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The value–adding side of health. How social policy contributes to equality and well-being in a metropolitan area. The example of the Ruhr area

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abstract: Talking about social policy one finds oneself soon amidst a debate about public spending, public infrastructure, public welfare provisions and, finally, a "traditional" welfare state model as against the neo-liberal idea of a free-floating and self-sustaining individual. Surprisingly, this debate is often led by reverse arguments: while neoliberals put forward moral arguments, the proponents of the welfare state put their stakes on economic reasoning, which leave them in the defensive. However, there is no reason why this is necessarily so: with the selected example of the metropolitan area Ruhr in Germany, an "old" industrial area, it can be shown how e.g. "health" can contribute to structural change, economic development and the improvement of quality of life.

extrait : Dès que quelqu'un parle de politique sociale il se trouve aussitôt dans un débat sur les dépenses publiques, l'infrastructure publique et les financements d'assistance publique et en fin de compte il se trouve dans un modèle étatique de prestation «traditionnel» en opposition à l'idée néo-libérale de l'individu libre de circuler et de subvenir lui-même à ses besoins. Ètrangement, ce débat est bien souvent mené par des arguments opposés, tandis que les néo-libéraux mettent en avant des arguments moraux, les partisans de l'état-assistant mettent leurs intérêts dans un raisonnement économique, ce qui les laisse dans la défensive. Cependant il n'y a pas de raison pourquoi il en est forcément ainsi: avec l'exemple choisi de la région métropolitaine de la Ruhr en Allemagne, une «ancienne» région industrielle, on peut montrer comment de cette façon la «santé publique» peut contribuer au changement structurel, au développement économique et à l'amélioration de la qualité de la vie.

1. The welfare state under siege

The - European - welfare state is under siege, from policies, which hail the market as the one and only fair arbiter in the allocation of resources. Talk is of neoliberalism as the "revival of a relatively unified system of beliefs and practices that construct, express and reinforce the sacredness of the market and the profanity of politics."[1] In profane socio-political terms these policies push for the "commodification" (Esping-Andersen) of societal and social relations

[1] Mudge 2007, p.1

and reject any political intervention to answer to “societal challenges”, such as education and health. In Margret Thatcher's words: “there is no such thing as society, only individual men and women”[2], who are well able to care for themselves.

The welfare state may be seen as the European innovation of the 19th and 20th century, when first the German chancellor Otto von Bismarck (1883) and later William Beveridge (1942) in the UK basically established state or quasi-state institutions to insure "that nobody who is poor, sick, disabled, unemployed and old is left deprived"[3]. Irrespective of institutional concepts and features[4] and in the absence of a coherent "European social model"[5], this marks the base line of a European consensus on social justice and security. But the idea of the welfare state is not only about social security; it is about the principles of governance, of responsibilities and accountabilities, and, more generally, the relation between economy, state and civil society[6], i.e. about concepts of social order. What is under siege today, is the heresy of granting of social rights to everybody bound to nothing but citizenship: “If social rights are given the legal and practical status of property rights, if they are inviolable, and if they are granted on the basis of citizenship rather than performance, they will entail a de-commodification of the status of individuals *vis-à-vis* the market.”[7]

The European welfare models(!), whatever their institutional layout, have propelled this process of "de-commodification", i.e. they have removed the provision of e.g. health services, nursing, child care etc. from market transactions and turned it into a collective good accessible for everybody. Social security and access to respective services, thus, no longer is a matter of individual social and economic status, or of individual merit, but a collectively carried responsibility. This entails, in the European welfare states, considerable financial volumes to be redistributed, either drawn from tax revenue or funds fostered by (para-fiscal) contributions deducted from current incomes. Across the Euro-Zone they amount up to almost 28% of GDP, with 33% in Sweden as the top (see Table 1 below). To Milton Friedman this would be the final proof for the health sector as a “black hole” in the economy and further step towards the socialization of medicine[8] and an expropriation of consumers. Certainly, these amounts burden individual incomes; but what in neoliberal view is more, these sums are withdrawn from unhampered market transactions and subject to state redistribution or some other kind of collective control. Yet, following surveys as well as election outcomes, people may quarrel with the cost load, but quite apparently do not simply want to dispense with it.

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[2] quoted from Harvey 2007, p. 23.

[3] Pestieau 2006, p.1; for encompassing comparative studies cf. Schmidt 2005 and particularly Scharpf, Schmidt 2000

[4] cf. the typology of Esping-Andersen 1990

[5] a "European social model" so far exists only in political and academic debate, and although the EU has been assigned certain rights to work in favour of a "social Europe" social policy still is the prerogative of the member states; for examples of the ongoing debate cf. Giddens 2006, Aiginger 2005, Scharpf 2002 and Scharpf, Schmidt 2000.

[6] this was the opening question posed in a highly instructive controversy between proponents of the welfare state and market liberalism, cf. Mayer 2001.

[7] Esping-Andersen 1990, p.21

[8] Friedman 1992, p. 1f.

Table 1: Total expenditure on social protection in selected countries in % of GDP, 1993 - 2004

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
EU (25 countries)	:	:	:	:	:	:	:	26.6	26.8	27.0 (p)	27.4 (p)	27.3 (e)
EU (15 countries)	28.7	28.5	27.7	27.9	27.6	27.2	27.1	26.9	27.1	27.4 (p)	27.7 (p)	27.6 (e)
Euro area (12 countries)	28.3	28.0	27.3	27.6	27.3	27.0	27.0	26.7	26.8	27.4 (p)	27.8 (p)	27.7 (p)
Belgium	29.3	28.7	27.4	28.0	27.4	27.1	27.0	26.5	27.3	28.0	29.1	29.3
Denmark	31.5	32.5	31.9	31.2	30.1	30.0	29.8	28.9	29.2	29.7	30.7	30.7
Germany (including ex-GDR from 1991)	27.8	27.7	28.2	29.3	28.9	28.8	29.2	29.2	29.3	29.9	30.2	29.5 (p)
France	30.4	30.2	30.3	30.6	30.4	30.0	29.9	29.5	29.6	30.4	30.9	31.2 (p)
Italy	25.7	25.3	24.2	24.3	24.9	24.6	24.8	24.7	24.9	25.3	25.8 (p)	26.1 (p)
Luxembourg (Grand-Duché)	23.3	22.9	20.7	21.2	21.5	21.2	20.5	19.6	20.8	21.4	22.2	22.6 (p)
Netherlands	32.3	31.7	30.6	29.6	28.7	27.8	27.1	26.4	26.5	27.6	28.3	28.5 (p)
Austria	28.0	28.8	28.7	28.6	28.6	28.3	28.7	28.2	28.6	29.1	29.5	29.1
Finland	34.2	33.7	31.5	31.4	29.1	27.0	26.2	25.1	24.9	25.6	26.5	26.7
Sweden	37.9	36.5	34.3	33.6	32.7	32.0	31.7	30.7	31.3	32.3	33.3	32.9 (p)
United Kingdom	29.0	28.6	28.2	28.0	27.5	26.9	26.4	27.1	27.5	26.4	26.4 (p)	26.3 (e)
Iceland	18.7	18.4	18.9	18.7	18.5	18.4	19.0	19.3	19.6	21.6	23.3	23.0
Norway	28.2	27.6	26.7	26.0	25.3	27.1	27.1	24.6	25.6	26.2	27.5	26.3
Switzerland	24.8	25.0	25.7	26.6	27.5	27.7	27.6	27.4	28.1	28.7	29.3	29.5

Note: Expenditure on social protection contain: social benefits, which consist of transfers, in cash or in kind, to households and individuals to relieve them of the burden of a defined set of risks or needs. These include sickness/healthcare, disability, old age, survivors, family/children, unemployment, housing, social exclusion not elsewhere classified; administration costs, which represent the costs charged to the scheme for its management and administration; other expenditure, which consists of miscellaneous expenditure by social protection schemes (payment of property income and other).
(:) not available
(p) preliminary value
(e) estimated value
source: Eurostat/ESSPROS at http://epp.eurostat.ec.europa.eu

For the sake of brevity welfare provisions shall be defined as collective goods controlled by the state or quasi-state bodies and not by the "invisible hand" of the market. Collective goods, such as education, health or public infrastructure, withdrawn from market transactions, in the view of the presently dominating mainstream of neoliberal thinking, teaching and policy making is the Fall of Man, which will jeopardize social and economic equity and justice[9], i.e. all the values cherished by an open and liberal society. Welfare provisions, in neoliberal view, are not only a disincentive for people to work hard to make a living, but also to deprive them of the fruits of their work through taxes and put them into a straitjacket of compulsory collectivization such as health, unemployment and social insurances.

