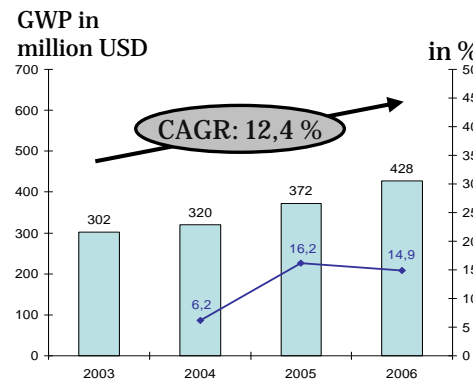
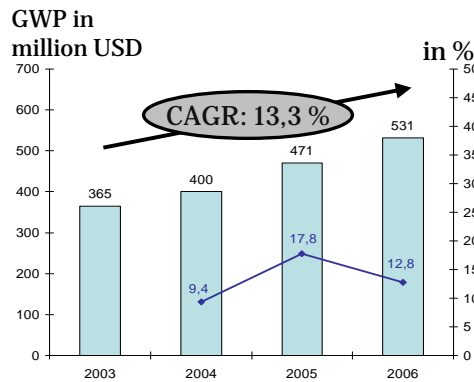
Top 3 players: Solid growth both in GMM and Salud business

GNP

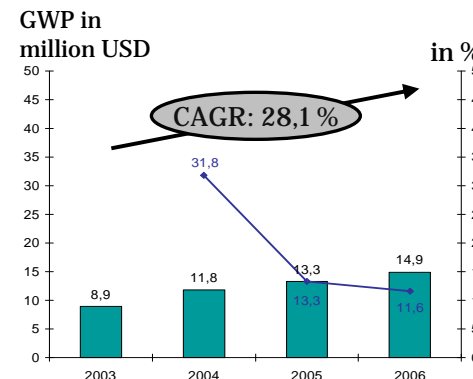
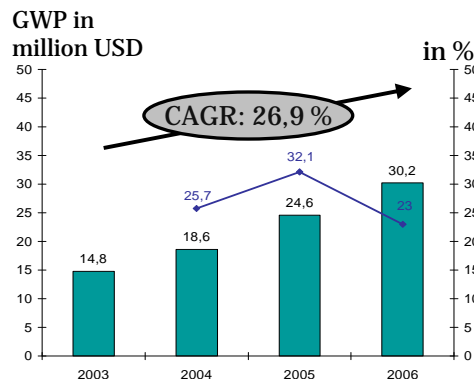
ING¹⁾

