

The Health Care System in Germany
Cost Factor and Branch of the Future

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ADVISORY COUNCIL
for the Concerted Action
in Health Care

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Cost Factor and Branch of the Future

Volume I: Demographics, Morbidity,
Efficiency Reserves and Employment

Special Report 1996

Summary

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Preface

1. The completion and publication of this report come at a time (fall 1996) when health care policy in our parliamentary system is once again, as has often been the case since 1977, in danger of being reduced to the issue of cost containment. The Advisory Council for the Concerted Action in Health Care (Council) therefore refers readers to its last two reports, the status and outcome reports published under the general heading "Health Care and Health Insurance 2000", which focused in 1994 on the issues of self-responsibility, subsidiarity and solidarity in a changing environment and in 1995 on the Council's recommendations for a stronger outcomes orientation, more quality and enhanced efficiency in the health care system.

2. Without going into the important discussion on the questions of rational policy, the role of advisory boards and the "implementation culture" with respect to the recommendations of advisory groups, the Council would like to recapitulate its stance on outcomes-oriented and patient-based health care. The overall objectives in a system founded on these principles are the care of the sick and the provision of health care services to the general population. In light of current demographic and political trends, the last two reports of the Council emphasized the following specific health care objectives:

- health promotion in younger age groups,
- enhancing individual health awareness in the population,
- maintaining independence in old age,
- an integrative approach to the health care of immigrants,
- maintaining older persons' ability to work.

3. In the context of these concrete health policy objectives, the Council also recalls the long-term framework conditions for the provision of health care:

- equal access to "necessary" health care that is widely available at a high level of quality ,
- maximum freedom and self-responsibility for all parties in the health care system (free choice of doctor, professional freedom, self-regulation, etc.),
- efficiency in the provision of services at the micro level and acceptable levels of total health care expenditures and health insurance contribution rates,
- securing social and intergenerational risk-sharing within insurance communities,
- reducing social differences in mortality and morbidity.

4. At the end of October 1995, the Federal Minister for Health commissioned the Council to prepare a special report examining effects of changing health care expenditures and changing statutory health insurance contribution rates on employment and economic growth. The following questions on medical and economic developments are to be analyzed in a two-stage advisory process:

- 1) To what extent do changes in the morbidity of the population and continued medical progress necessitate structural changes in the health care system? Is it possible to identify areas in which expenditure increases are justifiable, and other areas, in which there are opportunities for rationalization based on the utilization of efficiency reserves and the elimination of excess capacity?
- 2) How will expenditures and contribution rates develop if it is assumed that efficiency reserves are utilized and necessary medical progress is implemented in the health care system and the Statutory Health Insurance (SHI) system?
- 3) What are the employment and growth effects of changes in expenditures and contribution rates
 - in the health care system,
 - in sectors with different capital/labor ratios and on the economy as a whole?

5. This task and the present report represent a paradigm shift in health care policy. The salient issue is now the health care sector's significance as a factor for employment and economic growth. Together with the perspectives for a liberalization of contract law and social security regulations, these issues cast a new light on the health care system. Besides being viewed as a cost factor, the health care system is once again being seen as an economic factor with growth and productivity impulses. The "tightrope act" between cost-containment and economic growth is also one of the challenges of the health care system.

6. This report, entitled "The Health Care System in Germany. Cost Factor and Branch of the Future", deals with seven topics:

- a) In the first chapter, "Employment and Germany's Role as a Site for Industry: The Challenges for Economic and Health Care Policy", the health care system is analyzed in the context of employment and social policies, which was the ultimate reason for the commissioning of this special report. One aim of the report is to help place the discussion of the pros and cons of increasing contribution rates and their employment effects on a rational basis.
- b) Chapter two compares national trends in public charge ratios. In addition, selected indicators of factors that influence industrial siting decisions are compared to pro-

vide a general description of Germany's position in the international competition for industry.

- c) In chapter three, the objectives, assumptions, and results of alternative population forecasts are discussed. Borrowing from the Council's 1995 special report, this chapter highlights the significance of demographic factors for expenditure and revenue trends in the social security system. The results of both population forecasts ultimately serve to support social and health care policy decisions.
- d) Chapter four examines the effects of demographic changes on morbidity and mortality, particularly among the elderly. In accordance with the orders of the Health Minister, the focus here is on the structural transformation of health care services that result from changes in morbidity and mortality patterns. Issues include "avoidable" mortality, the socioeconomic determinants of mortality and an organ-based survey (heart and circulatory system, respiratory system etc.) of the frequency of disease. Persistent deficiencies in health monitoring systems hamper the compilation of such a survey. Chapter four also contains a typology of disease that reflects the relationship between physiological aging and pathological developments. In light of the described changes and expected increases in life expectancy, new tasks arise for prevention, for medical care - including both growing and declining medical need - and for health care policy.
- e) The efficiency reserves in the health care system and strategies for their mobilization are analyzed in chapter five. The exhaustion of existing efficiency reserves, i.e. the removal or restructuring of excess capacity, remains a major focus of health policy debate. In the context of this debate, it is important to distinguish between the scope of health insurance benefits and services (Special Report 1995, par. 104 ff.) and the main issue which we are concerned with here, avoiding the inefficient provision of necessary health care and the provision of inappropriate care. Descriptions of sectoral problems and individual examples of efficiency reserves must be supplemented by reflections on the basic economic order. The Advisory Council envisions a system that is capable of self-regulation.
- f) Chapter six provides an analysis of employment in the health care system and examines employment trends in this labor-intensive sector. Unfortunately, existing data sets are insufficient for these purposes, thus revealing another important task for a health monitoring system. Despite these deficiencies, the Advisory Council makes

estimates of the employment situation and provides an outlook on employment trends in the health care system.

- g) Chapter seven analyzes the employment effects of changes in social security contribution rates. The positive and negative financial effects of changes in social security contribution rates are differentiated according to sector and their effects on employment are analyzed in theoretical and empirical terms. This analysis serves as the basis for econometric simulations that are also presented in this chapter.

7. The Council submits the present report to the health care policy discussion as a status report. Furthermore, the Council has chosen to follow a two-stage approach and will augment its analyses with a forthcoming report containing chapters on the following topics.

8. One chapter will provide a general analysis and case studies of medical, medico-technical and technical progress in the health care system (e.g. bone marrow transplants, telematics, environmental issues and technology assessment) and advances in the nursing sciences.

9. Another chapter will focus on growth and productivity effects in the health care system. Despite - or precisely because of - budgetary measures, a continued tremendous impetus for growth is to be expected, especially in areas that are not financed by the SHI system.

10. These topics give rise, thirdly, to the question of the scope of future health insurance coverage in the context of patient-based health care. The changing health insurance system must be integrated in the framework of a social market economy and requires a reduction of frictional losses at existing interfaces within the social security system. This includes, fourthly and finally, the analysis of the advantages and disadvantages of

- a shift in responsibility for benefits that are not health related,
- a broader definition of assessable income,
- the fiscalization of employers' contributions,
- the fixation and disbursement of employers' contributions,
- the further development of optional social security benefits.

11. The objectives and values specified in paragraphs 2 and 3, which the Council studied in detail in its 1995 report, form the basis for both volumes of the present report. The

Council's views on the deficiencies in the provision of health promotion services, preventive measures and quality assurance are also embedded in the paradigm shift. This applies in particular to primary prevention, which is aimed at avoiding disease before it arises through the elimination of its causes and the reduction of risk factors. In addition, there is now a particular need for action or reform in the following areas of the German health care system:

- focusing health care services on patients and improving opportunities for the participation of the insured;
- reinforcing the self-responsibility of the insured and strengthening social security concepts, including the sense of solidarity vis-à-vis the insurance community;
- testing and promoting new concepts for the provision of health care and the remuneration of health care services, e.g. interdisciplinary group practices, practice clinics, day clinics, gatekeeper models and combined micro-budgets and other forms of remuneration or;
- the outcomes-based integration of ambulatory and stationary care, including
- goal-oriented care of disabled patients based on appropriate community-based services and on ambulatory and stationary facilities that are suited to this purpose;
- more efficient and effective organizational cooperation between the SHI system and the Statutory Pension Insurance system (SPI) in the area of rehabilitation;
- securing successful clinical research at state-of-the-science levels;
- the documentation and transparency of health care processes, including health monitoring systems and telematics.

12. Permanent quality assurance is also an effective instrument for avoiding excesses and deficiencies in the provision of health care and in the health insurance system. Upon request of the Council, the "Working Group of Scientific Medical Societies" (Arbeitsgemeinschaft Wissenschaftlicher Medizinischer Fachgesellschaften) compiled a list of diagnostic and therapeutic recommendations, guidelines and standards aimed at improving quality assurance. The implementation of quality assurance measures requires the cooperation of doctors and other health care professionals. The Council sees a need for action in

- the completion of consensual processes on clinical guidelines for diagnosis and therapy and their institutionalization on a continuing basis;
- the coordination of scientific societies in order to eliminate contradictions and exaggerated expectations;

- the clarification of financial and implementation issues by the National Medical Chamber, the National Association of SHI physicians and the SHI funds;
- the description of incentives systems for the effective implementation of quality assurance;
- the description of the residual risk that patients and doctors must carry even when diagnosis and therapy are optimal, and that should be adequately reflected in legislation and jurisprudence.

