

DICE REPORT

Journal for Institutional Comparisons

VOLUME 1, No.3

AUTUMN 2003

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CESifo DICE Report ISSN 1612-0663

A quarterly journal for institutional comparisons

Publisher and distributor: Ifo Institute for Economic Research e.V.

Poschingerstr. 5, D-81679 Munich, Germany

Telephone ++49 89 9224-0, Telefax ++49 89 9224-1462, e-mail ifo@ifo.de

Annual subscription rate: €50.00

Editors: Wolfgang Ochel (ochel@ifo.de), Rigmar Osterkamp (osterkamp@ifo.de)

Editor of this issue: Rigmar Osterkamp

Copy editing: Anne Heritage, Paul Kremmel

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REFORM PROPOSALS FOR HEALTH-CARE SYSTEMS

CAPITAL FUNDING VERSUS PAY-AS-YOU-GO IN HEALTH-CARE FINANCING RECONSIDERED

KLAUS-DIRK HENKE AND
KATJA BORCHARDT*

Financing the risks of life

In order to tackle problems associated with financing health care, a shift to a system that relies more on capital funding has often been proposed. This paper focuses on different options and tries to analyse the extent to which capital funding and pay-as-you-go systems represent appropriate solutions to the demographic challenge; it also discusses the strengths and weaknesses of both alternatives.

Financing the risks of life has traditionally been based on two fundamental principles in response to the basic needs of citizens: a system of voluntary individual insurance or a mandatory social welfare system. Surveying Europe, one can find a variety of

systems operating, including the Anglo-Saxon (Beveridge) universal, state-centred, tax-based social security system and the Continental Bismarckian model, stressing social insurance and corporatist elements (Chassard and Quintin 1992).

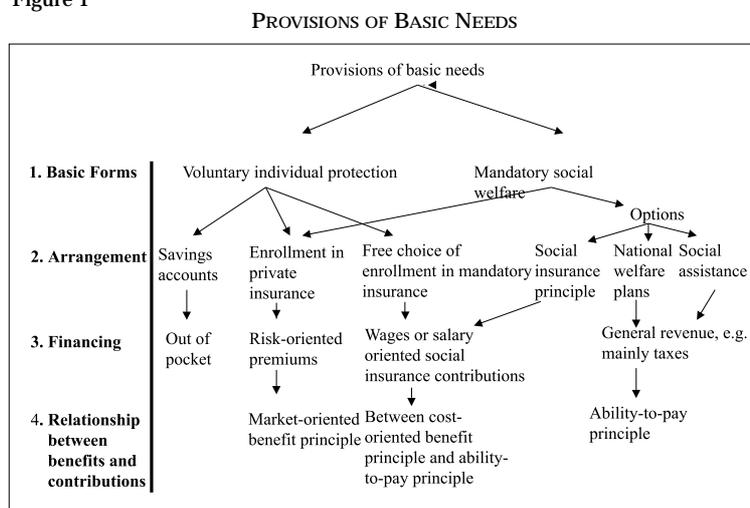
Generally, the foundation for financing the Bismarckian social insurance model is payroll tax contributions to social insurance funds, while a voluntary individual protection system is mostly based on risk-oriented premiums.

Figure 1 gives an overview of basic financing options and illustrates the scope of possible designs. It shows that risks can be either covered through voluntary individual protection or by a mandatory social welfare system. An obligatory enrolment in private insurances could be one of the mandatory welfare systems, as could an obligatory enrolment in the social insurance system.

Looking at the level of financing the different systems, the options range from out-of-pocket payments and risk-oriented premiums, to contributions on the basis of wages (salaries) or general tax revenues. A risk-oriented individual protection scheme is dedicated to the more market-oriented benefit principle, whilst payroll taxes are based on wages and often comprise some sort of redistribution. Social insurance contributions therefore are a mix between the cost-oriented benefit principle and the ability-to-pay principle