Metlife²⁾

GMM



Salud

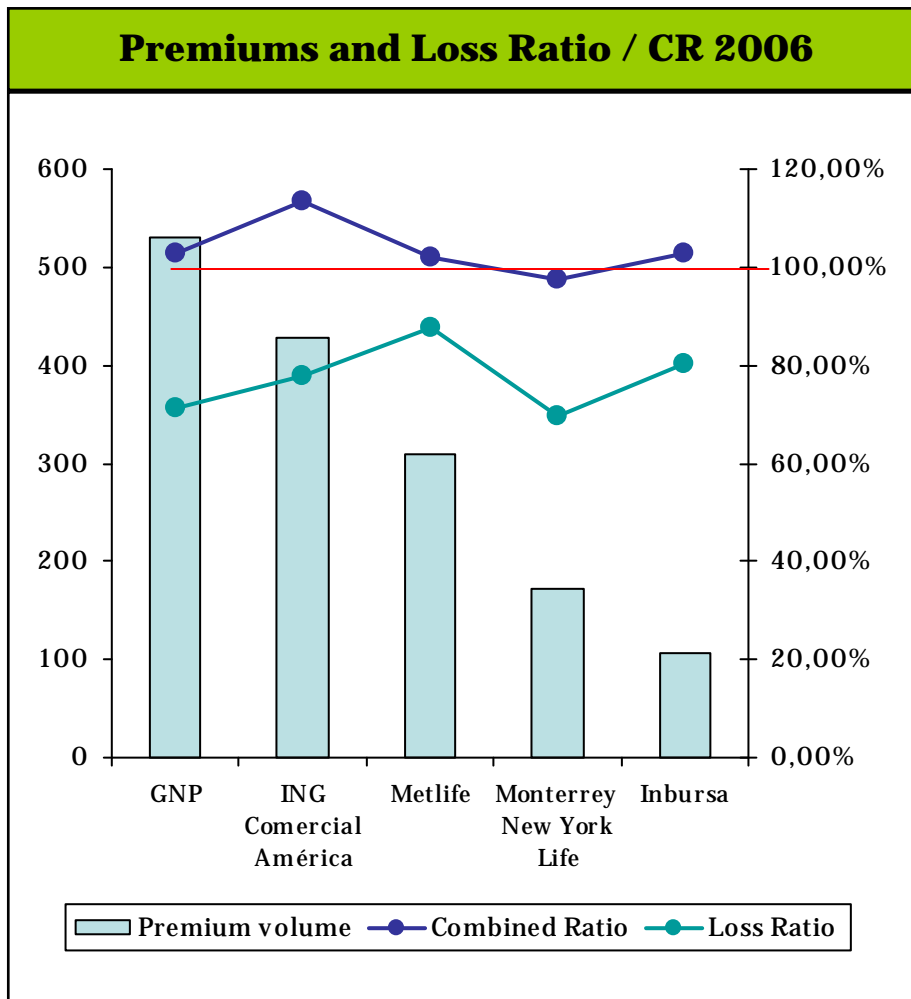


Metlife does not run an ISES (Carrier for Salud)

■ GWP per year ↔ yearly GWP growth rate

1) Sold to AXA 2) MetLife Mexico was born out of the 2002 merger of MetLife Genesis and state-run insurer Aseguradora Hidalgo;
Source: AMIS (Mexican Insurance Association)

However, profitable growth could not be achieved.

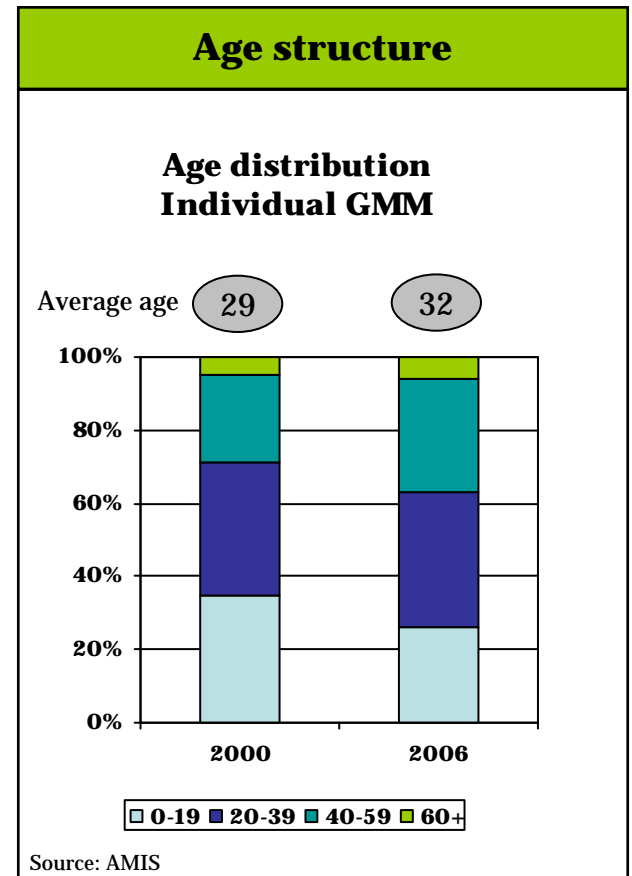
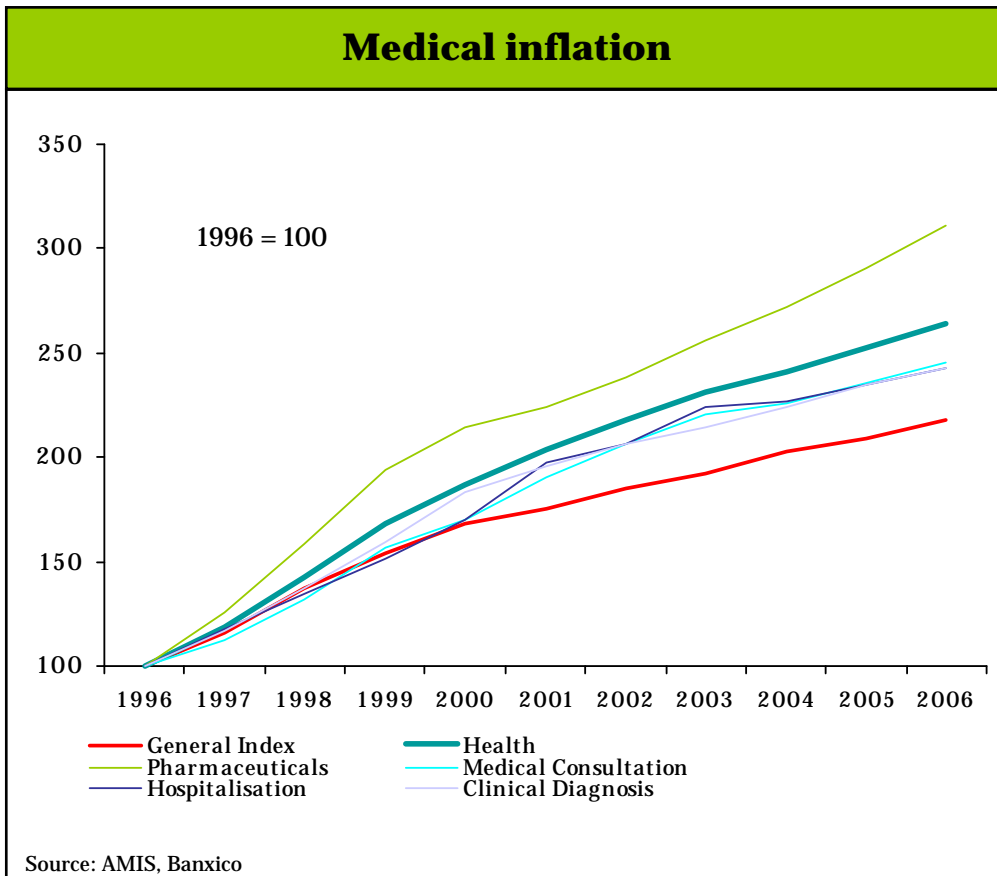