Not by chance one of the most influential writings by Friedrich v. Hayek, Nobel laureate and founding father of today's market radical school of thinking reads "The Road to Serfdom" (1944)[10]; where he tied together concepts of planned economy and totalitarianism, as all central planning would inevitably lead to dictatorship. If economic freedom was lost, all other freedoms were lost, and, his argument runs, it is economic freedom, not democracy alone,

[9] for a theoretical foundation cf. Olson 1982
[10] re-edited by Milton Friedman in 1994; Milton in his turn pushed the theme in his not less influential book 'Capitalism and Freedom', published in 1962

which guarantees individual liberty[11]. Hence, the individual, staffed with strong property rights, shall dispose of his/her resources in a free market and under conditions of free trade. The role of the state is to guarantee these property rights and ensure the functioning of the market, and, "if markets do not exist (in areas such as land, water, education, health care, social security, or environmental pollution) then they must be created, by state action if necessary"[12]. This, in a nutshell[13], is the conceptual basis of neoliberal policy as practiced since the days of Ronald Reagan and Margret Thatcher[14]. What is interesting to note is that despite the "profanity" of politics the argument is a distinct political and moral rather than an economic one[15].

Starting from these assumptions, it is no surprise that the proponents of neoliberal policies count among the "natural enemies"[16] of the welfare state with its incapacitating bureaucracies. Their followers gained ground, however, when in the mid-1970s, and more markedly in the early 1980s economic growth, and employment in its wake, began to dwindle and catchwords such as "globalization" and "locational competition" began to dominate political debate. A "need for reform" became common conviction and, though aims and means remained highly contradictive, it became a widely shared consensus that a cut-back in welfare expenses was inevitable to remain economically viable and competitive. But what is more, the "neoliberal repertoire had become part of the political commonsense in many national contexts in the years since the 1970s – in other words, it had become institutionalized on an international scale – and, thus generalized and universalized, was incorporated into European social politics in varying guises, regardless of their local political cultures or the specific kinds of economic problems they faced."[17]

The core of the neoliberal argument is based on the construction of a trade-off between growth, competitiveness and employment, on the one hand, and labour-cost based welfare state expenditures, on the other hand. Hence the explanation that the rapid loss in competitiveness and employment was due to the (exaggerated) load of welfare costs, particularly unemployment benefits and health insurance[18]. The extensive welfare provisions would overstretch the resources of the economy, so that the exploding social budgets (find the explosions in Table 1 above) would call for rising taxes, contributions and public debts, which in turn soon drive a wedge between gross and net incomes, lessening incentives to invest on the side of companies, as well as achievement orientation on the side of employees. Instead growing labour costs drive companies to rationalize, outsource and relocate[19]. The only working remedy would be to reduce welfare costs: companies, relieved of additional non-wage labour costs, would regain competitiveness and growth and create jobs. For employees more "personal responsibility" and "freedom" to design individual

[11] the ambivalent relationship between neoliberalism and democracy is shortly touched upon by Esping-Andersen 1990, p. 10.
[12] Harvey 2007, p.2.
[13] being well aware that the theory of neoliberalism has many more facets, the author underlines the notion of "nutshell"
[14] interestingly enough the neoliberal Thatcher reforms lived on and harmonized quite well with the policies of New Labour under Tony Blair; cf. Page 2007 and also Béland 2007
[15] which is why the works of John Rawls play an important part in the foundation of neoliberal theory
[16] this and the following arguments are more deeply elaborated by Schmidt 2006, p.257 ff.
[17] this is the central thesis of Mudge 2007, p.5.
[18] this argument was (and is) also cherished by the OECD, cf. OECD 1994
[19] for a full exploration of this argument cf. Schmidt 2005, pp. 257 ff.

provisions to individual need and interest (and individual finance) were presented as solutions and guidelines for "necessary reforms"[20].

And indeed, the outcome of these reform strategies, which were enacted one way or other across Europe, was a creeping retreat in public financing of e.g. health, going along with an increase of individual contributions (see Table 2 below). So what is taking place is a privatization of social security, or, to take recourse to Esping-Andersen's terminology, a new era of "commodification", where e.g. health services are traded in the market just as any other commodity.

Table 2: Share of public resources in the coverage of OECD health systems (in % of expenses)

	1980	1990	2003	Δ 1980(2003
national health services				
Denmark	88	82,7	83	- 5
Finland	79	81	76,5	- 2,5
Sweden	92,5	90	85,3	- 7,2
UK	89,4	83,6	83,4	- 6
Ø	87,2	84,3	80,2	- 7,2
insurance systems				
France	80,1	76,6	76,3	- 3,8
Germany	78,7	76,2	78,2	- 0,5
Netherlands	69,4	67,1	62,4	- 7
Switzerland	50,3	52,4	58,5	+ 8,2
Ø	69,6	68	68,8	- 0,8
OECD	76,6	74,2	72,5	- 4,1
EU-15	82,8	75,3	74,5	- 8,3

source: Grabow 2006, p. 43; data source OECD Health Data 2005

Against that the proponents of the welfare state argue from a rather defensive position. The welfare state, so one of the basic arguments runs, is a precondition for an efficient and adaptive economic system which is tied into international division of labour and exposed to permanent structural change. Only sufficient social protection can help to dampen external shocks and uncertainties and provide elasticity particularly in labour markets[21]. An extension of this thesis maintains, that well equipped welfare policies because of their costs drive technological progress and hence the modernisation of single companies as well as of the economy as a whole. From this point of view it should be within the rational economic calculus that companies were interested in a viable welfare system. In view of the neoliberal call for essential deregulation, however, this argument clearly is not sufficient, as it would still mean to administratively blur price relations set by the market.

There are two weak points in this discourse between neoliberal "reformers" and welfare state "defenders": clear-cut as theoretical propositions and texts may be, empirical data and analysis are inconclusive[22]. This provides the reason for the second point, that behind the deployment of very basic and principal arguments there is hidden a view of the market and

[20] for the working of this logic in the framework of the US-American health system cf. Krugman, Wells 2006.
[21] for an extensive discussion of this argument see Schmidt 2005, pp.257 ff.
[22] cf. Scharpf, Schmidt 2000, p.2; see also Esping-Andersen 1990, p.221 ff.

the state as moral institutions[23], which implicate decisions about values and norms[24]. These, however, as we have learned from Max Weber, cannot be decided upon by scientific discourse, but rather are a matter of legitimacy and acceptance. However, contrary to the traditional justification of the welfare state as a morally based principle of social order the thrust of today's arguments are inherently economic, which is why they fail to meet the inherently moral argumentation put forward by the neoliberals. An economic justification of the welfare state necessarily has to argue on a macro-economic level, since the maintained effects are indirect effects and can be made visible only in macro-economic relations[25]. Against that the neoliberal argument is much more simple and straight forward, since it argues on the micro-economic level of immediate effects of individual incomes and individual property rights.

The thesis of this contribution is that such direct effects can also be shown for welfare state provisions such as health. Already in the 1960ies macroeconomic studies had made clear the relationship between health status, access to health services and healthy living conditions and the development of the economy and growth of productivity[26]. Nobel laureate R. Fogel even explained the rise of the industrial countries of today by advances in health, health care and health promotion[27]. Micro-economic studies followed, which calculated the costs of a neglect of health and health care for production – or to put it the other way round: the returns on investments in health. Whether it is owed to the cycles of research or political unawareness, it took time until the late 1990ies that economists learned to understand the value adding character of health, public health services and the economic meaning of the enormous money flows created by this system[28] for employment, growth, regional development and innovation.

The health sector as an economic driving force is the red file through this study. It attempts to describe and analyse health, health services and provisions as an "industry" of overall economic weight and structuring power. The main question followed up is to what extent the flows of money and resources translate into employment, income and welfare and how this contributes to structure a regional development agenda. To this end, employment and procurement policies are examined, which are the main transmitters between the health industry and the overall as well as the regional economy. In conclusion it will become clear that though considerable financial flows are redirected from private into "public consumption" this investment in return creates sustainable added value, both economically and socially.[29]

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[23] this formulation is borrowed from Streeck 2001; see also Schmidt, V.A. 2000, pp. 229 ff.

[24] for a very basic discussion of values and their role in welfare state politics and reform see Schmidt, V.A. 2000, p. 229 ff.

[25] an example is the study by Kemmerling 2003, where he succeeds to show correlations between an active welfare regime and the emergence of a sustainable service sector.

[26] cf. the literature discussed in Suhrcke et al. 2005.