Figure 1



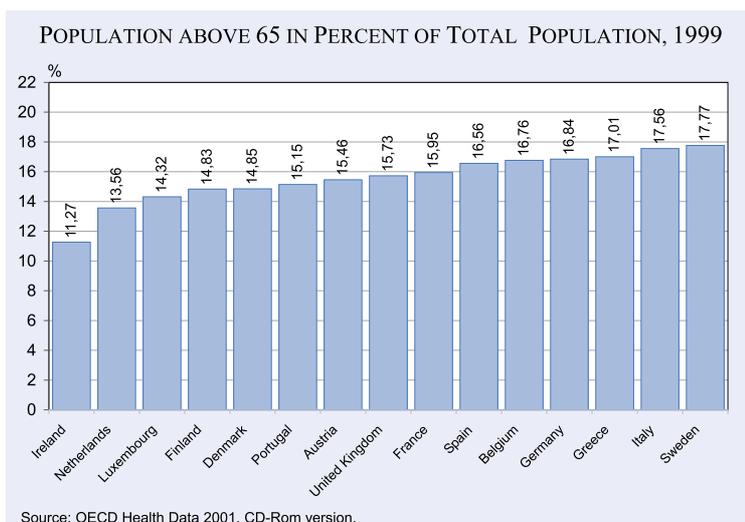
Source: Zimmermann, H./Henke, K.-D. (2002) Finanzwissenschaft. Eine Einführung in die Lehre von der öffentlichen Finanzwirtschaft, 8. Edition, München, p. 154.

Demographic changes and the impact on financing health care systems

Most recent reform discussions in Germany and other coun-

* Prof. Dr. Klaus-Dirk Henke and Katja Borchardt, Chair for Public Finance and Health Economics, Technical University Berlin (K.Henke@finance.wv.tu-berlin.de). The authors thank Prof. Robert F. Rich and Christopher Erb from the University of Illinois for comments.

Figure 2



tries have ascribed a high importance to the ongoing trend of an ageing population and the risks it poses to the existing system of financing. Pay-as-you-go social insurance systems are in danger, as the number of benefit recipients increases in proportion to contributors to the social insurance. As a result of the medical and technical progress in health care as well as many other factors, the population is getting older. For Europe and Japan, United Nations projections predict a doubling of the ratio of population above 60 as a percentage of the age group 15 to 59 by the year 2050. Even more dramatic will be the increase in the above 80 year-old population. Figure 2 illustrates that in 1999 the number of people above 65 years old reached an average of nearly 16 percent in Europe. At the same time, as a second trend, birth rates are declining all over Europe. Considering that the develop-

ment of demographic trends is a creeping process, one can think of society as experiencing a “doubling” in ageing. That means the current group of citizens between ages 20 and 60 is not large enough to financially sustain the social insurance system of the welfare states.

Likewise, expenditures for health care of the elderly are rising, as longer lifetimes are accompanied by more chronic diseases and greater need for care. In Germany, the contributions to the Social Health Insurance funds of the popula-

tion above 60 years old are half that of the population between twenty and sixty years old, but the costs for the over-60 group are three times as much (Figure 3).

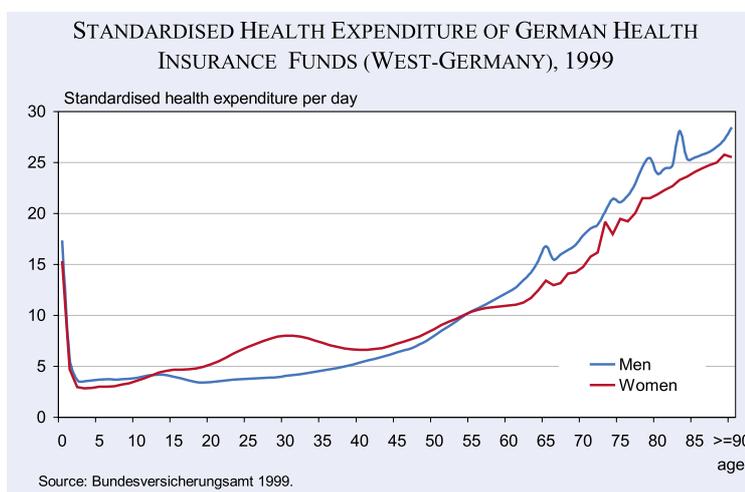
In addition to the demographic changes, there are several other key factors that are worsening the financing gap between revenues and expenditures. For some years unemployment has been rising all over Europe due to structural rigidities and an economic slow down. Especially social systems that are financed through payroll taxes are reaching their limits because the unemployed no longer pay into the social insurance systems but are still eligible to receive full benefits if they become ill. Additionally, the labour force potential of the age groups between 20 and 60 years is on the decline, which affects the sustainability of the current system. Furthermore, as

there is no or only a little economic growth, wages and salaries are not rising anymore. Consequently, when a person reaches retirement age, the system will almost certainly not have sufficient funds to offer the present level of benefits.