- Average loss ratio Individual business: 67,1% in 2005
- Average loss ratio Group business: 84,8% in 2005
- High loss ratio due to:
 - high price competition and cover expansion, especially in Group business
 - Increase of medical costs (medical inflation) from 5.6% (2000) to 6.4% (2005) of GDP without adequate risk premium adjustments
 - Individual business: increase of cost and frequency of international treatments (esp. within the US)
 - Individual business: Insufficient underwriting and re-underwriting for product-switch (customers change plan according to treatment needs)

Source: CNSF (Mexican Regulatory Authority); AMIS (Mexican Insurance Association)

Remark: As all insurance companies handling health insurance in Mexico are multiliniers, it has to be taken into account that administration cost might be distributed over different segments without applying the cost-by-cause principle.

Medical inflation and ageing population



Product opportunities and challenges in private health insurance (1/2)

Tap market potential

- The additional private health insurance potential is estimated at around 10 million people on top of the existing 5 mill. insureds. There is no suitable product concept for the middle class market segment in place.
- Deficiencies in social security system are not consistently exploited for development of private health insurance.

Create USP

- New product / service concepts are copied easily by competitors, while there is a high competition on price
- Product innovation and differentiation is a precondition for adequate pricing accepted by customers

Further leverage cooperation with providers

- Provider relationship management (contracting, credentialing, etc.) can be further improved and leveraged
- Managed care techniques are only applied to a limited extent. Value chain contribution of “Modulos” (insurance contact person located in hospital), mainly focusing in eligibility check and administrative could be stronger extended to case management and monitoring

Product opportunities and challenges in private health insurance (2/2)

Control trend

- Currently insufficient premium adjustment due to competition (in particular in group business)
- In the long run ageing of insured population: Premium profiles should not support subsidization in the wrong direction
- Cohorts of insureds show a negative development in loss ratio over years (e. g. first year loss ratio \ll 50%, 5th year loss ratio $>$ 70%), currently “hidden” by large portion of new business

Avoid adverse risk selection

- Ensure strong medical underwriting for new individual business (currently, pre-existing conditions are excluded for 5-10 years; there are no exclusions or risk loadings)
- Apply thorough medical underwriting for switchers to other products, in particular for acquisition of more comprehensive benefits (lower deductible, lower coinsurance)