13. The Council views with concern that social tensions, particularly in times of profound economic change, lead to a situation in which socio-political ideologies increasingly dominate the discussion of reform alternatives. The real challenge, however, is to prepare reform proposals on a scientific basis and to evaluate these proposals objectively during and after their implementation. The Council doesn't support the reinforcement of competition as an end in itself, but as the necessary basis for innovation and as an integral component of a social market economy. The Council therefore considers the promotion of a culture conducive to controlled experimentation as the most important long-term reform of the health care system. This shift in the focus of debate on the design of the health care system does not only have a cultural dimension, it also has economic ramifications, since it requires resources for evaluation and innovation.

14. In the course of preparing this status report, the Council conducted numerous discussions and received valuable suggestions from institutions and individuals. The Council would like to extend particular thanks to Dr. Hoffmann of the Federal Statistical Office in Wiesbaden, Mr. Jagoda, president of the Federal Labor Office in Nürnberg, Prof. Dr. Köbberling of the Medical Clinic (Medizinische Klinik) in Wuppertal, Prof. Dr. Dr. Raspe of the Medical University in Lübeck and Dr. Zwiener of the DIW in Berlin.

15. As in the past, the Council was able to draw on the support of the professional staff at its offices for the preparation of important parts of the report and for the final editorial work. The Council extends its special thanks to Dipl.-Ökonom Christian Felkner, Dipl.-Volkswirtin Heidi Nadolski and the office director, Dr. oec. Lothar Seyfarth, for their extraordinary commitment going far beyond the call of duty. The Council would also like to thank Dr. Joachim Braun, who was delegated by the German Health Ministry to support the office staff for six months up to September 1996, and Dr. med. Annette Güntert, who was delegated by the German Medical Chamber for three months up to August 1996. The Council also thanks the staff of Council members at universities and institutes, in particular, Dr. rer. pol. Manfred Erbsland at the Center for European Economic Research in Mannheim, Dr. med. Reinhard Busse, Dr. med. Andreas Seidler and Dr. phil.

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For their tireless commitment in the preparation of the voluminous texts and statistics the Council thanks Ms Anette Bender and Ms Monika Weinberg.

The Council alone is responsible for any mistakes and flaws in the report.

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{ INHALT }Summary

1. { INHALT }Employment and Germany's Role as a Site for Industry: The Health Policy Challenge

1. The extent and structure of unemployment presently pose one of the most pressing economic problems and greatest social challenges in Germany and in most OECD countries. Curbing unemployment plays a central role in the direct welfare of the unemployed as well as in the financial management of our social security system. Since the fiscal basis of the social security system depends largely on employment income, a continued increase in unemployment will either hinder the attainment of stable contribution rates or lead to a curtailment of the present benefits catalogue of the SHI system.

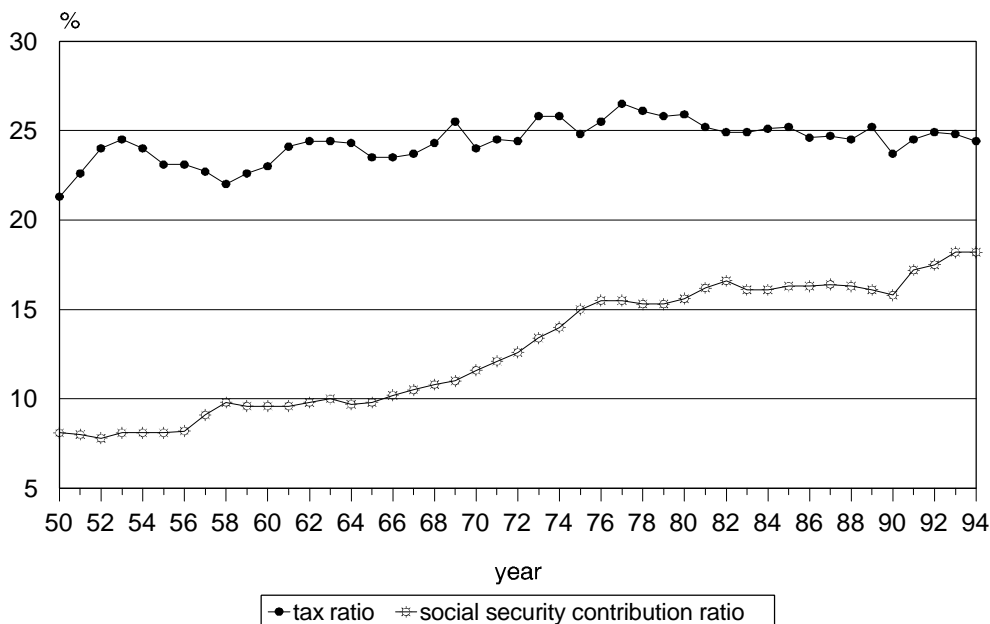
2. Although the ideas expressed in this report focus on health care and the SHI contribution rate, the empirical survey takes total public charges, which include social security payments as well as taxes, as its starting point for a number of reasons:

1. Individual marginal burdens play a decisive role in the reactions of businesses and private households to public charges. The marginal burden, however, results from the interplay of all public charges.
2. Past legislation has induced numerous shifts among the individual branches of the social security system that have resulted in a ceteris paribus reduction in the contribution rate for one type of social security, but have increased the rates in the other branches of the social security system. This - often criticized - 'switching yard' does not, however, cause any fundamental change in the burden on businesses and private households.
3. In contrast to Germany, some countries, such as Sweden and Great Britain, finance their health care systems primarily through general taxes instead of social security contributions.

3. Public charges levied on businesses and private households as compulsory charges comprise mainly taxes and contributions to the social security system. Social contributions do not include the premiums of private pension plans, e.g. life insurance, and private health insurance premiums. Some social services are financed through general taxation, e.g. civil servant pensions, supplementary benefits for public sector employees, allowances to public sector employees, unemployment assistance and social assistance. Finally, employers also provide social benefits, such as company-based pension plans on a voluntary basis. The latter are part of non-wage labor costs and ancillary wage costs

that are determined in collective agreements or at company level, but do not constitute social security contributions. In some cases, this demarcation can impair considerably the validity of measures of the overall public charge ratio and of the social security contribution ratio. E.g. if a large number of those insured by the SHI system on a voluntary basis were to opt for private health insurance, both the social security contribution ratio and the overall public charge ratio would decline according to the above definition.

Figure 1: Tax and social security contribution ratios in Germany^a: 1950 - 1994



a Data on unified Germany beginning in 1991

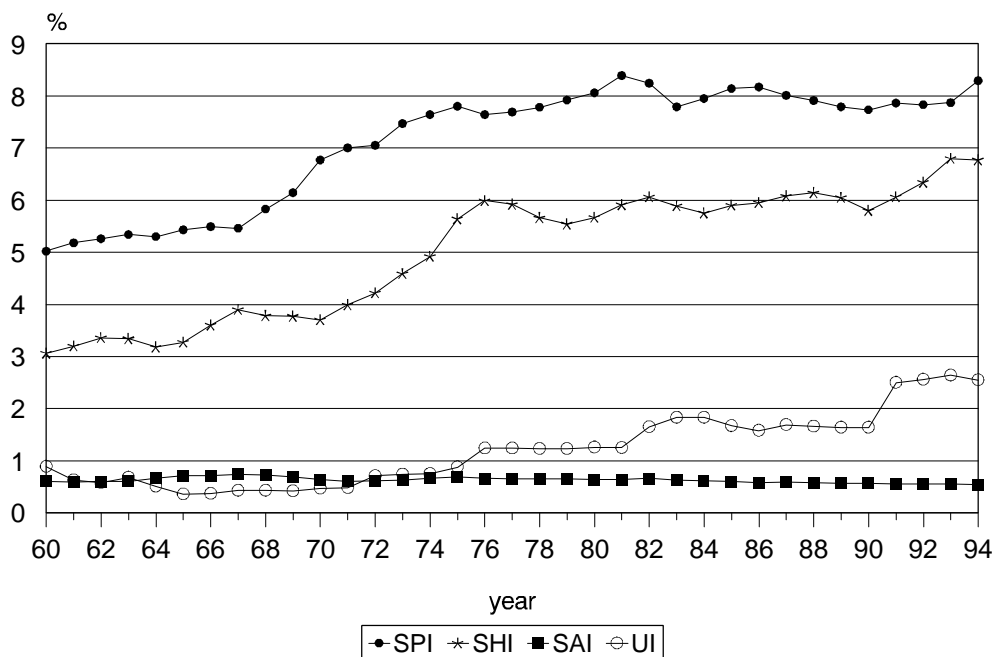
Source: Advisory Council; graph and calculation based on: Federal Statistical Office, Fachserie 18, Volkswirtschaftliche Gesamtrechnung, Reihe S. 13, Der Staat in den Volkswirtschaftlichen Gesamtrechnungen 1950 bis 1988; Reihe S. 15, Revidierte Ergebnisse 1950 bis 1990 and Reihe 1.3, Hauptbericht 1994, Stuttgart 1989, 1991 and 1995.

4. As shown in Figure 1, the level of so-called overall tax ratio, i.e. the share of all taxes in gross domestic product (GDP), was slightly higher in 1994 than in 1950. However, during the past 25 years, the tax ratio has remained relatively stable. In contrast, based on the definition of the national accounts, the social security contribution ratio, i.e. the

share of all social security contributions in GDP, increased by more than 8 percentage points between 1950 and 1994.