[27] Fogel 1994; see also Nordhaus 2002

[28] in Germany, this turn is marked by the report of the Advisory Council for the Concerted Action in Health Care 1996

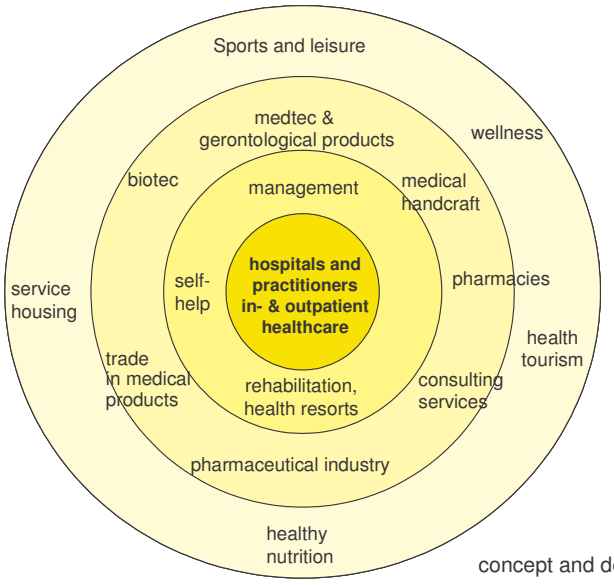
[29] most of the following part of this paper is based on an earlier piece produced together with Elke Dahlbeck and Josef Hilbert for the WHO European Office for Investment for Health and Development, Venice; cf. Potratz et al. 2006. Special thanks go to Elke Dahlbeck for revising and updating tables and data.

2. *Approach, methods and data bases*

The IAT onion model

The traditional understanding of health services is that of infrastructure, and as such a burden on the public budget and, following Milton Friedman, "the black hole of the economy"[30]. That, independently of the financial principles, due to the enormous financial flows through this system to a large number of related services and manufacturing industries health is also adding value to the overall economy has not been acknowledged until the mid 1990ies[31]. Meanwhile, we can almost speak of change of paradigm, and it is generally recognized, that the health sector comprises more than just hospitals, doctors and pharmacies. Increasingly, the "health industry" is seen as representing a dynamic complex of interacting branches. The "IAT onion model"[32] is an attempt to catch these dynamics and to relate the respective "health branches" to each other.

Graph 1: Structure of the health industries:



The model distinguishes three main areas:

- the *core area of in- and outpatient care*, which includes the personnel intensive services of hospitals, prevention and rehabilitation, doctors' practices, practices of non-medical health services, pharmacies as well as in- and outpatient care services.

- the *ancillary and supply industries*, which include the pharmaceutical industry, bio- and gene technology, medical and gerontological technology, as well as the respective crafts and whole and retail trade in medical and orthopaedic products.

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[30] cf. Friedman 1992.

[31] this "change of paradigm" is documented in the 1996 Special Report of the Advisory Council for the Concerted Action in Health Care; cf. Advisory Council 1996

32 cf. Bandemer; Hartmann; Hilbert; Langer 1997; also Dülberg; Fretschner; Hilbert 2002.

- the *neighbouring or peripheral branches*, which link the core areas with supplies from other service branches such as housing, (health) tourism, (medical) wellness, health oriented sports and leisure (fitness), but also dietetic and nutritional consulting and connected services.

Methods and data bases

In Germany, a health reporting system has been set up in the 1990s, which for the medical part is directed and edited by the Robert-Koch-Institute, Berlin, and for the statistical part by the Federal Statistical Office[33]. On the states' level similar and largely comparable systems exist[34].

The statistical problem of the official health reporting system is, that the Statistical Office has extended its scope, but still sticks to a cost model, which restricts the analysis of health services within the overall economic framework. The statistical problem of the “onion model” is, that while the core and ancillary industries can statistically be caught with official statistics, this does not likewise apply to the peripheral branches. However, surveys, e.g. of the travel and the fitness markets, have shown quite well to what degree travels and activities are initiated by health motives, so that these branches can proportionately be included in the calculation. Yet certainly a margin of fuzziness remains and has to be taken into account.

Another problem is that employment statistics of the labour administration and the statistics of other economic variables (e.g. turnover) do not completely fit and are collected within different time frames. Other important data sources are the statistics of the health business associations, i.e. the hospital association, the professional chambers, and also the industrial associations of the medical technology industry, the pharmaceutical industry and the unions concerned. The data presented in this paper are in essence based on data from the statistical offices and the labour administration.

3. The overall health system and its economic impact

In Germany[35], approximately 90% of the population are covered by a statutory health insurance system (SHI), to which they contribute a percentage of their wages[36]. This goes for employees (blue and white-collar) who earn less than 3,900 € per month (2005) ; children and spouses without income are co-insured free of charge. Unemployed or persons otherwise out of work, pensioners, poor and homeless people are also insured. The system is based on the principles of solidarity and redistribution: The rich pay for the poor, the young for the old, the healthy for the sick. They are all covered according to the same provisions and enjoy equal access to health benefits and services, independent of the level of their contributions.

[33] see www.gbe-bund.de; the Federal Statistical Office's website also provides an English version: http://www.destatis.de/themen/e/thm_gesundheit.htm.
[34] among others see Landesinstitut für den Öffentlichen Gesundheitsdienst LÖGD; www.loegd.de (also English versions)
[35] for an encompassing introduction into the main features of the German health system and its fads and foibles see Busse; Riesberg 2004
[36] at present, employees on the average pay 7.5% of their wages, and employers contribute another 6.6% plus the full wages for the first 6 weeks of sickness

Persons who earn more than 3,900 € per month or are self-employed, can either stay in or join this system on a voluntary basis or choose a private health insurance. Some 10% of the population have opted for a private health insurance[37]. They pay a contribution that reflects their health risk; on the other side, insurances may turn down "bad risks". Only a small though rising number of persons - about 188,000 or 0.2% - are uninsured. Of course, this also reflects rising poverty levels or at least rising poverty risks in Germany[38]. However, the new Federal Government has decided that, in future, no one shall lose his insurance coverage; respective provisions have been implemented.

Statutory, as well as private, health insurances offer quite a comprehensive package of services. They cover both outpatient treatment in a practitioner's office as well as inpatient hospital treatment, all necessary medication, dental treatment, dental prostheses, as well as rehabilitation measures[39].

A patient's pathway through the health system

Hans Meier has caught a flu. He visits an ambulatory physician of his choice (usually a general practitioner). He receives a treatment and (most probably) a recipe, which he collects in a pharmacy. Mr. Meier's flu is persistent and turns out to be a dangerous pneumonia requiring inpatient treatment. His family doctor will send him to a hospital (of Mr. Meier's choice). Should he be in need of some kind of rehabilitation treatment, he will be sent to a qualified local therapist, a clinic or rehabilitation resort. Treatment, fees and costs on all these stages are covered by his Statutory Health Insurance (SHI). Following the solidarity principle, he receives these services independently of the amount of his contributions. His wage will continue, and in case his stay in hospital should stretch beyond 6 weeks, his insurance would also answer for wage replacement payments.

A distinguishing feature of the German health system is the clear separation between ambulatory/outpatient and stationary/inpatient care, although resources are almost evenly divided (see Table 3 below). Hospitals' physical investments (buildings, equipment, technology) are financed by the states, the operation of hospitals, i.e. the services, personnel and running costs (pharmaceuticals, technology, food) are financed by the insurances which pay for the services to their members. This constitutes a "dual financing system". Total turnover amounts up to 64.7 billion € in 2004, of which 40.8 billion € fall to personnel costs. Since 2004 a case-fee-system (DRG) has been implemented, which has put hospitals under economic and organisational pressure to become more economically efficient and "competitive"[40] – which not least comes to bear in personnel and procurement policies.

[37] these include civil servants, who due to their employment status and independently of their income are exempted from membership in a statutory health insurance

[38] this particular issue is also treated in the Poverty Report published in 2005 by the Federal Government, cf. Lebenslagen in Deutschland 2005

[39] in order to make a clear case actual rulings concerning complementary payments and out-of-pocket-payments etc. are left aside; yet it should be noted that they play a growing role.

[40] the issue of competitiveness of hospitals is comprehensively treated in Arnold; Klauber; Schellschmidt (Hrsg.) 2003; see also the regularly published survey „Krankenhaus Barometer", issued by Deutsches Krankenhausinstitut, Düsseldorf, available under http://dki.comnetinfo.de

Established doctors, by more than 90% contracted by the SHI's[41], on the other hand, are professional freelancers and as such also entrepreneurs. The average turnover of a doctoral practice, though with a large spread, is roughly 200,000 €/year (2003). Their income is basically determined also by a DRG-like scale of fees on the one hand and a collective budget on the other, which are negotiated by their associations with the insurances' association.

Table 3: Distribution of health resources, Germany, 2004

	ambulatory	**stationary**
practising doctors	134,000	146,000
hospitals		3,460
practices	94,940[42]	
employees (all staff)	1,773,000	1,763,000
expenditures	112,787 mio €	85,389 mio. €

source: Federal Statistical Office 2006; Bundesministerium für Gesundheit 2006

While doctors' ambulances on the average employ 3-4 persons (per doctor; full time equivalents), hospitals usually count among the large employers of a region, comparable to any industrial enterprise. The number of staff may range from 200 - 300 in small hospitals of about 100 beds to 7,000 to 8,000 in a university clinic. Hospital planning and investment provide the gateway for the states ("*Länder*") to economically structure their regions and to influence regional distribution of income – and actually in the 70ies and 80ies this tool was used to this end. Not least due to these policies today most hospitals are either public or in (charitable) non-profit ownership. However, the share of private hospital groups is rising, as hospitals and health services gain in attraction for private equity funds[43]. This trend can be explained by three factors: first, the health markets display growing dynamics; second, governing neo-liberal mainstream ideology has it that private is principally preferable to public and that the provision of "extensive" health services for everybody is not a public task; under this influence, third, decreasing public funds and the overall situation of public finance are only final arguments to legitimize the sale resp. the "privatisation" of public hospitals.