Optimize sales

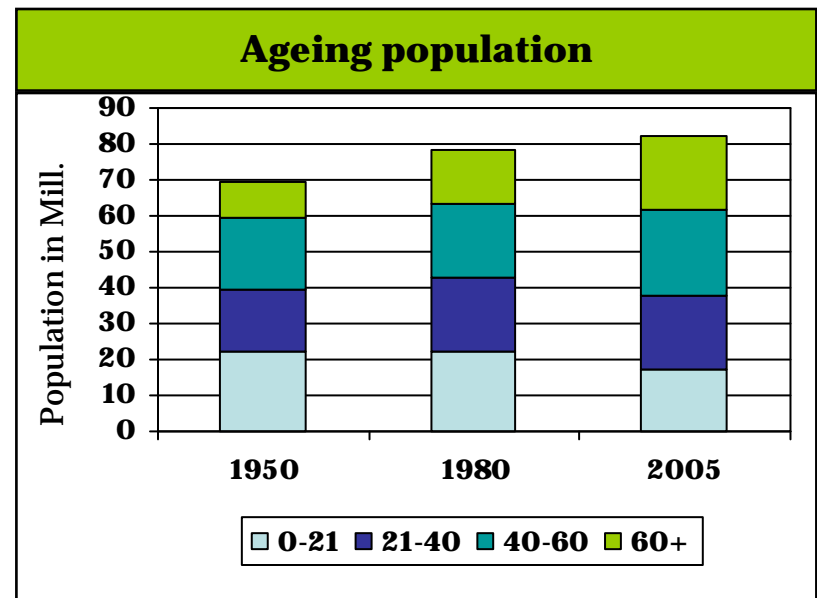
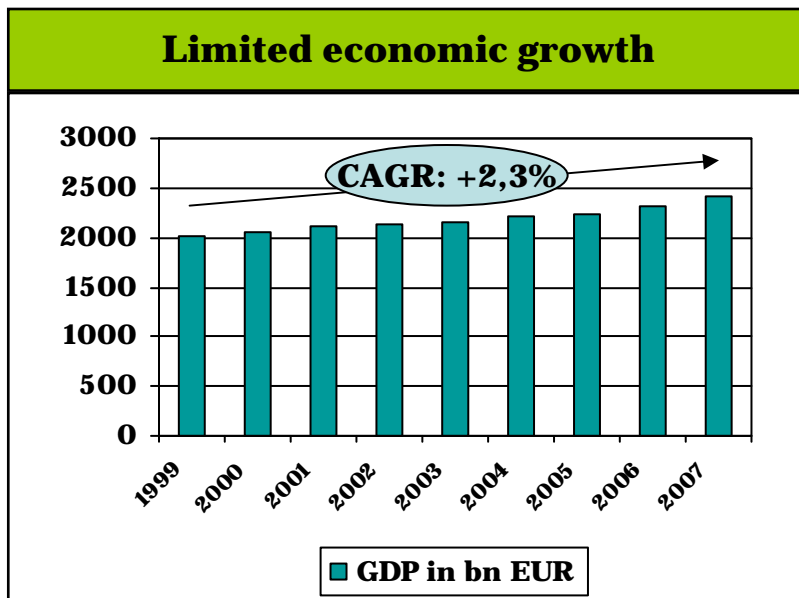
- The market level of 22% acquisition cost for individual and 12% for group business (source: AMIS) can potentially not be changed; however, sales incentives should reward acquisition of good risks as well as sales of products with a risk sharing element.