5. Figure 2 depicts the development of social security contributions in relation to GDP for each branch of the social security system. Between 1960 and 1991, the charges of the Statutory Pension Insurance (SPI) system increased at a rate that was clearly greater than the growth in GDP. In the years 1987 to 1992, the ratio of SPI contributions to GDP dropped slightly and then increased again. One reason for the renewed increase in this ratio could be early retirement regulations, which induced an expenditure increase that outweighed the countervailing effects of the adjustment of pensions to net wages that has been in effect since 1992. The growth rate of SHI contributions was generally greater than the growth in GDP between 1960 and 1976. As a result, the ratio of SHI contributions to GDP rose markedly over this period. The so-called cost-containment policies that began in 1977 succeeded in stabilizing this ratio until 1990, i.e. for almost 15 years. After 1990, the ratio increased once again. The development of unemployment insurance contributions (UI) in relation to GDP reflects the step-like increase in the unemployment rate, which, following a quantitative shift, never returned to its original levels. In contrast to the trends in all other branches of the social security system, the contribution ratio of statutory accident insurance (SAI) has remained constant over the whole period.

Figure 2: Trends in social security contribution ratios (according to branch of the social security system)^a



a Data on unified Germany beginning in 1991

Source: Advisory Council; graph and calculation based on: Federal Statistical Office, 1989, 1991 and 1995, *ibid.*

6. As mentioned above, criticism has focused on social security contributions primarily because, as components of non-wage labor costs, they threaten Germany's viability as a location for industry and the general employment situation in Germany.

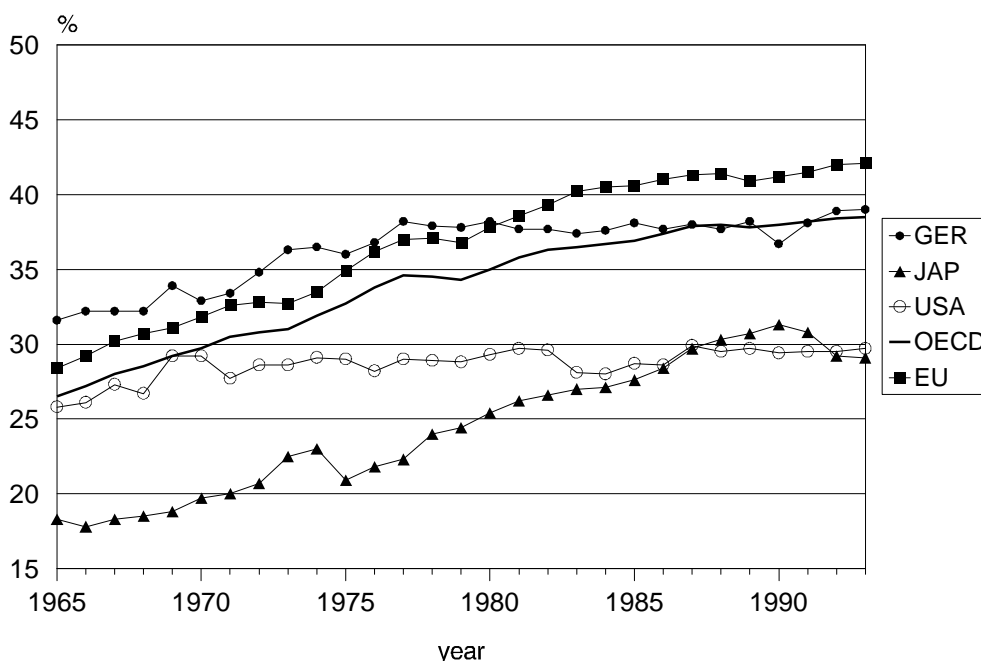
The definition and classification of non-wage labor costs is based on a standard international classification of labor costs. According to these international norms, compensation for labor rendered forms the basis for the definition and classification of non-wage labor costs. The latter thus represent the costs of labor for which no time was actually spent at work. In this context, the term "ancillary wage costs", which is often used in political discussions, gives the false impression that employers must bear additional costs amounting to more than 80 % of gross wage payments. Since gross wages already include many components of non-wage labor costs, such as vacation pay, paid public holidays, the Christmas bonus and other bonuses, only about half of all non-wage labor costs are paid in addition to gross wages. Ancillary wage costs make up only about 30 % of gross wages. However, employers' contributions to the social security system, like their

expenditures for company pension plans and for a few other components of non-wage labor costs (e.g. training pay and compulsory contributions pursuant to laws for the protection of working mothers and severely handicapped persons), are "genuine" ancillary wage costs.

2. { INHALT }An International Comparison of Social Security Contribution Ratios

7. As shown in Figure 3, the growth of the public charge ratio in Germany was similar to trends of the average public charge ratio for OECD and EU countries from 1965 to 1976, but remained relatively constant until German unification. Since the OECD and EU averages continued to increase between 1975 and 1990, the German public charge ratio approached and even dropped below both international measures. The German public charge ratio has remained below the EU average since 1981 and has been at the level of the OECD average since the mid-1980s. Over the whole period, i.e. from 1965 to 1993, the German public charge ratio increased by 23.4 %, the OECD average by 45 % and the EU average by 48 %. Due to their almost identical rates of increase, the difference between the EU average and the OECD average remained almost constant between 1965 and 1993.

Figure 3: The development of selected public charge ratios from 1965 to 1993^a



a Data on unified Germany beginning in 1991

Source: Advisory Council; based on OECD 1995, pp. 73, 176.

8. As a result of its stabilization over the period from 1975 to 1990, the public charge ratio in Germany was still below the EU average in 1993, despite increases caused primarily by unification after 1990. The only OECD countries in Europe with public charge ratios lower than in Germany are Iceland, Portugal, Switzerland, Great Britain, Spain and Ireland. The public charge ratio in Great Britain, which has varied widely over time, dropped more than 3 percentage points between 1970 and 1993 and thus increased only by 10.5 % since 1965. The Scandinavian countries Denmark and Sweden have the highest public charge ratios in the OECD, and the ratios in Finland, the Netherlands, Norway and Belgium are much higher than the EU average. The public charge ratio in France has also been above the EU average since 1965.

9. The greater increase of social security contributions relative to taxes is not unique to Germany. Indeed, this trend is typical of the average development in the OECD and EU countries during the past three decades. The complex network of factors giving rise to a greater increase in social security contributions than in taxes includes the following determinants:

- the dominance of contributions as means for funding social security,
- the expansion of social security benefits and/or the introduction of new branches to the social security system,
- the extension of social security to "bad risks",
- the increased utilization of insurance benefits, including that related to demographic trends,
- the increased funding of services not related to health care and social security through compulsory contributions instead of taxes,
- the increased use of credit to finance government expenditures that hitherto were funded by taxes.

10. As mentioned, social security contributions represent ancillary wage costs to the employer and lead to a reduction in the disposable income of private households. In the past, the Council has often noted that the ancillary wage costs in Germany are among the highest in the world. In this context, the Council warns of the following problems that might result from a high level of social security contributions :

- a shift in the factors of production into the shadow economy with corresponding losses for the social security system and the public budget;
- a weakening of individual incentives due to the relatively low increase in net income;
- a hampering of the structural transformation towards the service sector, with its large employment potential, due to the heavy burden on personnel-intensive enterprises;
- a reduction in companies' willingness to hire new personnel due to the larger burden on the factor "labor";
- an increase in incentives towards excessive utilization of benefits by both the insured and companies (the latter, for example, by shifting wage benefits to the social security system);
- and an impairment of the international competitiveness of the German economy.

11. The Council emphasizes in this context the ambivalent economic effects of high or increasing social security contributions, for these do not create only costs and payroll deductions, but give rise to a direct demand for health care services or support private demand through transfer payments. Social security contributions also serve to create and maintain a high-quality labor force and are very important in maintaining social stability.

12. Direct labor costs, the tax burden and the level of social security contributions are without doubt important and relatively easily quantifiable indicators for the international

comparison of countries' qualities as sites for industry. However, they are by no means the only determinants that must be considered to provide a valid description of this complex phenomenon. In addition to these factors, a country's attractiveness as a site for industry may depend even more on qualitative factors, such as the extent of government regulation, political and social stability, the social acceptance of technical progress, the open-mindedness of the population, the education and mobility of the labor force and the public infrastructure. In these respects, the drawback represented by the comparatively high labor costs and the greater burden of taxes and public contributions in Germany is exacerbated by the following factors :

- complex regulations and long and sometimes incalculable authorization procedures pose bureaucratic hurdles to innovation that stunt private initiative and creativity;
- companies must meet environmental regulations and standards that other countries do not have or don't implement as strictly as is the case in Germany;
- rigid working hour regulations limit the utilization of production facilities and thus increase capital costs;
- in contrast to competitors in America and Asia, the political trend leaders in Germany place more importance on the risks of research and the hazards of new technologies than on the opportunities they present.

13. In addition to these locational disadvantages, Germany has significant comparative advantages in the world market:

- Germany has a qualified labor force, a central location in Europe and a highly developed public infrastructure that in most cases can be used by businesses at no extra charge;
- Germany offers a relatively stable price level and political and social stability;
- social security also represents a positive factor for industrial siting decisions, since, besides its negative effects, it can serve to promote private initiative and the intensity of labor.