Capital funding versus pay-as-you-go systems

Pay-as-you-go systems are characterised by the fact that yearly expenditures are paid for with contributions or tax money collected in the same

Figure 3



year, without building up savings or reserves for the future. These systems are also characterised by significant levels of redistribution of income between sub-groups of the population. In short, the active working insurant supports the elderly and sick, persons that require treatment more often and for longer periods. A balance between healthy and sick people is the common characteristic of any insurance system. Most social insurance systems in addition use contributions as an instrument of redistribution beyond that dimension. In Germany, family members and children (until the age of 26) are covered without paying extra contributions, and retired people pay much lower absolute contributions compared to the working population. The latter represents an additional supplementation from the working population to the non-working population. Additionally, a redistribution of income is created by the fact that people below an income threshold pay a proportional part (average of almost 15 percent in 2003 of wages or salary). Above that threshold people pay a fixed amount into mandatory health insurance, which results in regressive effects with rising income.

Furthermore, as payroll taxes are not risk-based premiums and instead are seen as an instrument of redistribution of income, the separation between allocation (insurance) and distribution (redistribution) in health insurance is not existent, or is inefficient, according to Buchholz et al. (2001). In the German statutory health insurance scheme redistribution is estimated by Henke (2002) at 39 billion annually. For Wille (2000) this degree of redistribution means a lack of the market-oriented benefit principle and therefore is always subject to the reform discussion where economists struggle about the dichotomy between the ability-to-pay principle and the benefit principle.

Within the existing risk-sharing regulations, a reduction of redistributive mechanisms based on income and in relation to the co-insured dependants would result more and more in a system based on capitation fees or premiums. The government would then have to provide support to those private households that lack the personal means to purchase insurance coverage. An alternative that goes even further would be the introduction of "compulsory health insurance for all" based on risk-equivalent premiums. This possibility raises the issue of the appropriate scope of a state-defined minimum level of insurance coverage.

As long as the system has a large enough young and working population combined with a strong economy, the described redistributive mechanism through the payroll tax rates would work and would not need the accumulation of a capital stock for future expenditures. However, considering the intergenerational allocation, a pay-as-you-go system provides more advantages for the first generations because they do not have to pay for another previous generation. The "last generation" loses their benefits when there is no following generation to pay their contributions, as is increasingly the case.

In times of rising unemployment, a dramatically ageing society, and as a consequence of economic stagnation, pay-as-you-go systems have reached their limits. In other words, the system is no longer self-sustaining. Moreover, if the system is financed through employer and employee contributions, these contributions will have to be increased (Breyer and Haufler 2000). This increase of the payroll tax rate will create wage issues, as health insurance contributions are part of ancillary wage costs. Labour unions are focused during their wage bargaining on the increasing ancillary wage costs and demand pay increases as compensation. Furthermore, payroll tax rates become problematic, as they no longer represent an individual's ability to pay. In terms of taxable income, personal revenues from capital investment and rental should be included. Taxable income may be seen as a new and broader tax base for social security contributions. In this case the existing progressive income tax would be supplemented by a "proportional income tax" to finance social security.

To evaluate the two schemes Figure 4 provides an overview. The advantages of one method of financing are disadvantages of the other, while some problematic trends, can be resolved – though differently – with both methods. However, the problem of the portability of claims – following a change in health insurer or when moving to another country – remains. The relevance of the latter issue will grow as European integration progresses.

Basically, a capital funded system describes the accumulation of reserves or savings in younger ages for future provisions. In doing so, there exists the possibility to collect individual or cohort-specific reserves or savings. From an intergenerational point of view one can say that each individual or

Characteristics for evaluating funded and non-funded (pay-as-you-go) insurance systems

Funded scheme	Non-funded scheme
Equivalence of per capita premiums and benefits over the life cycle	Balance of revenues and expenditures of the total collective per period, no funding
Separation of insurance (allocation) and redistribution	Combination of insurance (allocation) and redistribution
Capital stock must first be accumulated	No need to accumulate capital stock
More independence of demographic trends	Intergenerational redistribution due to demographic changes
Capital stock subject to inflation (risk reduced when funds are international)	Not affected by inflation
Capital in hands of insurance companies represents market strength and investment potential	Strong economic position of social insurance carriers
High administrative costs	Low administrative costs

Source: Advisory Council for the Concerted Action in Health Care (1997), p.63.

generation would finance itself. A model could be a constant premium throughout life, which is higher for younger ages than the risk-oriented premium. The surplus will be used to build up an increasing-age reserve, which in the older ages could absorb the increasing expenditures. In this setting, premiums could still rise to cover administrative costs or to finance access to technical progress. This general scheme is illustrated in Figure 4 below.