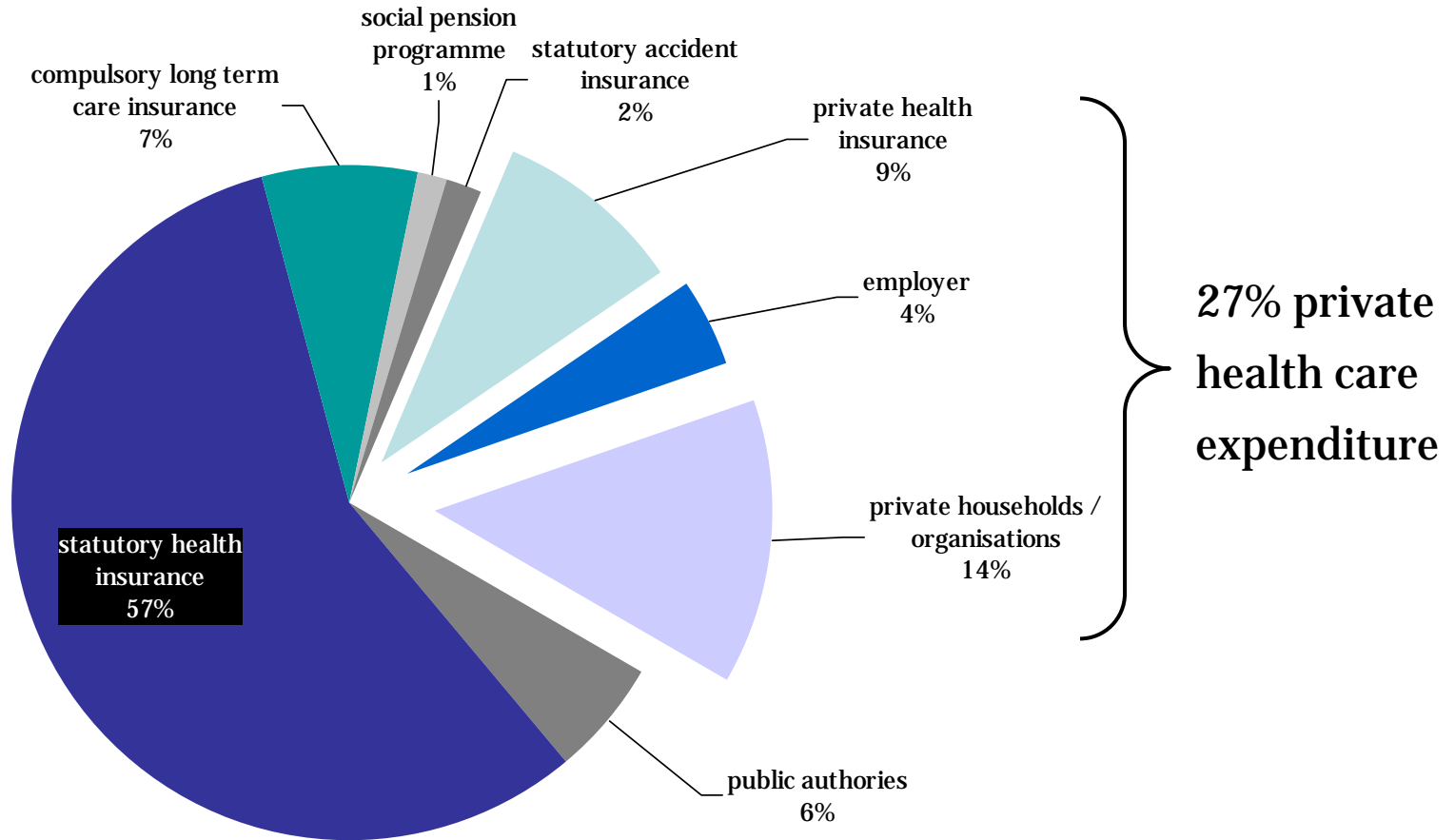
Germany

Overview

- 82.4 Mill population (2008)
- 357,000 sq km (slightly smaller than Montana)
- Life expectancy: Male 76.11 years, Female 82.26 years
- Birth rate: 8.18 / 1,000 population, fertility rate 1.3 / woman
- Current population growth rate: -0.044%
- Health expenditure is 10,7% of GDP (2005)



Healthcare Financing



Total health expenditure (2005): 239.3 bn EUR

Comparison Public vs. Private health insurance

	Public health insurance	Private health insurance (PHI)
Covers	71 Mill. (89,2%) population	8,5 Mill (10,3%) population
Insured members	<ul style="list-style-type: none"> • Employees with an annual income < € 48,150 • Other, e.g. unemployed, retired, students, artists, farmers • Family members are non-contributory • Application: No risk assessment, applicants have to be accepted if eligible 	<ul style="list-style-type: none"> • All civil servants • Employees with an annual income > € 48,150 and self-employed may opt out of public health insurance • Family members are contributors • Application: Risk assessment (may lead to loading, exclusion of benefits or non-acceptance)
Funding	<ul style="list-style-type: none"> • Income-dependent premium, sickness fund-specific (Ø 13.92%) • funds-internal risk balancing • Pay-as-you-go, no age reserves 	<ul style="list-style-type: none"> • Risk-adjusted premium (premium depends on sex and entry age; risk loading possible) • Ageing reserves (currently not portable when switching to another insurer)
	<ul style="list-style-type: none"> • For employees: funded 50/50 by employee and employer 	