These considerations indicate that economic policies aimed at improving the employment situation and promoting economic growth and Germany's attractiveness as a site for industry can not be based solely on the factors "ancillary wage costs" and "social security contributions". This should not be taken to imply, however, that non-wage labor costs and social security contributions, as components of the problem from an international perspective, must not be subject to a critical economic analysis.

14. The cursory international comparison of indicators of countries' characteristics as industrial locations casts new light on the often pessimistic view of the economic situation in Germany (in this case, we are referring only to the western states). It should not be understood as a denial of the need for political and entrepreneurial action, but to show that considerable efforts are necessary to consolidate and improve the position of the western German states.

3. { INHALT } Demographic Trends

15. As a determinant of expenditure trends in the SHI system, the demographic component represents only one of the many interdependent factors affecting the Statutory Long-Term Care Insurance (SLTCI) scheme, almost all of which influence expenditures. In comparison, a forecast of the contribution rates for the SPI scheme is relatively straightforward, since demographic trends are undoubtedly the dominant factor in this branch of the social security system. In the Statutory Health Insurance and Statutory Long-Term Care Insurance systems, on the other hand, the list of factors that affect expenditures includes, in addition to demographic trends (Special Report 1995, par. 26 ff.):

- the increase in the number of one-person households;
- changes in the morbidity of the population towards long-term chronic-degenerative diseases;
- increasing public expectations with respect to medical and paramedical care;
- incentives for the excessive use of health care services, especially those created by comprehensive insurance coverage (moral hazard)

16. In addition to these demand-side factors, the following factors are important determinants on the supply side of the SHI and SLTCI systems:

- increases in the provision of services due to supply-induced demand;
- the expansive effects of medical progress and change;
- the negative effects of changes in the price structure on health care services;
- the intensification of care as a result of defensive medicine.

The importance of each of these factors as determinants of future contribution rates in the SHI and SLTCI systems varies widely. Changes in the morbidity of the population usually occur very slowly and depend in part on demographic developments and medical progress. Increased expectations, moral hazard and supply-induced demand can explain

part of past expenditure trends and thus the present expenditure level of the SHI system, but they are hardly adequate to explain continued increases in contribution rates. However, this doesn't apply to the SLTCI, for this young branch of the German social security system creates new incentives for increasing the volume of services. The growth in the number of one-person households and singles could become an important determinant of expenditures during the next decade. It implies, however, a concomitant decrease in the number of co-insured family members and thus an improvement in the fiscal situation of the social security system. The main supply-side determinants of future developments of the contribution rate are therefore the demographic components, medical advances and the negative price structure effect.

17. Projected demographic changes will lead to an increase in the share of elderly persons in the population and to a decrease in the relative number of working-age persons. The immediate effects will be a decrease in social security revenues and an increase in contribution rates. The change in the age structure of the population will occur primarily as a decrease in the number of persons of working age. This decline will be compensated by an increase in the labor force participation rate of women and a rise in the legal retirement age. As a result, the number of workers paying social security contributions will remain almost constant, despite the aging of the population. Thus, the ratio of pensioners to working age persons increases at a slower rate than the ratio of elderly persons to working age persons. On the other hand, this shift in the age structure can induce behavioral reactions that could tend to accelerate the growth of contribution rates. If the elasticity of labor supply in relation to the social security contribution ratio is negative, an increase in social security contribution rates would lead - through factors such as an expansion of the shadow economy - to a decline in the labor-related revenue base of the social security system.

18. Due primarily to the different assumptions concerning the positive migration balance, the projected population size of the eighth coordinated population forecast exceeds that of the seventh forecast by more than 2.2 million in the lower and 3.3 million in the upper estimate by the year 2000. As is shown in Table 1, the differences grow to 3.1 and 6.0 million persons for the year 2010 and to 3.8 million and 11.2 million by the year 2030. With respect to population size, the results of alternative 3 for the year 2030 exceed those of the seventh forecast by 16.0 %. Even in the most recent forecast, however, the differences between alternatives 1 and 3 differ by 2.9 million for the year 2010 and 7.4 million for the year 2030.

Table 1: Future population size: the results of recent population forecasts of the Federal Statistical Office (in millions)

Forecast/ Alternative	7 th coordinated population forecast	8 th coordinated population forecast		
		Alternative 1	Alternative 2	Alternative 3
Year				
1990	79.8	-	-	-
1992	80.6	81.0	81.0	81.0
1998	81.2 ^a	83.2	83.4	83.6
2000	81.1	83.3 ^a	83.7	84.1
2003	80.7	83.1	83.8 ^a	84.6
2005	80.2	82.9	83.8	84.7
2010	78.9	82.0	83.4	84.9 ^a
2020	75.0	78.6	81.2	83.7
2030	69.9	73.7	77.4	81.1
2040	-	67.6	72.4	77.1

a Denotes the greatest population size for each forecast and alternative

Source: Advisory Council table based on Sommer, B. 1992, p. 220*f. and 1994, p. 438*ff.

19. Table 2 shows the size of selected age groups for the year 2040. The continued increase in life expectancy under the assumptions of forecasts c) or d) leads to a marked rise in the number of persons over 80. According to the forecast, the size of the population over 80 years of age will grow almost threefold between 2000 and 2040.

Under *ceteris paribus* assumptions with respect to medical technology and healthcare utilization, the effects of these demographic changes on the need for health care services depend on the age-specific utilization rates.

Table 2: Size of the elderly and very elderly population in different forecasts of age-specific mortality rates

Forecast model (year 2040)	65 - 80 years ^a :	over 80	Ratio of persons over 80 to persons 65-80 years
a) 8 th coordinated population forecast	11.7 million	4.3 million	37 : 100
b) minimum life table	12.0 million	5.2 million	43 : 100
c) DAV trend function	12.6 million	6.4 million	51 : 100
d) mortality trend of the last decade	12.8 million	7.0 million	55 : 100
in comparison: size in the year 2000	8.7 million	2.5 million	29 : 100

a Using the assumptions on migration of alternative 1

Source: Advisory Council, preliminary calculations based on the data of the Federal Statistical Office

4. { INHALT }Morbidity and Mortality in Old Age

{ INHALT }Health care costs

20. Linear projections based on existing data sets have overestimated the cost of health care for elderly persons. On the one hand, the costs of care for persons during their last year of life is twenty times (at the age of 60) to six times (at the age of 80) higher than the costs of surviving cohorts and constitute a significant share of life-long health care costs. On the other hand, the health care costs of persons in their last year of life decrease considerably with age, since - at least for the most important cost factor, stationary care - the sum of medical services and the time period over which they are provided decrease. Premature mortality thus doesn't save health care costs. Based on an analysis of the demand for health care services by mortality cases and survivors, age-specific utilization rates could decline by as much as 15 - 20 % with the expected increases in life expectancy. Thus, the estimated increase in demand of 23 % associated with the baby boomer generation will be compensated to a great extent when these cohorts reach the age brackets of 65 and older.

Further analysis of health care costs in different age groups is needed for long-range health care and social policy.

21. Health care costs depend ultimately on the success of measures aimed at preventing morbidity and premature mortality. If it is assumed that "morbidity compression" occurs in the aged population of industrialized countries, then the demographic effects on demand could be compensated fully.

22. Since the beginning of this century, survival rates have increased in all age groups of the German population and particularly in the upper age brackets. For the most part, the decline in mortality is due to non-medical factors (diet, improved physical and social living conditions). Curative medicine was responsible for an increase in life expectancy of 3.5 to 4 years between 1950 and 1990, of which the largest improvement (18 months) was related to the improved treatment of heart disease.

23. Research on "avoidable" mortality indicates that further significant reductions in mortality do not depend so much on progress in the area of curative medicine as on the realization of specific preventive measures aimed at behavioral and environmental change.

24. Socioeconomic status is also an important determinant of morbidity and mortality. There is a significant relation between the distribution of income and average life expectancy in Western Europe as well as in Germany. This implies that economic equity has an influence on the health status of a population.

25. The lack of adequate data sets in Germany makes a precise estimate of general morbidity trends impossible. Individual studies are therefore used to provide the following information on the prevalence, risk factors, costs, short-term and long-term additional medical needs and on preventive strategies for selected age-related conditions and diseases.

26. The period of life after retirement from the active labor force is characterized by a sharp increase in chronic disease. However, age is not necessarily synonymous with sickness. For many conditions, the difference between normal age-related change and pathological change is unclear. The Council proposes a disease typology that distinguishes between

- (I) Age-related physiological changes that can, but must not be classified as disease
- (II) Age-related diseases with long pre-clinical latency periods
- (III) Diseases with physiological effects that change with age because of reduced homeostasis
- (IV) Diseases resulting from long-term exposure that increases with age.

Category I illustrates the dependency of disease or sickness on the specific context. Professional (and social) perspectives determine to a large extent which physiological impairments of health are defined as disease and which receive treatment. This distinction has potential implications for the question of who pays for health care. Preventive measures could be based particularly on physiological aging processes characterized by a high degree of plasticity. The often underestimated capacity of the individual to compensate for age-related impairments could be targeted for professional and social support.

Category II points to the problem of early detection measures and associated secondary prevention. These measures should be employed only when a diagnosis is given and it is possible to provide adequate therapy.