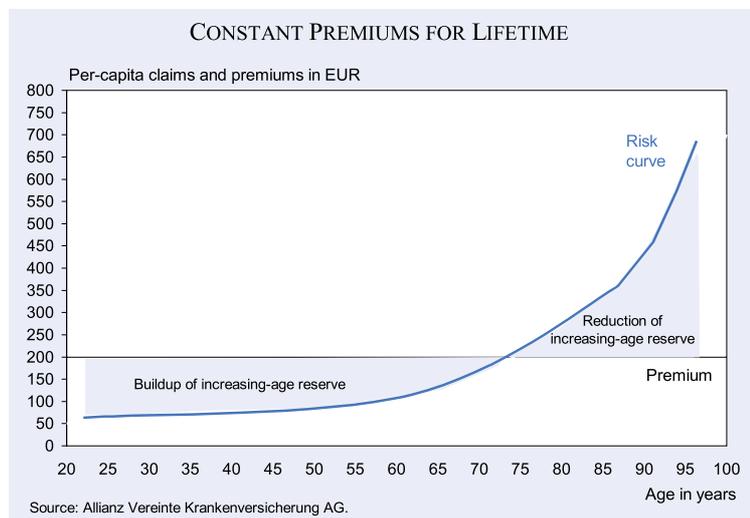
The demographic trends described above could also affect the stability of capital funded systems. For some time now there has been a wide controversy dealing with the future ratio of labour and capital as the two production factors. According to Leug, Ruprecht, Wolgast (2003) the neoclassical economic model implies that a decline in the num-

ber of active workers will lower the capital productivity in relation to the labour factor. The demand for young labour power as a key factor for innovation is higher than the offer. Hence, the labour factor will become more expensive in comparison to capital because, with falling birth-rates, there will be fewer young and productive people to hire. As a consequence, interest rates of the capital market could fall, which would negatively affect the savings of the health insurers. Alternatively, the decline of the labour factor can be disputed as it depends on the labour-force participation rate of women, the retirement age and productivity.

According to Heigl and Katheder (2001), another argument is the pessimistic asset-market-meltdown thesis, which argues that capital funded systems are

at risk if the large baby boomer generation needs to liquidate its investments by realising its stocks in the asset markets. Such a situation could provoke a fall in stocks. If many people and insurers liquidise their stocks, the prices of shares would go down, and this stock market trend could turn into an economic depression because there is not enough demand for stocks in times of low economic growth world-wide. With worldwide economy growth on the decline and a falling birth rate in Europe and Japan, there would be no corresponding

Figure 4



demand for purchasing stocks. Such a development would affect the interest rates of invested capital in the stock market by health insurances, and their savings to stabilise future costs could be lower as expected.

Critics of this thesis are denying this possibility, as not all people use their savings at the same time. Considering the global capital market historically, there have always been new emerging markets for investments. This implies that share prices could rise again. One should never forget that capital is, worldwide, the most flexible factor of all. Some authors like Mackenzie et al. (1997) and Neumann (1998) forecast economic growth through rising saving rates, contrary to the above-mentioned thesis of persisting future low economic growth.

Considering the balance between individuals' spending and saving (dissaving) habits, the discussion is controversial. The economic lifecycle hypothesis (Ando and Modigliani 1963) illustrates that individuals in younger ages create debt to finance their living, and with the beginning of the working years, they begin to save some money for the retirement period. However, according to Heigl and Katheder (2001) there is evidence that the retired do not act according to such a pattern. At least for Germany it can be illustrated that the older population is only using part of its savings, and has never spent all at once. Thus, share prices have not fallen dramatically.