To summarize: the German health care sector accounts for 234 billion € or 10.6% of GDP (2004), which together with Switzerland is the highest in Europe, and supplies safe and stabile jobs for more than four million employees. While these figures may be taken for indicators of wealth and societal achievement, others see them as an inherent threat to the competitiveness of the economy. The argument is twofold and is based on the wage-indexed financing logic of the system: Rising expenditures lead to higher contributions and thus to reduced real earnings, they raise non-wage labour costs, weaken the investment capacity of the enterprises (because they share in the contributions) and impair their competitiveness, and, as a final result, lead to a reduction of the labour force. Employees, on their side, are somehow caught between the devil and the deep blue sea: A weak labour market forces them to accept decreases in income, while increases in contributions eat away their disposable income and force them to save on other expenses, thus further slowing down consumption and demand.

[41] "contracted" here means, that practitioners get their fees invoiced by the respective SHI according to an agreed pay scale; apart from that they are free to treat anybody else on a private basis

[42] contracted practices only

[43] cf. e.g. A.T.Kearney 2005. Following an information from the European Private Equity and Venture Capital Association (EVCA), 3,498 mio. € flowed into Europe, of which 236.2 mio. € went into Germany

However, the focal point of the present political debate is the wage-indexation of contributions exclusively and their, alleged, burden on the economy. Volumes, comprehensiveness and free access to services rendered under statutory health insurance, their medical necessity, quality and economic efficiency are called into question for reasons of uncontainable costs – without ever acknowledging the economic outcomes. Surprisingly, however, this debate about cutting down the "extensive" health system is led not only by faithful neo-liberals, but also reaches far into the ranks of defenders of the (traditional) welfare state[44].

4. The profile of the NRW health industry

One of the German *Länder* which have taken up the idea to develop a health "market" is Northrhine-Westphalia (NRW), one of the former big European "old industrial" coal and steel regions. With 18 million inhabitants it is the biggest and most densely populated state. Apart from the fact that the structure of the economy since the 1960ies has changed to a "service economy" anyway, a number of sub-regions have taken the chance to develop their health services "infrastructure" into a self-sustaining branch of the "service industries". Networks have evolved, combining actors from core health services (hospitals, practitioners), therapeutic services and rehabilitation, medtech and biotech firms, as well as medical wellness suppliers, the sports and fitness business and also nutrition and health consulting and promotion (see onion model above). Altogether, meanwhile roughly one million people work in the "NRW health industry" (see Table 4 overleaf) and produce a turnover of overall 52.5 billion € (2004).

Northrhine-Westphalia – facts and figures (2004)

	NRW	**share in Germany**
surface area	34.084 sqkm	9.5%
population (1000)	18,075	21,9%
foreigners (1000)	1,945	26.7%
inhabitants/sqkm	530	
persons employed (1000)	7,401	20.8%
persons unemployed (1000)	898	20.5%
GNP (billion €)	432.2	22.1%

The basis of the NRW "health landscape" is a high density of health infrastructure, in in- and outpatient care, rehabilitation and a broad spread of specialisations, in many cases inherited from the industrial past. NRW is equipped with 26,000 established doctors, 456 hospitals with about 130,500 beds, 138 rehabilitation clinics with 20,400 beds, 1,900 pensioners' homes with 156,100 places and roughly 2,000 nursing services. This landscape is underpinned by 8 medical faculties with clinics and a large number of professional schools for the assisting professions (nursing schools etc.).

[44] for an elucidation of this intrusion of neoliberal thinking far into the European left cf. Mudge 2007

Within the framework of this study, employment is regarded as one of the transmitters that link a sector with the overall economy[45]. In this respect the weight of the health industry is quite evident: The roughly one million employees stand for almost 14% of the employed workforce, more than any other single sector of the country. As for the distribution within the health sector, the table below clearly shows the weight of the 'core area' of stationary and ambulant care as the main carrier of employment and driver of development and growth. The branches of the pharmaceutical and medical technology industries only reach rather small shares, because due to the character and structure of their production processes they are far more capital than personnel intensive. However, though small in terms of shares, the absolute number of people employed in the peripheral branches (sports, leisure, wellness, tourism) amounts up to almost 22,000, which from the backdrop of rather high unemployment rates in the country is quite a number. And as employment in this sub-sector has steadily grown over time, these numbers also indicate the rising rank of health on the individual value scale.

Table 4: Employees in sectors of the health industry, NRW 2005

sectors of health industries	employees	share
stationary and semistationary health care	329.537	32,5%
stationary and semistationary geriatric care	156.954	15,5%
ambulant care	260.604	25,7%
emergency services	3.291	0,3%
administraton/insurance	90.056	8,9%
pharmacies	44.856	4,4%
medtec & gerontological product	42.547	4,2%
pharmaceutical industry	18.609	1,8%
trade in medical products	33.653	3,3%
health tourism	8.342	0,8%
sports, leisure, wellness	13.481	1,3%
research	5.996	0,6%
miscellaneous	7.481	0,7%
overall	**1.015.408**	**100,0%**

Source: statistics of the labour administration NRW, other[46]; calculations: IAT

The economic impact of the health industries is coming to the fore even more clearly when regarding expenditure, enterprises and turnover. It has been mentioned above that nationwide health expenditures amount up to 234 billion Euro or 10.6 % of the GDP. For Northrhine-Westphalia expenditures on health account for about 52.5 billion Euro (2003)[47].

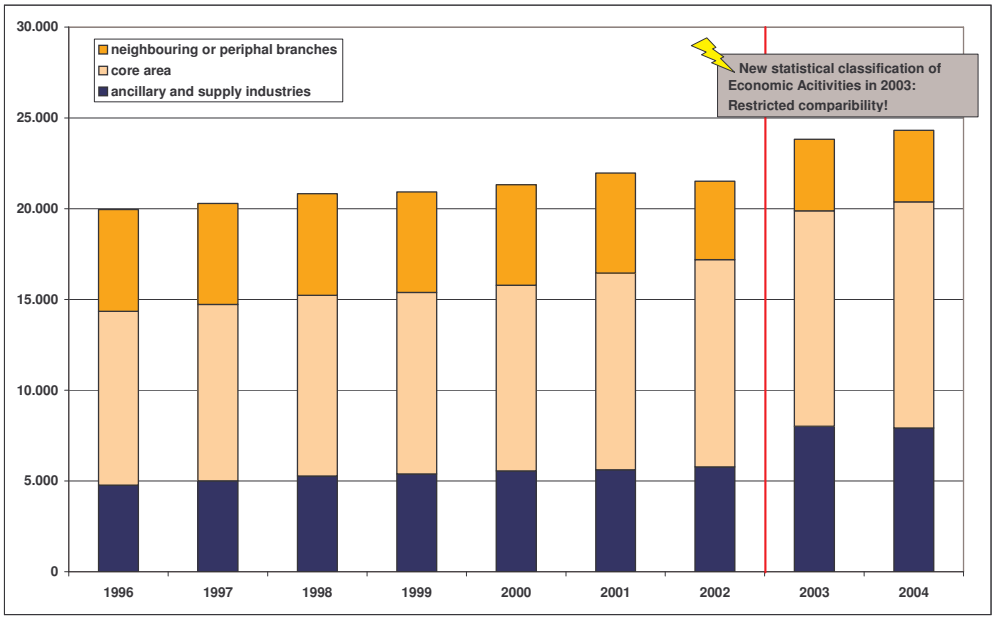
The graphs below shows the development in the number of companies and turnover[48] in the health industry between 1996 and 2004. Because of a change in statistical classification in 2003 the comparability with periods before 2002/2003 is restricted.