Category III is accessible only to tertiary prevention and rehabilitation, but not to a genuine prevention strategy. However, this category indicates the necessity for treatment and management that correspond to the needs of the elderly.

For category IV, which includes physical-chemical, psychosocial and socioeconomic exposure, population-based prevention strategies are the most adequate. The prime objective here is to reduce the risk of exposure.

Consequences for the provision of health care

27. In the short to medium term, changes in the structure of the population will lead to a moderate increase in the elderly population's need for therapy, rehabilitation and nursing care. Long-term trends depend on current investments in preventive measures for middle and upper age groups. In order to adapt to the structural changes associated with the demographic transition and to redress potential social conflict, long-term and problem-based adjustment of health and social policy is necessary. Health and social policy can not be merely crisis-oriented, but must be directed toward the positive individual and social objective of 'healthy aging' that is implicit in the desire for increased life expectancy. Expedient analyses of these objectives are needed.

28. The morbidity transition caused by demographic changes will result in less need for curative medical intervention and in more need for nursing services among the very elderly. The need for the acute care of patients in younger age groups will decrease. The result will be a shift in costs from the SHI system to the SLTCI system in both the ambulatory and stationary sectors.

29. Demographic change will lead to an additional need for health care services, particularly in the areas of obstructive lung disease, diseases of the heart and circulatory system (especially in the areas of surgery and rehabilitation), urogenital disease and in the diagnosis and therapy of cancerous diseases. There will be a moderate increase in the need for the surgery and rehabilitation of diseases of the musculo-skeletal system, for the physician and non-physician treatment of visual and hearing impairments and for gerontopsychiatric care. However, a largely untapped preventive potential is available, particularly for the prevention of coronary and circulatory disease, respiratory disease and accidents (see Table 3).

Table 3: Estimated medium-term additional/diminished need according to medical area

Medical area	Additional need (and problems)
Infectious diseases	
AIDS	declining
others	low
Pediatrics	declining
Intensive care of newborn infants	declining
Obstetrics, gynecology	declining / constant
Alzheimer	low
Eyes (surgery)	moderate
Musculo-skeletal system	moderate
Imaging techniques	moderate (excess capacity and utilization problems)
Diabetes	moderate (prevention and qualification problems)
Lung and respiratory tract disease	moderate
Orthopedics (surgery, rehabilitation)	moderate (assessment/qualification problems)
Pediatric pulmonology/cardiology	moderate
Psychiatry (incl. gerontopsychiatry)	moderate (infrastructure and assessment problems)
Cardiology	high (assessment and indication problems)
Laser surgery, minimally invasive surgery	high (quality and indication problems)
Neurosurgery	high
Oncology	high (assessment problems)
Preventive medicine	high (perception, research, infrastructure and assessment problems)
Rehabilitation	high (infrastructure and qualification problems)
Urology	high (assessment problems)

Source: Advisory Council (modified and expanded version based on a suggestion by R.C. Coile, 1990)

30. The multimorbidity typical of old age comprises, when properly understood, different types and "stages" of sickness and impairment. At the same time, however, opportunities for competent individual action and support always remain and can be built upon.

The simultaneous presence of numerous health impairments in various stages of development leads to the necessity for the simultaneous integration and equal treatment of all health care measures: health promotion and prevention, curative therapy, rehabilitation and nursing care. In the patient-centered health care system of the future, these components can be neither temporally nor functionally separate.

Current modes of finance and organization hinder realization of the concept of a functional integration of health promotion, prevention, curative treatment, rehabilitation and nursing care. "Continuing care" requires the exhaustion of the legal possibilities as well as new forms for cooperation. The objective must lie in cooperative and functional "simultaneity", or, in the case of ambulatory and stationary care, in the removal of administrative barriers between sectors.

31. These medium-term shifts in the demand for health care are difficult to accommodate, e.g. because of the slower adjustment processes in the education and training of doctors. This does not apply so much to the solo disciplines; in these areas, however, there is an excess supply of physicians for the treatment of conditions common to younger age groups. Education and training in geriatrics should therefore be improved as quickly as possible.

{ INHALT }Far-sighted health and social policy

32. The above considerations highlight the contextual contingency of successful health and social policy against the backdrop of demographic change. They also point out the significance of other policy areas such as economy, labor, transportation, the environment, housing etc., their effects on the distribution of income and thus their effects on the health status of the population.

A far-sighted health care policy based on the reduction of health risks is needed for the future. More preventive strategies for middle-age persons and for the elderly are needed to mitigate the increased need for health care services caused by demographic factors in the medium term. Over time, the reduction of investments in preventive health care measures - such as that looming for 1996 - have a boomerang effect. Patient-centered and outcomes-oriented prevention and care for the elderly must be oriented toward clearly formulated political objectives. The realization of these objectives hinges on the more effective coordination and integration of health promotion, rehabilitation, therapy and nursing care (see Advisory Council Special Report 1995, par. 212 ff.)

5. { INHALT }Efficiency Reserves in the Health Care System and Strategies for Their Mobilization

33. The mobilization of efficiency reserves remains at the forefront of the discussion surrounding the future financial situation of our health care system. Despite many reforms and successes in containing expenditures and costs, rationalization is needed, especially to avoid the threatening alternative of rationing. Rationalization, as an application of the efficiency principle, serves to increase productivity, whereas rationing measures amount to a restriction in the quantity of health care services. Efficiency can be improved in two ways: either costs and SHI contribution rates are reduced for a given amount of health care services or an attempt is made to improve health status or the provision of health care services to the population at a given cost level.

34. The excess number of hospital beds, hospitals, doctors, pharmacies, pharmaceuticals and medical technology are examples for one type of efficiency reserve. Excess capacity does not only provide incentives for the provision of unnecessary care, sometimes even with adverse medical effects, but also removes resources from applications in other parts of the health care system and in the general economy. In addition to the question, whether too many facilities, too much care and too many traditional or even inappropriate services are provided, it must also be clarified whether e.g. alternative medicine can be included in the benefits catalogue of a health insurance system financed through compulsory social contributions (see Advisory Council Special Report 1995, par. 164).

35. In addition to the excess capacities in terms quality and quantity, the different sectors of the health care system exhibit inefficiencies of varying degree. These are exacerbated by administrative inefficiencies in hospitals, SHI funds, doctors' associations, public health facilities and in the social and health ministries. The inefficiencies represented by the large number of associations and interest groups in the health care sector also deserve discussion.

36. Additional efficiency reserves result from the rational application of cost-saving medical advances. For example, the introduction of a treatment to eradicate helicobacter pylori, i.e. the introduction of a drug to treat the bacteria that cause stomach and duodenal ulcers, have made more expensive hospital stays unnecessary. From the efficiency perspective, medical progress is meaningful if it extends to both diagnosis and therapy. As a rule, the refinement of diagnostic technique is inefficient when there is no chance of therapy.

37. The Advisory Council has illustrated the causes of efficiency reserves in many earlier reports. As discussed in the chapters "Demographic Trends" and "Morbidity and Mortality in Old Age", the analysis of these causes is especially important, because demographic trends will continue to give rise to increased need in the short and medium term, despite the revised population projections and some structural decrease in need. The utilization of efficiency reserves is therefore a means for avoiding the threat of rationing.

{ INHALT }Strategies and means for mobilizing efficiency reserves

38. The Council points out that there is a need in Germany for the systematic evaluation of existing procedures and technologies as well as of new technologies (technology assessment). The development and implementation of an assessment concept based on experience in other European countries should be the joint responsibility of policy makers, SHI funds, doctors' associations and scientific societies. It is estimated that approximately 30 % of all health care expenditures in Canada and the USA are spent on inappropriate health care services. Due to the lack of a sufficient data base for Germany, the Council can refer only to a few areas in which there are conspicuous efficiency reserves:

- many X-ray examinations and presurgical diagnostic procedures performed today are superfluous;
- the measurement of bone mass in healthy persons is hotly debated, but nevertheless performed on a broad basis;
- many arthroscopic examinations are unnecessary;
- considerable efficiency reserves exist in the ambulatory diagnosis and treatment of the common back pain;
- in more than half of the health check-ups carried out in accordance with § 256 of the Social Security Code, Book V, electrocardiograms are performed without medical indication.

The sum of efficiency reserves represented by these examples - which are by no means exhaustive - amounts to a savings potential of several hundred million deutsche marks. Clinical guidelines, which are currently being developed, can help to alleviate this problem. The systematic evaluation of new medical technology can also help to limit the uncritical application of new techniques.

39. In general, there are many diagnostic and therapeutic alternatives for the treatment of a given disease. If sufficient information on alternative procedures is available, efficiency can be enhanced by choosing the least expensive procedure. Table 4 compares the costs of gall-bladder excision using traditional open-surgery techniques with the costs of laparoscopic techniques. Total costs differ by approximately 20 %.

Table 4: Cost comparison of open surgery techniques with laparoscopic techniques for gall-bladder excision (cholecystectomy)

Procedure Cost position	open surgery cholecystectomy	laparoscopic cholecystectomy
Normal station	1728	1097
Intensive care unit	50	156
Surgery	1671	2057
Medical institutions	481	398
Basic services	1670	1074
Total costs	5600	4782

Source: German Health Ministry (ed.), The Calculation of Prospective Fees and Special Rates for the German Hospital Payment Ordinance 1995, Düsseldorf 1995, p. III 90/91.