Comparison Public vs. Private health insurance

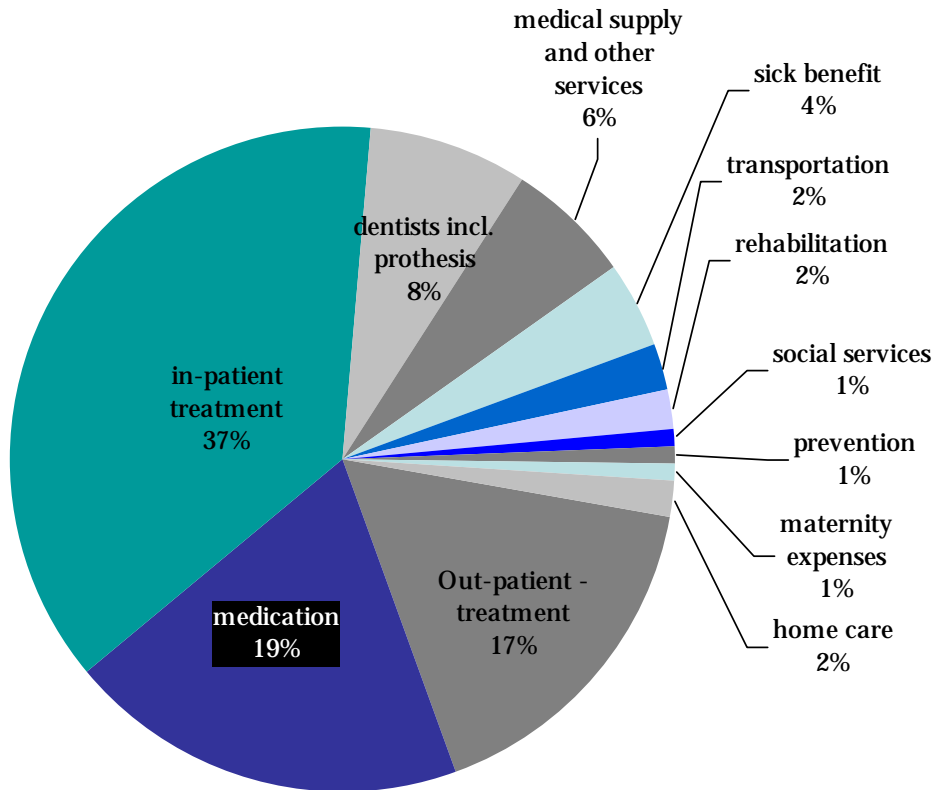
	Public health insurance	Private health insurance
Carriers	<ul style="list-style-type: none"> • > 200 different sickness funds • Non-for profit organizations • Strictly regulated by law • Ongoing fundamental market consolidation 	<ul style="list-style-type: none"> • Approx 35 relevant companies • Publicly listed or mutuals • Moderately regulated • Probable market consolidation
Products	<ul style="list-style-type: none"> • Comprehensive coverage but restricted benefits, e. g. in-patient: General ward, no private doctor's treatment • Product development according to legal and political demands 	<ul style="list-style-type: none"> • Full comprehensive insurance coverage, usually including private ward, private doctors • Supplementary products • Room for product development
Service provision	<ul style="list-style-type: none"> • Non-cash benefit • Contracts with all providers • Scope of benefits is 99% identical for all funds 	<ul style="list-style-type: none"> • Reimbursement • No contracts between insurance companies and providers • Scope of benefits is flexible