[45] Cf. Maignon; Harnam 2006 a).
[46] other sources: Federal Physicians' Chamber, Federal Association of SHI Physicians, Federal Pharmacists' Chamber, Federal Dentists' Chamber, Federal Confederation of Skilled Crafts, Federal Health Monitoring System of the Federal Statistical Office.
[47] estimation based on the population quotient Germany/Northrhine-Westphalia.
[48] These data are based on the tax-statistics. This statistic includes only companies, which have to pay taxes for their turnover. But many of the actors and companies in the health sectors – like hospitals or physicians - do not have to pay turnover tax, so many companies are not included and therefore values are underestimated

Between 1996 and 2002 the number of enterprises went up by 8%, turnover grew by 36%. Since 2003 enterprises grew by 2.1%, turnover by 1.6%. The individual trends developed in different ways:

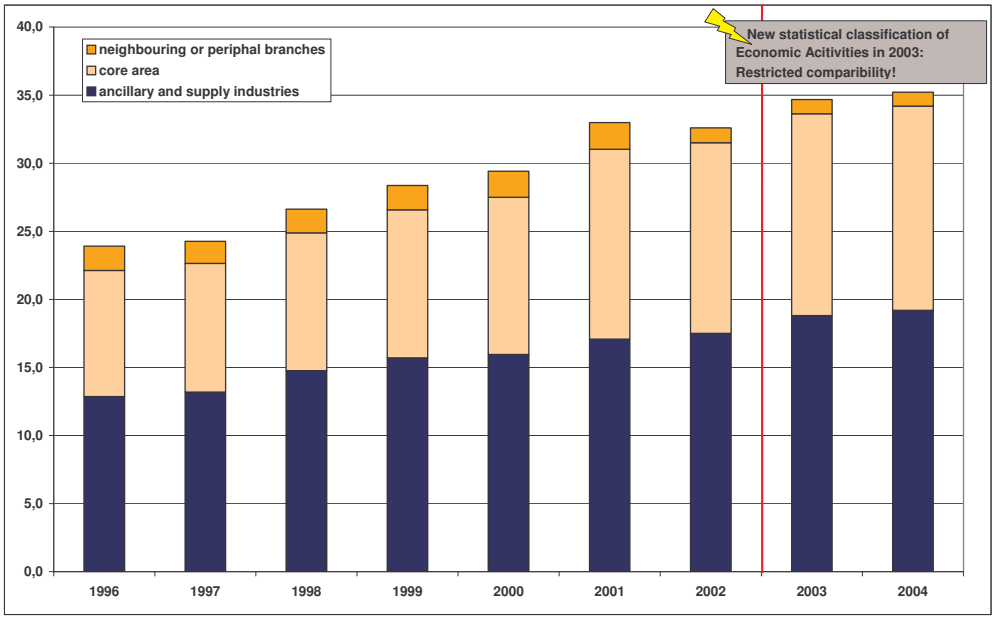
- In the core area both companies and turnover grew within the reviewed period. The growth between 1996 and 2002 amounted up to 19% and 51%, between 2003 and 2004 by 5% and 1.2% respectively
- Up to 2002 companies and turnover in the ancillary and supply industries increased by 21% and 36%. After 2002 the amount of companies decreased by 1.2%, while the turnover increased by 2%, which may indicate the effects of concentration tendencies.
- In the peripheral branches companies and turnover decreased within the reviewed period. Between 1996 and 2002 companies went down by 23%, turnover by 39%. Since 2003 the decrease in number of companies was stopped while turnover went down by another 1.3%. This may reflect a general hesitant consumption attitude which is owed to the uncertainties of the actual business cycle.

Graph 2: Companies in the health industry NRW



source: Statistcal Office NRW; calculation and design: IAT

Graph 3: Turnover in the health industry NRW



source: Statistcal Office NRW; calculation and design: IAT

In all, the health industries in NRW have achieved a core position in the economy and have contributed substantially and sustainably to the change and modernisation of the economic structure of the country and the labour market (see chapter on recruitment). Further growth is to be expected. The regional weight of these "health industries" on the one hand derives from the employment intensity of the health services proper (i.e. the core) as well as the peripheral branches; on the other hand it derives from mutually reinforcing interaction between all these branches, which drives innovation, disseminates into other branches and in turn enhances the attraction of the region for capital inflows.

Acknowledging the role of the health industries in 2004 the NRW state government has issued a first version of a "Masterplan Health Economy"[49], and a second version in 2005[50], which summarized existing (grass root) projects and initiatives and suggested future perspectives. The logic of this "Masterplan" is simply to combine public health services (as supplied by the SHI system) with private demand for health promotion and quality of life to mobilize actors in the field to engage in innovation and investments, and thus to boost growth and employment. An example in case is given in the following chapter.

5. MedEcon – organizing and profiling a health region

As has been indicated above, NRW subregions have developed individual “health industry profiles” according to their equipment and the strategic vision of actors in the scene. The “Ruhr area” is an example in case.

The "Ruhr area" is the industrial and metropolitan heartland of NRW, and with 5 million inhabitants it is one of Europe's biggest agglomerations. But it is also still struggling with

[49] Ministerium für Gesundheit, Soziales, Frauen und Familie des Landes Nordrhein-Westfalen 2005.
[50] presently on behalf of the NRW government IAT is working on a version focussing the different regions of Northrhine-Westphalia

structural change and is struck with one of the nation's highest unemployment rates. The health industry profile is made up by 133 hospitals and clinics, more than 9,000 established ambulant practices, three medical faculties (with high end clinics), a broad set of medical technology and life sciences enterprises and, finally, a broad infrastructure for prevention, health promotion, fitness and medical wellness. Regarding employment, the Ruhr health industry provides close to 300,000 jobs, which is almost 16% of total employment.

Table 5: Employment in the health industry, Ruhr, 2005

sectors of health industries	employees	share
stationary and semistationary health care	95.521	32,6%
stationary and semistationary geriatric care	46.810	16,0%
ambulant care	74.687	25,5%
emergency services	712	0,2%
administraton/insurance	30.066	10,3%
pharmacies	13.889	4,7%
medtec & gerontological product	10.810	3,7%
pharmaceutical industry	2.777	0,9%
trade in medical products	9.675	3,3%
health tourism	1.502	0,5%
sports, leisure, wellness	4.197	1,4%
research	659	0,2%
miscellaneous	1.608	0,5%
overall	**292.913**	**100,0%**

source: statistics of the labour administration NRW other; calculation IAT

From this backdrop, starting in 2002/2003, regional actors from the health scene, universities, (technological) enterprises, service businesses and local governments have organized in a network "MedEcon", in order to collectively profile the region as a location of advanced solutions to the challenges of a modern health system and health industry. The idea is to nationally and internationally position the region's health branches through a set of projects[51]:

- promotion of leading edge medical research and treatment in selected fields such as tumour medicine, cardiovascular surgery, neuro radiology and organisation of stroke and cardiac infarction reaction units
- profiling life sciences (biotech and medtech) based on unique university research capacities and young technological enterprises
- health promotion and prevention through a network of respective institutions
- business plan competition in order to induce health/medical funding activities particularly by young researchers and graduates
- "health learning alliance" as a network of suppliers of qualification and training to develop upcoming fields of qualification demand and to provide special qualifications
- silver economy initiative to develop and market products and services for more quality of life in age
- health care export initiative to market NRW health services and products abroad

[51] Koordinierungsstelle MedEcon Ruhr 2005.

Projects and sub-networks are operated in cooperation by several actors, be it from the public health system, be it from the health industries, and are supported by MedEcon as a whole. On top of that, a number of ongoing state-wide projects are based in the region, e.g.:

- eHealth NRW, a project to implement new ICT-technologies in the health services (electronic patient files on breast cancer)
- leading edge development of ultrasound diagnostics and treatment
- 'biomed triangle' based on the medical and engineering faculties of the universities of Bochum, Dortmund and Witten
- integration of acute treatment and rehabilitation between clinics in the Ruhr area and rehabilitation resorts in Eastern Westphalia

It is particularly such projects which simultaneously benefit the health status of the regional population since they improve structures, organization, accessability and responsiveness of public health care and supply in the region. The “marketing idea” behind these projects is, more or less, borrowed from Michael Porter[52]: on the basis of a demanding, well-served and competitive home market to expand and (successfully) compete on international markets. In so far strategies deliberately do not aim at establishing “cathedrals in the desert” but rather to provide best possible supplies at home to demonstrate competence and capacity. The most recent project in this respect is an international hospital exhibition that will take place over 5 to 6 years in the Ruhr area, and which will cover all aspects from architecture to logistics to orga nizational and personnel development[53].

6. Employment and income

As has already been shown in the chapter 2, the weight of employment in the health system meanwhile is higher than that of many of the traditional industries, and shares tend to go up. In NRW the picture is very similar: Following the onion-model, 14% of total employment (liable to social security) is absorbed by the health industries.

Because of the organizational structure of the health services (see chapter on overall health system) employment covers quite a variety of types of employment. Thus the labour force in the NRW health market divides up into 80% of employees covered by statutory social insurance (i.e. in dependent employment), 5% of free lancers (i.e. self-employed), and almost 15% make up a kind of "secondary" labour force, in dependent employment with only marginal part-time contracts (see Table 6 below).