40. The calculation of prospective forms of hospital payment demonstrated that similar patient groups receive the same treatment in different hospitals at quite divergent costs (see Table 5). The causes of these differences are numerous and, leaving risk-selection aside, lie particularly in varying lengths of stay and differences in the costs of materials and basic services.

Table 5: Differences in cost per case for cholecystectomy in DM (elective open surgery)

Hospital	Hospital 1	Hospital 2
Account position		
Normal station	1325	2391
Intensive care unit	--	198
Surgery	1328	2497
Medical institutions	508	376
Basic services	1392	2399
Cost per case	4533	7861

Source: German Health Ministry (ed.), The Calculation of Prospective Fees and Special Rates for the German Hospital Payment Ordinance 1995, Düsseldorf 1995, p. III 90.

41. The Council has indicated in previous reports that efficiency can be enhanced through intersectoral coordination and integration. In particular, improved cooperation between the ambulatory and stationary sectors is essential. A large savings potential is likely to exist in the areas of diagnostics and stationary nursing. The objective here is to avoid redundant examinations and to secure a more effective utilization of medical equipment.

42. Adequate (rational) investment planning is also a means for mobilizing efficiency reserves. Although investments make up only about 10-15 % of the medical expenditures in hospitals, they determine to a great extent how the other 85-90 % of a hospital's funds are utilized. Internal processes can be improved only when there is decision-making autonomy with respect to both operating expenses and capital expenditures. The latter include not only outlays for fixed assets, but investments in human capital as well (e.g. expenditures for training and continued education).

Considerable savings in the stationary sector could be realized through efficient investment and personnel planning. Means for utilizing the efficiency reserves in the hospital sector include:

- shorter planning and construction phases,
- more competent diagnostic procedures upon admission into a hospital,
- practical architectural design, i.e. short distances, central workplaces,
- networking of different areas of work, interdisciplinary structures,

- flexible management of bottlenecks using large intensive care stations,
- shorter lengths-of-stay,
- outsourcing, e.g. of housekeeping tasks, kitchen services, pharmacy services, laboratory services,
- sharing of high-cost medical equipment among different hospital departments,
- optimal energy systems,.
- variable manpower assignment depending on the intensity of care,
- full utilization of rationalization reserves in hospital administration and maintenance and supply.

43. Risk prevention can be seen as a long-term investment in better health. Risk prevention means the avoidance of possible health impairment before it occurs or the reduction of the probability for the occurrence of health impairment and the reduction of its effects (Advisory Council Special Report 1994, par. 44).

Preventive measures must be arranged according to priority in order to filter out the most effective and efficient measures. This is necessary in order to keep preventive measures from becoming a source of efficiency reserves themselves and to apply them as a means for making the health care system more efficient by preventing costly diseases.

{ INHALT } A competitive orientation for contract law and social security regulations

44. When considering the type, extent and structure of efficiency reserves and their many causes, it becomes clear that a competitive orientation of contract law and procurement as well as enhanced transparency with respect to prices and the provision of services create new prospects for the consolidation processes needed in the provision of health care and health insurance. Furthermore, such changes would open the door to numerous inventions, innovations and imitations in the course of structural change.

45. A precondition for the functioning of a competitive system is that all actors, including the insured and patients, have sufficient knowledge of prices and health care services. The principle of 'benefits-in-kind' and the related intransparencies are also considered to be a causal factor in the emergence of efficiency reserves.

{ INHALT }Deregulation

46. In view of the fiscal situation in Germany and its problems as a site for industry, the privatization of government tasks and state property is an important challenge for basic economic policy. To uphold the subsidiarity principle, the government should avoid performing functions that the private sector can perform just as well or better, at less cost and above all in forms that are better suited to demand. Adequate deregulation is a precondition for successful privatization, since public sector companies are often protected from private competitors by barriers to market entry or are heavily subsidized.

47. The market for ambulatory physician care is heavily regulated and, through the mediation of the Associations of SHI Physicians with their compulsory membership, has a monopolistic structure. However, these associations face the more or less homogeneous demand oligopoly of the SHI funds. Since introduction of the "regional principle" in the Health Structure Act (§ 83 Social Security Code, Book V), the substitute health insurance funds (*Ersatzkassen*) must also negotiate with health care providers on the regional level. Prior to this regulation, these funds negotiated on the national level while the general health insurance funds (*Allgemeine Ortskrankenkassen*) negotiated on the regional level. This new regulation has created a more homogeneous framework for competition that must be supplemented by more flexible contract law in order to create a basis for enhancing competition in the provision of health care services (see Special Report '95, chapter 4). On the other hand, the provision of pharmaceuticals in a sector dominated by private enterprise demonstrates that it is difficult to maintain the supply of health care services at low overall costs without government or quasi-government control (e.g. budget ceilings).

48. Government planning of the number and type of hospitals prevents free access to the hospital market. In principle, private hospitals can obtain a permit to build a new hospital. State planners, however, are reluctant to include private investors in state hospital plans. The system of dual hospital finance is also tantamount to a barrier to entry, since private hospitals usually must bear capital costs alone.

49. Ambulatory nursing services represent another area in which the private provision of health care is gaining importance. In this expanding market, where demographic trends and the introduction of long-term care insurance fuel growth, there are many private businesses and charitable organizations that compete with each other even though the start-up conditions are unequal and quality assurance standards are lacking.

50. The forms and causes of efficiency reserves with respect to the scope, structure, process, indication and costs of procedures, types of treatment and institutions must be at the forefront of health policy debate. Knowledge of the many different causes of efficiency reserves is important, because it reveals distortions and mechanisms in the system that can be changed to avoid rationing.

51. Some efficiency reserves are not inefficiencies in the strict sense of the term. In such cases policy measures should target individual incentives, improvements in the health care infrastructure and its processes as well as the increased application of assessment techniques. Other efficiency reserves are of the general organizational type and related to the framework conditions of the whole system. These go beyond the focus on individual cases of efficiency reserves.

6. { INHALT }Employment in the Health Care System

52. The health care system is a significant factor for employment and growth in a national economy. It serves not only the maintenance, restoration and promotion of health, but contributes to the generation of added value in an economy and has corresponding effects on the labor market. In other sectors of the economy, increasing turnover, profits and employment figures are considered to be achievements and make headlines. It is therefore surprising that such developments in the health care system, which is a labor-intensive sector with a large proportion of high technology and medium-sized companies, are usually perceived as indicators of a cost explosion and excess supply. They increase the cries for reform even when medical advances lead to improvements in the provision of health care.

53. Structural change and economic growth are closely interrelated and influence each other. Structural change precedes and at the same time gives rise to economic growth. In the health sector, structural change can be differentiated according to whether it represents intersectoral or intrasectoral change. The relations to other sectors of the economy, e.g. the education system, can be analyzed as intersectoral change; intrasectoral change comprises the economic relations between the various areas of the health care system, e.g. commerce, trades, industry and services, as well as the relations among health care providers, e.g. the provision of care by doctors and dentists. Differences in each sectors' dependency on foreign demand and supply must be incorporated in the evaluation of economic growth and employment trends in the health sector. In terms of added value and employment, the health sector can be characterized as a likely growth sector and as a

factor that both confirms and accelerates the transition of developed economies from industrial societies to service and information societies.

54. Employment figures for the German health care system differ according to data source. "Professions in the Health Care System", compiled by the Federal Statistical Office, for example, contains data for all of Germany on the following professions: doctors, dentists, pharmacists and other health care services, including natural practitioners, masseurs/masseuses, balneotherapists, nurses, assistant nurses, dietary assistants, dietitians, pharmaceutical-technical assistants, receptionists and therapeutic professions. For 1994, this source recorded 1,956,219 employees in all of Germany (see Table 6).

Table 6: Employment according to profession

Year	Doctors (practicing)	Dentists	Pharmacists	other health care professions ^a	Total
1970	126,909	38,524	23,751	439,000	628,184
1980	173,325	42,949	32,223	797,000	1,045,497
1989	229,065	52,816	39,171	1,065,000	1,386,052
1990	237,750	not available	not available	1,133,000	not available
1991	244,238	54,972	41,607	1,467,000	1,807,817
1992	251,877	56,342	42,369	1,482,000	1,832,588
1993	259,981	58,194	42,887	1,531,000	1,892,062
1994	267,187	59,211	43,822	1,586,000	1,965,219

a Includes natural practitioners, masseurs/masseuses and balneotherapists, nurses, assistant nurses, dietary assistants, dietitians, pharmaceutical-technical assistants, receptionists and therapeutic professions.

Source: Federal Statistical Office, Fachserie 12, Reihe 5, Berufe des Gesundheitswesens 1994, Wiesbaden 1995.

55. Table 6 contains only a few health care professions. It lacks data on the following occupational groups:

- persons involved in nursing care that aren't in the above professions (according to the Association of Substitute Health Insurance Funds - VdAK - there were approximately 25,000 nursing care facilities on March 1, 1996);
- persons employed in rehabilitation;

- persons employed in trades, e.g. opticians, hearing-aid technicians, orthopedic shoe-makers;
- persons employed in manufacturing industries, such as the pharmaceutical industry, producers of medical products, makers of special equipment (e.g. dentists' chairs, surgical theater lighting etc.), telecommunications (hardware) and manufacturers of dietary products;
- persons employed in commerce, such as pharmaceutical wholesalers and medical suppliers;
- persons employed in the administrations of SHI funds, ministries (departments at state and national level) and the public health service, insofar as these aren't included in the above professions;
- persons employed in other services, such as special software (e.g. the Health Insurance Card), functions that have been outsourced (e.g. housekeeping, kitchen services) and special publishing houses;
- persons employed in technical colleges and the medical faculties at universities (e.g. Public Health) and at research institutes and research facilities.