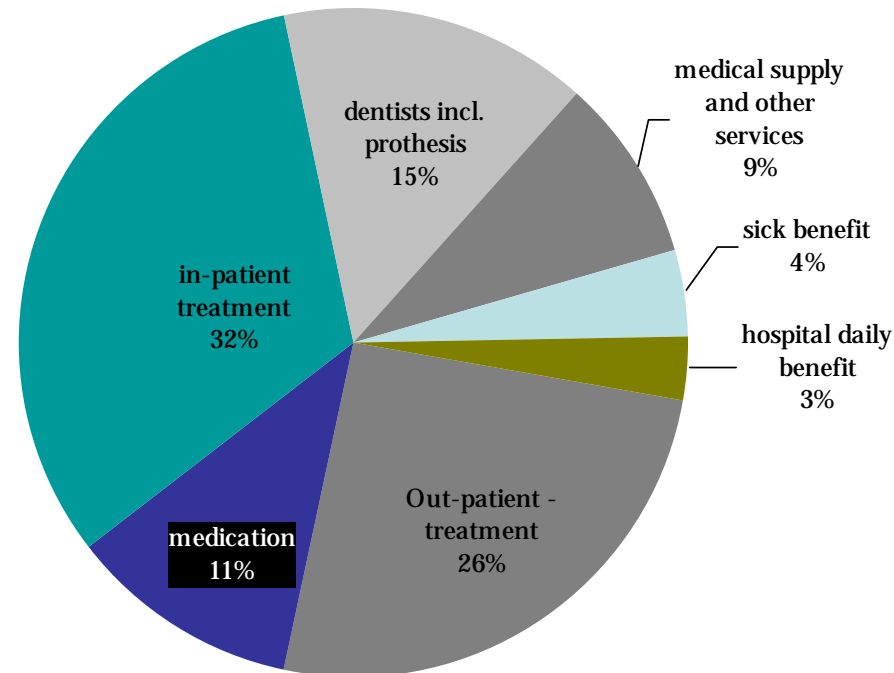
Different morbidity

– different distribution of costs (2006)