[52] Porter 1990.
[53] more information can be obtained from the authors and the research group's webpage at http://www.iat.eu/schwerpunkt/gell.html

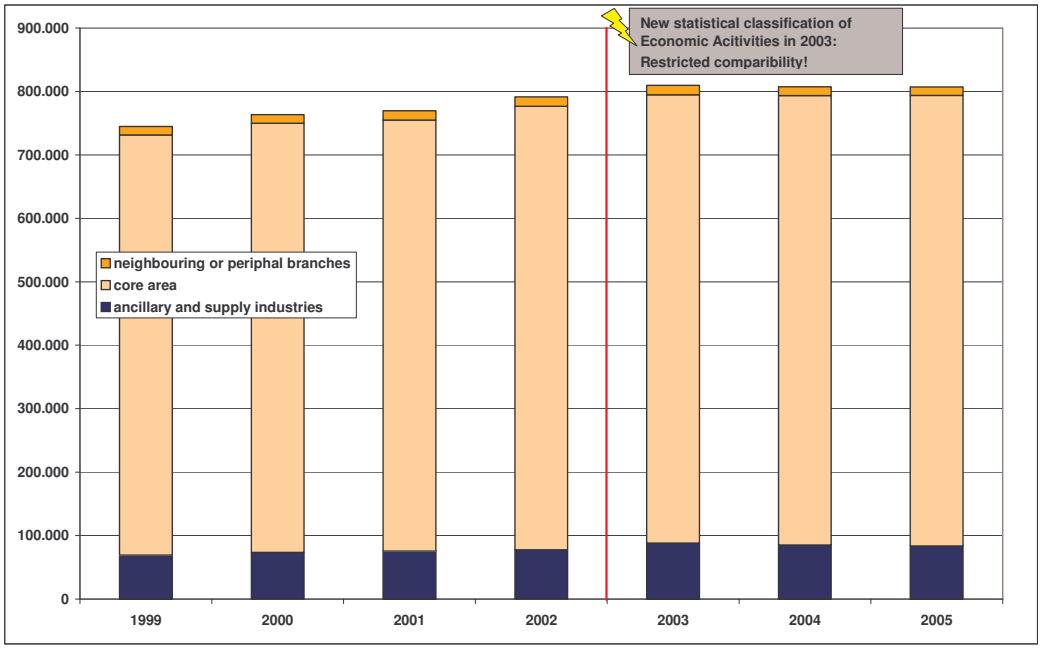
Table 6: Employees in the three parts of the health industry by type of employment, NRW, 2005

	employees	share
employees covered by social security system	**813.534**	**80,1%**
…ancillary and supply industries	83.733	8,2%
…core area	716.435	70,6%
…neighbouring branches	13.366	1,3%
marginal part-time workers	**147.637**	**14,5%**
…ancillary and supply industries	13.154	1,3%
…core area	120.398	11,9%
…neighbouring branches	14.085	1,4%
free lancers	**54.236**	**5,3%**
…physicians	24.739	2,4%
…dentists	11.133	1,1%
…psychological psychotherapists	3.345	0,3%
…pharmacists	4.647	0,5%
…health craftmen	5.771	0,6%
…non medical practitioners	**4.601**	0,5%
health industry	**1.015.408**	**100,0%**

Source: statistics of the labour administration NRW, other ; calculations: IAT

The following graph shows the development of employees covered by the social security system between 1999 and 2005. Because of the change in the statistical classification in 2003 the comparability with periods before 2002/2003 is restricted. Between 1999 and 2002 the amount of employees in the health industries grew from 744,700 to roughly 791,600, an increase of 47.700 or 6.3%. Since 2003 there is a decline in employment by 2.400 (-0.3%) down to 807.200 employees in 2005. While the amount of employees in the core area increased by 0.5% within this time period, the ancillary and supply industries and the neighbouring branches are marked by a strong decrease of -5.2% and -9.1% respectively.

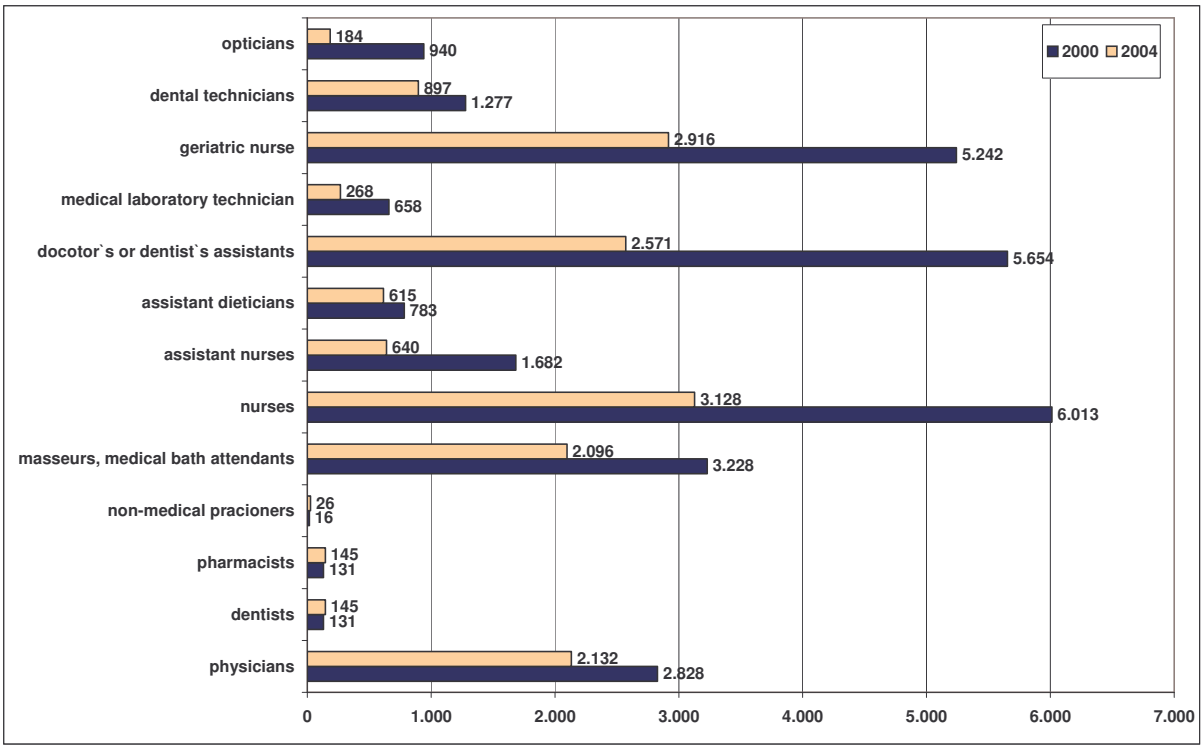
Graph 4: Development of employees covered by the social security system, NRW 1999-2005



Source: statistics of the labour administration NRW; calculation and illustration: IAT

This slowed-down development can to a degree be explained by the general economic slow down, but certainly the economic pressure on health service institutions and the uncertainties created by the ongoing political debate about the future of the health system add even more to cautious and hesitant behaviour concerning both investments and personnel policies. Hence, the number of vacancies are growing (cf. graph 5 below), and different from other industries, these vacancies go along with a considerably lower unemployment rate in these professions[54], which indicates how strongly this segment of the labour market is demand-driven.

Graph 5: Unfilled vacancies in medical profession 2000 and 2004 (yearly averages)



source: labour administration, 2005

As the health services are personnel intensive, the aggregated income makes up a major multiplier in the local and regional economy. However, as for salaries, medical and non-medical staff in public hospitals are in one pay scale applied to the whole public sector, together with e.g. to accountants, teachers and policemen. Non-doctoral hospital staff (nurses, medtech-assistants, etc.) belong to the rather low paid groups in this scale. A nurse/assistant nurse earns a yearly income of between 18,000 and 30,000 €, with 42,000 € as top income. But even a medtech-assistant has an income of only between 27,000 to 45,000 €, however with 65,000 as top income for a high degree specialist. A medical secretary/doctor's assistant in an ambulatory ward goes home with between 17,000 and a maximum of 30,000 € per year (after more than 20 years of professional experience!). But also hospital doctors do not belong to the group of top earners: his/her salary is fixed somewhere between 35,000 and 56,000 €, largely depending on seniority. A private doctor

[54] cf. Bundesagentur für Arbeit 2005.

can expect between 41,600 and 98,000 €, but reaching up to 260,000 at the top, depending upon his field of specialization [55].

Ironically (or not) the "top scorers" in the overall medical business are those professions far off the patient, such as hospital managers, medtech sales managers and pharmaceutical managers. At the very low end we find the least qualified contracted staff or staff belonging to outside service firms in e.g. cleaning, kitchen services or transportation.

The cumulative amount of wages displays considerable income effects which, at least to a large amount, benefit the location and the region of a hospital. Table 7 below shows personnel costs across various hospital sizes. If, by a rough calculation, a third of personnel cost is deducted as non-wage labour costs (contributions to health, social insurance, unemployment insurance etc.) still, in the case of e.g. a small hospital in a small town with only 100 beds, roughly 100 million € of wage incomes flow into the economic cycle of the regional economy (or at least the largest part of it). These rough numbers at least indicate direct income effects already of small hospitals; as the data clearly show, larger hospitals, e.g. university clinics with 7-8,000 employees, display income effects which in many cases go beyond the income effects of even larger industrial enterprises.