Due to the gaps in labor market and occupational statistics, the Council developed its own estimate of the direct and indirect employment effects of health care expenditures. Using the data for 1993 as our basis, we first subtracted income payments from total health care expenditures. The employment effect in the health care sector and in other sectors is estimated to be 4.2 million employees.

56. Table 7 presents a comparison of the branches with the largest increase in the number of employees subject to compulsory social security. The number of these employees increased particularly in the area of social services (by 1,500,000 employees during the period 1976 to 1994, source: iw-trends 3/95, p. 6). In this group, the largest medium-term and short-term increases in the number of employees subject to compulsory social security occurred in the area of independent health care providers (from 1976 to 1994 by 239,425 and from 1992 to 1994 by 39,741). This group includes doctors, dentists and other medical practitioners - e.g. chiropractors and homeopathic practitioners - and masseurs/masseuses. According to this classification, hospitals are also among the 20 branches with the largest increases in employment .

Table 7: The 20 branches with the largest increases in the employment of persons subject to compulsory social security (western states)

1976-94		1992-94	
1. Independent health care providers	239,425	1. Independent health care providers	38,741
2. Business consultants	207,889	2. Business consultants	37,547
3. Miscellaneous retailers	207,754	3. Investment managers	26,976
4. Architects' offices	203,833	4. Architects' offices	23,101
5. Credit and finance institutions	185,897	5. Private hospitals	21,487
6. Public hospitals	175,538	6. Credit and finance institutions	19,942
7. Central administration	157,103	7. Restaurants	17,070
8. Restaurants	136,116	8. Charitable organizations	16,875
9. Non-profit shelters	133,186	9. Non-profit hospitals	16,576
10. Non-profit hospitals	127,901	10. Non-profit educational institutions	16,510
11. Supermarkets	125,518	11. Non-profit shelters	15,398
12. Brokerages	122,091	12. Public hospitals	14,747
13. Wholesalers	119,998	13. Private shelters	14,676
14. Charitable organizations	118,987	14. Brokerages	13,640
15. Private hospitals	108,065	15. Central administration	12,916
16. Building maintenance	107,220	16. Engineering and construction	10,454
17. Investment managers	106,044	17. Legal counsel	10,208
18. Moving companies	95,030	18. Church/orders	9,531
19. Temporary employment brokers	87,416	19. Street cleaning, waste disposal	8,817
20. Plastic industry	87,416	20. Public educational facilities	7,269

Source: IW-Trends 3/95, p. 13; West Germany, mid-year figures based on the Federal Institute of Labor.

57. The size and structure of the employment market in a more broadly defined health care system depend on various trends. The framework conditions include:

- demographic trends,
- morbidity trends,
- the international competitiveness of the German economy (which is particularly important for the manufacturing sector and less important for personnel-based services and commerce) and
- the funding of health care services (e.g. through contributions, which are currently bound to the principle of stable contribution rates, or through private expenditures).

Trends within the health care sector include:

- real rates of product and process innovation,
- the potential (and realized) efficiency in the health care system,
- transformation of the range of services, e.g. shift from stationary to ambulatory care and the creation of the corresponding infrastructure,
- the implementation of quality assurance,
- the extent of part-time employment.

58. Structural growth reveals itself in the emergence of new professions and occupational activities, such as environmental medicine, medical information systems and public health, or through a shift in the main focus of care. Such changes, for example, will increase the significance of ergotherapy and physical therapy in the future. The increase in the number of elderly patients as a component of demand supports this assumption. The qualification requirements of health care professionals will increase as a result of these changes.

7. { INHALT }The Employment Effects of Changes in Contribution Rates

59. The employment effects of changes in contribution rates in the Statutory Health Insurance system are so complex that a few theoretical considerations should be made first. This theoretical basis is intended primarily as an aid in understanding and assessing the following results and estimates.

60. First, labor productivity and increases in labor productivity have a two-sided effect. High labor productivity means that high wages are paid and a higher level of welfare can be attained. At the same time, high labor productivity means that relatively less labor is needed to produce one product unit. An increase in labor productivity under conditions of constant or slowly growing output entails the danger of unemployment.

{ INHALT }Employment effects in a closed economy

61. The productivity of labor is different in each sector of an economy. In the health sector, and especially in the labor-intensive services, labor productivity tends to be low. In the industrial sector, on the other hand, labor productivity is high; i.e. the labor input per unit of gross output is low. Assuming for the sake of simplicity an economy without for-

eign trade, employment could be increased simply by shifting demand from more productive, but less labor-intensive industries to less productive, but more labor-intensive health care services. This employment effect also assumes that an increase in demand does not lead only to price and income increases, but has a full effect on employment.

62. A change in the composition of demand represents an increase or decrease in health insurance contribution rates. A rough estimate of the net employment effect of a change in the contribution rate by 1 percentage point results in 96,000 more jobs for an increase and the same amount less for a decrease in the contribution rate. Whether increased employment also represents an increase in welfare remains open. An increase in welfare is given only when the population actually prefers the exchange of few health care services for more manufactured products. In a health insurance system based on compulsory membership, limited choice and little transparency in the provision of services, however, it is difficult - if not impossible - to determine the preferences of the insured with respect to a change in the demand mix.

{ INHALT } Employment effects in an open economy

63. If the analysis is extended to include the strong links between the German economy and the world economy, the cost aspect becomes more important with respect to changes in the composition of demand. The whole commercial sector of the German economy is engaged in world-wide competition, whereas the core of the health care sector is still relatively untouched by international competition.

64. Labor intensive health care services in particular, such as those provided by doctors and the para-medical and nursing professions, face little competition from foreign health care providers. International competition can arise only in those markets to which foreign health care providers have free access. However, diverse regulations hinder the international flow of trade and resources in the health care sector. The most intense competition is probably in the areas of pharmaceuticals and medical products.

65. For companies in an open economy, an increase in health insurance contributions could tend to lead to a deterioration of the conditions of production both at home and abroad; this endangers jobs at home. If businesses attempt to improve their competitiveness through rationalization, the result is a limited reduction in the number of jobs. The effects of an increase in demand for health care services caused by an increase in contri-

bution rates are felt largely in the domestic economy; only a portion flows abroad as demand for intermediate goods.

66. It must be assumed that the medium-term displacement effects of an increase in contribution rates are clearly higher in an open economy than in a closed economy. In a closed economy, the increased employment in the health sector outweighs the displacement of labor in the rest of the economy. This is not the case in an open economy. The increase in the cost of labor leads to a decrease in international competitiveness, the extent of which differs according to the labor intensity of an industry and its dependency on foreign markets.

67. Social and health insurance contributions are a greater burden on relatively labor-intensive industries, such as garment manufacturing, shipbuilding, wood processing and wood working, the steel and light metals industry, the manufacture of plastics, iron, sheet-metal and other metal products, the precision machine tool and optics industries and even in the machine tool industry.

Weighting the labor intensity of each industry by its share in the total working hours of the economy reveals that the machine tool industry bears by far the greatest burden of social security contributions. It is followed by sectors with below average labor intensities: the electronics industry and road vehicle manufacturers. Ranking the burden on the branches of industry according to unit labor costs results in a pattern similar to the ranking based on labor intensity.

68. Changes in SHI contribution rates affect those industries that face strong international competition. The more export-oriented branches of industry that stand out here are the machine tool industry, the shipbuilding and rail and road vehicle construction industries. Those industries that are more oriented towards competition through imports include the garment industry and the wood processing and wood working industries. Of course, the effects on each branch are influenced by the conditions and developments in the home countries of competitors.

The share of social security and health insurance contributions in the labor costs of the manufacturing industry decreases with the size of a company, especially in western Germany. The burden on smaller companies in these sectors increases with rising contributions and decreases with declining contributions. Medium-sized companies are therefore particularly affected by increases in contribution rates.

69. According to the Federal Statistical Office's 1992 survey of labor costs, the "effective" SHI contribution rates (contributions as a percentage of wage and salary income) in the western states ranged between 9.39 % (insurance industry) and 11.48 % (retail trade). In the eastern states the contribution rates varied between 11.73 % (insurance industry) and 12.52 %. These values lie below the average contribution rates in the western states (12.74 %) and in the eastern states (12.61 %), because SHI members whose incomes are higher than the assessable income limit pay a smaller share of their income, the more it exceeds this ceiling. Thus, the insurance industry - both in western and in eastern Germany - apparently has the greatest share of employees whose earnings are higher than the assessable income limit.

70. The effect of an increase in the effective contribution rate on labor costs - i.e. on the sum of wages and non-wage labor costs - depends on the share of non-wage labor costs in labor costs prior to the rate increase. The lower the share of non-wage labor costs, the greater the burden of an increase in the contribution rate. Low non-wage labor costs, for example, could arise from a company's low level of 'fringe benefits' based on collective or voluntary agreements. The share of non-wage labor costs is lowest (19 %) in the wholesale and retail trade sector of the western states. An increase in the contribution rate by one percentage point thus has the greatest effect in this sector (+0.4 %), while in the credit industry, where the share of non-wage labor costs is over 26 % (western states), it leads only to an increase of 0.37 %. Similar findings apply to the eastern states.