Public health insurance

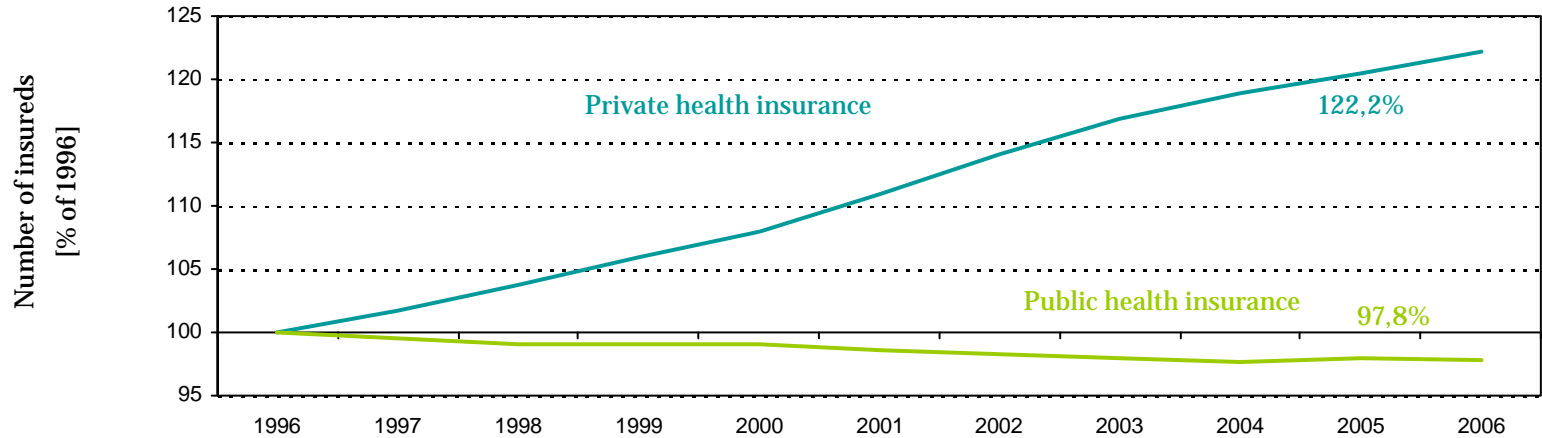


Private health insurance

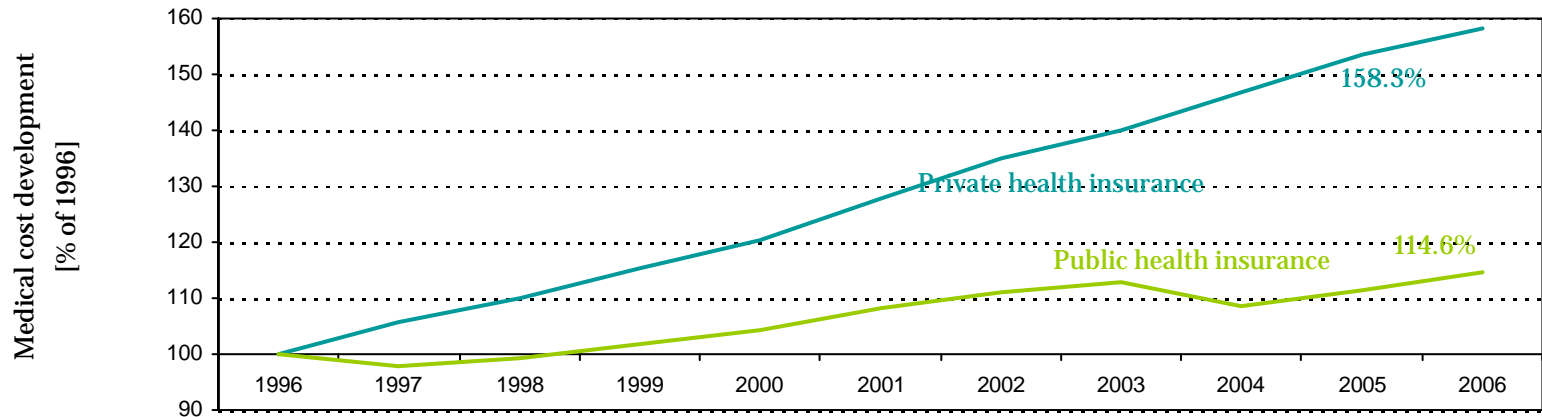


Migration to private insurance, significant increase in medical expenses

Development of number of insureds



Development of medical expenses



Government pushes consolidation of both systems and competition between and within systems

Impact of health care reform (selection)

- most changes come into force Jan 2009 -

Public health insurance

- Product variants with attractive features for healthy insureds (no-claims bonus, deductible) may be issued; however profitability has to be proven after 3 years

Pushes internal competition

- A uniform premium fund is established; distribution to each sickness fund along age, sex, disability status and (new!) certain morbidity classes

Pushes internal competition

Market chance moves in direction of ...



Private health insurance

- Hurdle to opt out of public health insurance is increased (salary minimum at least 3 years)
- Basic tariff with similar benefits as public health insurance has to be issued; premium limited to maximum public premium
- Eligible applicants cannot be denied, ageing reserve is portable

Pushes internal competition

Trends: Public health insurance

Service provision

- Establishing new health care concepts, e. g. integrated care
- Disease management
- Gate keeping / focusing general practitioner
- Out-patient treatments in hospitals
- Discount contracts with pharmaceutical industry and manufacturer / distributors of medical supply

Overcome sectoral separation
More efficiency
Cost control
Improve quality of treatment

Financing (from 01/2009)

- Uniform premium rate for all sickness funds; each fund may raise limited extra-premium or provide refund
- Intra-fund adjustment includes morbidity factor
- National pool for high cost cases expires
- New accounting standards (similar to private) in discussion

Stabilize financial fundamentals
Stimulate competition
Push consolidation

Product opportunities for Private health sector (insurance, providers)

- Provider and Care management organizations: 1) managing treatment of patients with high morbidity and 2) potentially taking over risk
- Setup of provider networks and service offerings of pharmaceutical / medical supply industry (e. g. for dialysis)
- Further grow market of private supplementary insurance products
- Reinsurance as an instrument for improved financial and risk management of sickness funds

Trends: Private health insurance

Mandatory introduction of “basic tariff”

- Benefit range comparable to public health insurance
- No risk assessment, every eligible applicant has to be accepted
 - non-insured
 - all insureds in public health insurance which may opt out
 - Existing insureds in PHI
- Portable ageing reserve
- Premium limited to maximum contribution of public health insurance
- Setup as pool of all PHI companies

Impacts pricing of other products

Insurance for non-insured which fit in private health insurance

Option to limit premium expenditure for reduced benefits

Restriction of access to PHI portfolio

- Salary limit for opting out has to be fulfilled at least for 3 years

Ageing of “regular” portfolio

Other product opportunities

- Long term care
- 55+ products
- Improvement of offers with a managed care character (although patients have freedom of choice, quality may be an effective incentive to enroll under disease management programs and to accept qualified case management)