Table 7: Hospital costs per type of costs and size (2004, in 1.000 €)

	total	**thereof in hospitals with beds from … to …**			
		< 100	**100 - 250**	**250 - 500**	**> 500**
total personnel costs	9,411,718	150,003	1,604,787	3,691,860	3,965,068
total material costs	4,958,509	78,982	758,413	1,922,724	2,198,390
total hospital costs	14,418,297	232,195	2,372,453	5,630,024	6,183,628
total number of hospitals	456	68	166	164	58

source: Krankenhäuser und Vorsorge- oder Rehabilitationseinrichtungen in Nordrhein-Westfalen. 2004. Statistische Berichte. Landesamt für Datenverarbeitung und Statistik Nordrhein-Westfalen. Düsseldorf 2005, Tab 5

But there is more. Recruitment to the medical professions, of which in all there are almost 800, is usually channelled through universities, in case of medical personnel, and professional schools and vocational training in the case of non-medical personnel. With almost 500 (non-doctoral) professional schools and roughly 50,000 places the NRW health sector is one of the largest suppliers of schooling, training as well as of in-house training and further training. Tuition and training, thus, is of considerable economic weight itself. Nursing schools mostly are attached to bigger hospitals, and also technical personnel is often trained in institutions in the vicinity of hospitals. But the point is, that schooling and training must

[55] HiTec Consult 2005; income aspects are also treated in PLS Ramboll/VER.DI 2004; for an international comparison cf. Barham, Leela; Bramley-Barker, Edward 2004 (NERA Study). This study is meanwhile contested by a number of authors, but as far as Germany is concerned nevertheless most studies unanimously point into the same direction

meet relatively high professional standards, so that the health sector considerably contributes to the overall human capital building of the region.

Generally, hospitals and the health sector offer quite a range of jobs which definitely do not require high upfront qualifications, which are a potential chance for low qualified applicants. Still, as a recent IAT-study has shown, it may be an illusion to look upon health and care as a reservoir for "simple" jobs requiring only low qualification and training[56]. Low qualifications may be acceptable for housekeeping and related activities, but as soon as it comes to person-related activities - and this is where the main shortages are - many if not most jobs require complex social competences, degrees of responsibility and decision-making capacities. Grey areas notwithstanding, very soon these demands go beyond "simple" jobs and qualifications.

One of these "grey areas" is elderly care. Much long-term health care and elderly care is done at home, by family members. Taking these activities as a starting point, a project recently launched in the context of the MedEcon network aims to organize a training centre to provide care-giving family members, but also (long-term) unemployed with adequate tuition and training in order to open up for them a professional perspective. This would certainly benefit not only patients, but also the unemployed, particularly women who look for re-entry into the labour market.

Ethnicity is a major social and labour market issue in NRW, since more than a quarter of Germany's foreigners and immigrant labour live here (cf. box on page #). More than proportionately they are hit by unemployment, and youth unemployment in particular, because (too) many of them have only poor school leaving certificates if at all. But still, and although their share in the "clientele" of hospitals and doctors' offices is growing[57], foreign population so far does not play a major role in the recruitment of staff. However, with rising numbers of resident non-ethnic Germans (and often of non-German speaking), who tend to concentrate particularly in agglomeration areas (such as the Northern Ruhr area), very first attempts are made to recruit respective ethnic personnel. From this background a project is being launched by IAT and a number of cooperation partners in the northern Ruhr to qualify ethnic Turkish candidates for jobs in health and care. First of all, this will improve health status, access to health services and health equality of the Turkish (and other immigrant) population. Yet on the other hand there at least three more and rather profane motives which push for activities like this: first, the Turkish population is a growing group of customers for health services with particular health behaviour, religious and cultural demands; second, unemployment is particularly high among the Turkish youth and qualification in health and care would open up a perspective for them; and finally, the offer of health services by ethnic personnel would provide hospitals in the region with a competitive advantage by (re-) directing patient flows[58]. Yet in any case it is far too early for assessing any impact on the employment situation and perspectives in these groups.

Summarizing, after all, the NRW health industry as described by the IAT-onion-model has come to be one of the few growth branches, which regarding employment, turnover, incomes

[56] Hierming; Jaehrling et al. 2005

[57] as far as they hold a salaried job also immigrants are liable to SHI contributions and membership. They also receive the same unemployment benefits as German workers; so that from an insurance point of view they enjoy the same access to the health system and its provisions.

[58] as a by-product, an inflow of Turkish patients coming in from Turkey can be observed, who seek treatment in the hospitals of the area

and value added has outstripped traditional industrial branches – in a country, which like no other has until recently stood for heavy industries and big industrial conglomerates. As health services are locally bound, incomes earned in the health industries more or less directly benefit the local and regional economic cycle.

7. Procurement – and innovation

Hospitals are big consumers, and hence procurement makes for the other powerful link of the health system with the overall economy[59]. In NRW, their purchasing volume of products and services amounts up to about 4 billion € per year; they are served by between 250 and 500 suppliers with up to 100 deliveries per day (per hospital!). In view of the broad spectre of commodities needed to run a hospital (see Table 8 below) that the supply industries represent a core link in the health value chain.

Table 8: Cost structure of NRW hospitals: material costs (2004)

	costs in 1,000 €	*costs per case in €*
overall material costs	**4.958.509**	**1.257**
food	291.932	74
medical supplies	2.316.551	587
of which:		0
…drugs	553.342	140
…blood, stored blood, blood plasma	142.729	36
…dressing materials, devices	51.682	13
…medical and care commodities	265.094	67
…anaesthetic- and OP-materials	303.441	77
…laboratory materials	201.806	51
…implantats/transplantats	312.750	79
water, energy, fuels	314.229	80
operation costs	535.644	136
administration	321.986	82
central administration services	62.924	16
general services	58.026	15
insurance	110.925	28
maintenance	640.950	162
durables	21.606	5
miscellaneous	283.738	72

source: Federal Statistical Office, calculations: IAT

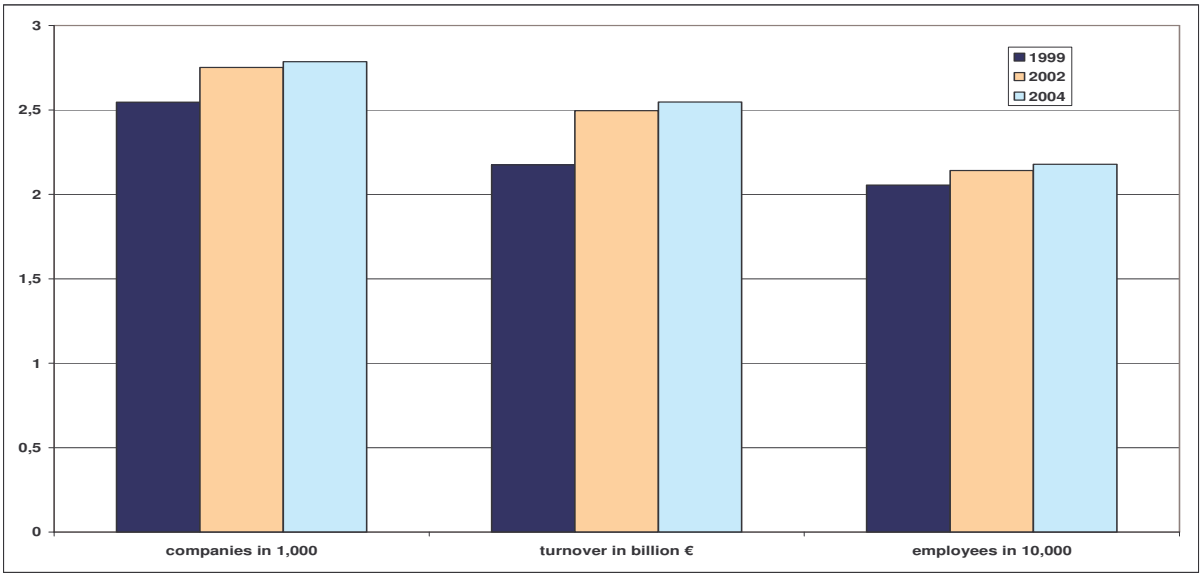
Yet their turnovers cannot be booked on the regional accounts without further particulars, since no aggregate data exist as to the origin of deliveries. Therefore, the data in the table above may be interpreted as the aggregated demand of NRW hospitals, but not as turnover realized within and benefiting the NRW economy. Hospital supply is a national business, since supply enterprises and subcontractors are located nation- and even Europe-wide. The range and number of suppliers makes logistics a major challenge to the organisational capacities and efficiency. So, in order to reduce this number and increase efficiency, hospitals have installed merchandise information systems (MIS), often contractually tied up

[59] cf. Maignon; Harnam 2006 b).

with larger suppliers, who on their side are capable of organizing just-in-time-supplies of the commodities needed[60]. Along with national and international procuring rules (public tendering etc.), these systems tighten the limits of discretion of an individual hospital management to bring its purchasing power to bear regionally or even locally. Another tendency that is gaining ground is collective purchasing[61] on the side of hospitals and concentration[62] and internationalisation in the respective supply branches on the other hand, so that there is always a high probability that benefits (profits as well as related jobs) accumulate somewhere else.