71. The employment effects arising from a change in the social and health insurance contribution rates depend on who ultimately bears the burden after all shifting processes are complete. In the long term, all taxes and charges are borne by employees. However, until better empirical studies of incidence are available, only tentative conclusions may be drawn. In the long run, increases in contribution rates are shifted back to wages; but in the short run - i.e. over a period of a few years - contribution rate changes can have considerable effects on employment.

Furthermore, it should be noted that in terms of job creation, the employment effects of changes in the employers' share of social security and health insurance contributions should not be overrated, since it is possible to adjust to changes - at least temporarily - through variations in working time, e.g. overtime or short-time work.

72. The German Institute for Economic Research used its business cycle model for the western German states to run a few simulations for the Advisory Council .

In the first simulation it was assumed that a one percentage point increase in the contribution rate was equaled by a corresponding expenditure of the additional revenues. Since the social security system and thus the SHI system belong to the government sector in the model, SHI expenditures were calculated as an increase in government expenditures. The model does not allow for the analysis of the direct demand for additional health services. The simulation was performed under the assumption of constant real exchange rates and constant collective wages. An increase in health insurance contribution rates leads to a slight increase in real GDP and, in the medium term, to rise in employment by 35,000 persons in the western states. Although real private demand decreases due to the decline in real personal disposable income and the rise in prices, these contractile effects are more than compensated by the increase in government demand. When the assumptions of constant real exchange rates and constant collective wages are dropped, these effects are even weaker, since collective wages will tend to increase with prices and the slight negative effects on the competitiveness of the German economy will further reduce the minimal positive effects.

A second simulation assumes a one percentage point increase in the contribution rates of the insured only. The employers' share is held constant. As in the first simulation, the increase in SHI revenues is matched by an increase in government demand. In this case, the employment effects are more pronounced and employment increases by as much as 70,000 persons. One causal factor for this growth variant is that there are no additional costs for employers. In this simulation, unit labor costs do not increase and price effects therefore remain within narrow limits. This assumes, however, that unions observe restraint with respect to the reduction in workers' net incomes.

In the third simulation it is assumed that a one percentage point increase in contribution rates is financed equally by employers and employees and is used to fund monetary transfers, e.g. sick pay or pension payments. In this case there is a slight negative effect on employment of up to 25,000 persons and a minimal negative effect on economic growth. These effects result from increasing unit labor costs and low private demand.

Since the reactions in the model are largely linear, reductions in contribution rates give rise to inverse effects of the same approximate magnitude.

73. The simulation results described above should be interpreted only as indicative and in need of further qualification. Apparently, an increase in contribution rates that also leads to an increase in real demand can have positive employment effects, especially when the employers' contribution remains constant. The use of the increased revenues for

the funding of transfer payments (e.g. sick pay), however, has negative effects on employment and GDP. Since most of an increase in the contribution rates of the SHI system creates direct market demand, it tends to have more favorable employment effects than an increase in the contribution rates for those branches of the social security system in which benefits take the form of transfer payments. This demonstrates that an increase in health insurance contribution rates has effects that are fundamentally different from the effects of an increase in pension and unemployment insurance contribution rates and, as a rule, has more positive implications for employment.

{ INHALT }Commission for a Special Report

The effects on employment and economic growth of expenditure and contribution-rate changes in the health care system and the SHI system

The Federal Minister for Health commissions the Advisory Council for the Concerted Action in Health Care to submit a special report that analyzes the following questions of medical and economic developments:

- 1) To what extent do changes in general morbidity trends and continued medical progress require changes in the health care infrastructure? Is it possible to identify areas in which an increase in expenditures is justified, and other areas in which rationalization opportunities exist that are based on the utilization of efficiency reserves and on the removal of excess capacity?
- 2) What expenditure trends and trends in contribution rates result when necessary medical advances are applied in the health care system and in the SHI system, and it is assumed that efficiency reserves are utilized?
- 3) What are the employment and growth effects of expenditure and contribution-rate changes in
 - the health care system,
 - in branches with different capital/labor ratios, and in the whole economy?

The Advisory Council is requested to submit a status report by mid-1996 and a report in the spring of 1997.

For the duration of the period in which the special report is compiled, the Advisory Council is released from its obligation to submit an annual report (pursuant to the Establishment Decree of November 12, 1992, last revised on August 17, 1994, § 2, paragraph 1).

Bonn, October 23, 1995

Horst Seehofer

{ INHALT }Decree for the establishment of an Advisory Council for the Concerted Action in the Health Care System under the authority of the Federal Minister for Health, dated November 12, 1992, last amended on August 17, 1994

§ 1

Based on § 142, paragraph 2 of the German Social Security Code, Book V, an Advisory Council for the Concerted Action in Health Care (Council) is hereby constituted. The Council has the following tasks:

1. the analysis of the developments in the health care system and their medical and economic effects;
2. the establishment of priorities for the removal of deficiencies in the provision of health care and for the elimination of existing excess care, taking the financial framework conditions and existing efficiency reserves into account;
3. the submission of proposals for general medical and economic data;
4. to suggest possibilities for the future development of the health care system.

§ 2

(1) The Council shall prepare annual reports that should be submitted to the Federal Minister for Health by December 15th; the reports are to be submitted with other data as defined by § 142, paragraph 1 of the Social Security Code, Book V, to the Concerted Action Conference.

(2) The Federal Minister for Health may commission the Council to compile special reports instead of or in addition to the reports specified in paragraph 1.

(3) The reports of the Council shall be published by the Federal Minister for Health.

§ 3

The Council is bound by this decree to the tasks described herein, but is otherwise independent in its activities.

§ 4

(1) The Council comprises seven members who must have special knowledge and experience in the fields of medicine, economics, the social sciences or social law.

(2) The members of the Council may not be members of the government or of a legislative body of the federal or state government, nor be in the service of the federal government, state government or other public law corporations except as a university-level teacher or as an employee of a scientific institute. Furthermore, they may not be representatives of a private enterprise, an industry association, an organization of employers or employees or of a health care organization nor be in the permanent employ or service of such organizations.

§ 5

- (1) The members of the Council shall be appointed by the Federal Minister for Health in cooperation with the Concerted Action Conference on Health Care for a period of four years; membership is restricted to the person appointed. Reappointment is permitted.
- (2) Members may resign from the Council by giving the Federal Minister for Health 3 months written notice.
- (3) If a member leaves the Council before the end of a term, a new member shall be appointed for the remainder of the term.
- (4) The Federal Minister for Health shall consult the Council before appointing new members.
- (5) The Council proposes its chairman and deputy chairman from its midst on the basis of a written ballot; these shall be appointed by the Federal Minister for Health for a term of two years.

§ 6

- (1) Decisions of the Council shall be made on the basis of a majority of its members.
- (2) Should a minority have a conflicting viewpoint with respect to the formulation of the reports pursuant to § 2, it may express these views in the report.

§ 7

- (1) The chairman represents the Council in its external relations. The chairman calls the Council meetings and distributes the agenda.
- (2) The chairman must convene a meeting at the request of the Federal Minister for Health or at the request of three of the Council's members.
- (3) The meetings are not public. The Federal Minister for Health may participate in the meetings of the Council.

§ 8

The Council determines its rules of procedure. These require the approval of the Federal Minister for Health.

§ 9

- (1) The Federal Minister for Health may, in cooperation with the Council, appoint additional experts to work with the Council on special questions in the fields of medicine, economics, the social sciences and social law.
- (2) The Council may, within the limits of its available financial resources, consult additional experts on individual topics
- (3) The Council may consult authorities responsible for health care.

§ 10

The Council may call upon federal and state authorities, the statutory health insurance funds and their associations, the associations of SHI-accredited physicians and dentists and on other associations and institutions in the health care system for support pursuant to § 141 Social Security Code, Book V.

§ 11

The Federal Minister for Health shall provide the Council with offices in order to fulfill its tasks.

§ 12

The members of the Council and the employees of its offices are sworn to secrecy with respect to their meetings and those documents declared confidential by the Council. The obligation of secrecy also extends to information given to the Council that is declared to be confidential.

§ 13

The members of the Council shall receive as honorarium a fixed emolument and reimbursement for their travel expenses; details shall be determined in service contracts (Werkvertrag).

§ 14

(1) At the first appointment of Council members following the date on which this decree goes into effect, eight members shall be appointed, five of whom shall serve until June 30, 1995 and three of whom shall serve until December 31, 1996.

(2) As of July 1, 1995, in addition to the three appointed Council members, four Council members shall be appointed to serve until December 31, 1998, one of whom was not a member of the Council in the previous term of office. As of January 1, 1997, at least one member shall be appointed who was not a member of the council in the previous term of office.

Bonn, August 17, 1994

The Federal Minister for Health

Horst Seehofer

{ INHALT }Members of the Advisory Council for the Concerted Action in Health Care

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Institute for Economics
Chair for Public Finance and Health Economics
Technical University of Berlin
(Chairman)

Prof. Dr. med. Wilhelm van Eimeren
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