An illustrating point in case is medical technology. Since this is one of the most capital intensive branches of industry, the sub-branches are highly specialised with only a few firms each operating in rather small market segments. So it is not surprising that the medtech-market is highly concentrated on a few market leaders, such as Siemens, General Electric and Philips; they share in almost 80% of the (German) market. So, although medical technologies are a major item in any hospital investment programme, revenues incurred by these (large) investments do not necessarily benefit the regional economy. Roughly 66% of (German) medical technology enterprises have less than 50 employees and make 14% of turnover; at the same time those 2% of enterprises with more than 500 employees make 48% of turnover[63]. In NRW, roughly 2,600 enterprises with in all 21,000 employees make a turnover of 2.7 billion €. And just like with other supplies, hospitals to a growing extent organize buying syndicates which put the branch under pressure[64] - successfully, as can be seen from the more or less stagnating development 2002 to 2004 (latest confirmed data) and beyond.

Graph 6: Companies, turnover and employment in medical technology, 1999, 2002, 2004; NRW



source: LDS NRW; calculations IAT *©IAT*

[60] an example is the German DHL group who has won the contract to organize and run the logistics of the British NHS
[61] cf. Krütten 2005.
[62] German food trade e.g. is dominated by three groups only but still is highly contentious
[63] it must be noted that statistically "medical technology" also includes dental labs, the production of nappies, dressing materials and other medical or hospital commodities
[64] cf. Rautenberg; Liefner 2005.

Still, what remains to be stated is that where there are medical technology enterprises located in the region, they contribute considerably to both human capital formation and attractiveness for capital inflows into the region.

Yet on the whole it must be stated that the purchasing power of hospitals has so far not been discovered by regional economists, so that no valid disaggregated data exist, not to speak of a targeted strategy to make the region benefit from "their" health sector's demand. One attempt to design a strategy to nevertheless reap the benefits of hospitals' demand has been developed in the northern Ruhr area. The idea is to install a "medical warehouse" that would bundle the supply of the hospitals in the agglomeration. This logistic centre would serve both hospitals and suppliers, as it would help to channel demand power, optimize and finetune logistical processes and better coordinate "just-in-time"-deliveries among all parties involved – and thus possibly create a respectable number of jobs in the area.

There are few managerial functions which under the influence of new IC-technologies and new organizational concepts have changed as much in recent years and which have in turn changed the structure of work processes in other industries as procurement and logistics. on the one hand it must be noted that all attempts to modernize and streamline logistics in the health services in the first instance aim to reduce costs, which in turn will affect personnel rather quickly. Yet even a large-scale implementation of rationalized logistics assumed, the immediate labour market effects most probably will be a (statistical) reshuffling in overall personnel within the branch.

The more sustainable effect, however, is to be seen in the change of structures and work processes induced by modern logistic systems. This becomes very clear in the latest observable trend among (large) hospitals to reverse the outsourcing strategies of the 1990s into insourcing strategies and, by means of organizational restructuring, return to the market as providers of facility management services, lessor of medical technology (e.g. radiology, cardio-technology) and respective assistance or laboratory or pharmaceutical services[65]. A frequently quoted example is the Berlin Charité group, which has set up a row of subsidiary companies, which serve the Charité clinics and other hospitals and also doctoral practices in the metropolitan area of Berlin. As for processes and the management of work flows, modern logistics have paved the way to exploit e.g. the experiences of the automobile industry to e.g. restructure the workflow of a surgery department, with a sustaining effect on productivity[66]. In this respect procurement and logistics also provide the vehicle for the inflow of innovation from other parts of the economy into the health sector.

To sum up, hospitals' as well as practices' procurement bears quite some potential for local and regional growth and development, both in terms of turnover and employment – but due to the described restructuring processes it may be doubted whether this potential will ever be fully mobilized. For NRW, because of its metropolitan character and diversified industrial structure, it may be assumed that after all quite a portion of procurement expenses will remain in the country. For less endowed regions the balance will most probably be negative. The benefits of regional procurement expenses, thus, benefit the region more by chance

[65] for an overview over latest developments in Germany cf. the contributions in medbiz (August 2006) (supplement to the Financial Times Deutschland)

[66] in fact only recently the organizational development department of Porsche sports cars has reorganized a surgery clinic of the university of Freiburg, Germany, along the logic of automobile production, with sustaining success

than systematically. A respectable amount of added value, however, should also be seen in the role of procurement and logistics as carriers of innovation of structures and processes.

8. Conclusions: the black hole filled up

Health systems do not only provide help in case of sickness. Health systems are part of overarching social and economic systems and as such they display considerable (re-) distributive effects concerning access to health, education and income, on the individual's side; and as has been argued in this paper, with respect to the overall economy the health system has come to be a complex and dynamic value-chain, highly intertwined with the rest of the economy. The health sector, or health “industry”, across Europe is one of the largest employers, initiator of research and development and demander for a wide range of goods and commodities, services and research. Hence, the view of health systems simply as a piece of infrastructure and of health policy as “simply” social policy, as neo-liberal ideology tries to make believe, is a rather restricted one.

Furthermore, the value-added of the health industry is not limited to large numbers of jobs. The health professions are quite demanding, they require well educated and trained personnel and intensive and permanent further schooling and training. This also holds for the up- and downstream branches, such as medical and biotechnology or logistics and facility management. Employment in these branches offers a broad variety of jobs, but in tendency qualitative requirements go up. Hence the health industries contribute considerably to an upgrading of overall human capital of the economy – resulting in a relatively low share in unemployment and a rather high volume of income, which to large parts comes to bear on the local level.

Concerning procurement, things are a little bit different. On the one hand procurement establishes the link between the health branches and the up- and downstream branches of the economy and due to the enormous flows of deliveries also produces respective flows of incomes and investments. At the same time, however, procurement expenses “disappear” in the overall economy and do not necessarily benefit the region. On the other hand, procurement also is a main carrier of innovation into the system – with all consequences for structures and work processes and working conditions.

Working one’s way through the onion-model, thus, those branches involved in the supply for health services make for a powerhouse of regional economic activities and a structuring momentum for regional development. A hospital today is far from being a stand-alone-organization; rather, it is the core of a cooperative network spreading out through manufacturing as well as service branches. The site of a modern hospital is an amalgam of in- and outpatient services, medical technology suppliers, rehabilitation facilities and centres for home care and nursing, thus providing easy access for the population as well as permanent flow of development, innovation and investment. The German state of Northrhine-Westphalia with the metropolitan Ruhr area described in this paper is an example in case: of once upon a time 600,000 coal miners in the 1960s there are some 33,000 left in 2007, and instead about one million people work in health and health related economic activities – more than coal mining ever employed.

The value-added of the health industries, however, does not reduce to flows of income into the region; more importantly in terms of societal justice, equality and sustainability they trigger off a permanent flow of human capital building, innovation and modernization which benefit the quality of services to the population as well as the capabilities of the industry.

Hence, looking at public health services from industrial economic point of view, the Friedman-dictum quoted in the beginning does not really hold. Public finance, be it in the form of state budgets as e.g. in the United Kingdom or Scandinavia, be it as quasi-public budgets fostered by "compulsory" contributions as e.g. in Germany or Austria, certainly are the foundation of the respective health systems and they play a pivotal role in coverage and design of services (with market forces only in a minor role). But looking empirically at the regionally tangible effects of these (quasi-) public expenses, the neoliberal construction of the trade-off between competitiveness, with the promise of employment, and welfare benefits (with the threat of unemployment) is beginning to sway. These - public - investments in health and the related branches of industry quite apparently pay off very well, both in individual income and structural sustainability, embodied in private investments, particularly in the up- and downstream branches. Felder (2006) in his discussion of Friedman's thesis even comes to the result that, at least from a macro-economic view, we might invest too little in health than too much.

But there is also a second message that can be derived from this case study: the close symbiosis realized in the health industry between public and private actors has also created considerable collective capabilities to respond to economic imperatives coming up with the opening of markets and tightening of national budgets, and to adapt to the challenges of modern industrial organization and citizens' demand and expectations[67]. Hence, to turn the neoliberal argument, a "dismantling of the state" and stripping it off ist shaping capacities would also mean to deprive the health industries of a (for the time still being) powerful and constructive actor, thus enhancing uncertainties and volatilities. The welfare state, apparently, is more viable than a highwayman robbing peoples' hard work fruits, as neoliberal ideology wants it to be – and there is no need to hide it.

[67] to stick to historical truth, it must be noted that this at least in Germany was a highly conflictive and ideology-laden process involving all strata of society and which is still an issue of political debate and confrontation

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