Another more realistic and disconcerting possibility is the fact that capital stock is subject to inflation or can be lost due to a depression or even collapse of the stock markets, as was seen recently during the Asian Currency Crisis. As far as Europe is concerned, it can be assumed that this fear is unnecessary, as the European Central Bank's prior concern is inflation-targeting (Henke et al. 2002).

Focusing on institutional disadvantages in comparing the two basic systems, capital funding is always considered to be associated with higher administrative costs. However, the biggest question has to do with switching costs, if pay-as-you-go systems were to be converted into capital funding systems. Wagner et al. (1998) and Raffelhüschen (2000) argue that the so-called "pioneer generation" of a capital funding system has to bear the burdens of a discontinued system in addition to the requirements of the new system. In order to realise claims

of the old system, the two systems would have to run in parallel for some period of time after the conversion.

The fear that large Insurance companies will gain too much market power by investing large capital amounts can be handled through state regulation, which will guarantee the functioning of the market economy.

Nevertheless, capital funded systems can positively affect economic growth through a higher real savings ratio and investments, and can induce a higher national product as well as produce effects on employment. In an open economy capital exports are possible and savings can thereby be invested globally. The above-mentioned counter arguments (e.g. the asset-market-meltdown thesis) follow a pessimistic perception and imply that the future worldwide economy is on a general decline. However, it is notable that according to Schreyögg (2003), the potential disadvantages of a capital funded system (e.g. inflation risks, higher administrative costs, high switching costs and portability of savings) have not been confirmed by the experience of countries using that system.

Implications for health-care reform and trends in Europe

To changeover to a more capital funded system a great variety of reform options exists. The pay-as-you-go system could either be substituted by a capital funded system or displaced by implementing some kind of partially funded system, as suggested by Börsch-Supan (2000).

For Germany, Henke et al. (2002) and Grabka et al. (2003) have proposed a new financing scheme for the health insurance system based on capital funding. The changeover to the new capital funded health care system would be reached as follows: The working population, including new insurance entries and those younger than age 55 or 60, would be obliged to choose the new form of a capital funded health insurance. Individuals at the age of 55 or 60 and above would stay in the pay-as-you-go system, as would their co-insured dependants. Hence, the two systems would run in parallel to build up necessary savings. After a time period of about 50 years everybody would be insured in a fully capital funded system. To assure

the financing of the system via risk-related premiums, a tax transfer system would need to be established for the low-income households. As these transfers are relatively high, such a fully substitution of the system would not be acceptable. Thus, several partially capital funded systems have been proposed.

One alternative could be to impose a one percent extra charge for all insureds to build up capital. The extra charge is oriented on the standardised health expenditure of German health insurance funds (see Figure 3).

Another model would lie in introducing a minimum insurance coverage based on per capita premiums with a capital funded supplemental insurance. The proportion of benefits financed on the basis of pay-as-you-go could be gradually shifted to more capital funded benefits. After thirty years a ratio of one-third capital funding to two-thirds pay-as-you-go could be reached.

Conclusion

In conclusion, it is clear that capital funding provides certain advantages over the current pay-as-you-go system. In all cases the reform of health care financing has to be combined with necessary adjustments on the supply side of the system. Thus in addition to financing health care, the diversity of purchasing in health services would be a new topic (see in more detail Henke 2003). Eventually, the issue centres on introducing a partially capital funded system, maintaining the growth and employment potential of the growth sector in health care. For this purpose, building up savings as a safeguard for future needs, especially for an ageing population, makes sense and relieve some of the pressure of the demographic challenge. Nevertheless, it should be remembered that the medical technical progress and an increasing life expectancy are burdening both the capital funded systems and the pay-as-you-go systems.

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HEALTH ACCOUNTS AND OTHER WELFARE ACCOUNTS

STEFAN FÖLSTER, ROBERT GIDEHAG,
MIKE ORSZAG AND
DENNIS J. SNOWER*

In many countries increasing costs for health care and sick leave insurance are forcing governments to cut back or implement higher user fees. Germany and Sweden are just two recent examples. In many developing countries large segments of the population are not covered by health insurance at all. It is feared that universal coverage places too large a burden on public expenditure.

This paper discusses health accounts as a way of financing some of the costs of health care and at the same time providing economic incentives to use health care and sick leave insurance more efficiently. In the course of this article we discuss some basic principles of savings account based social insurance and experience from other areas of social policy.

Pension systems have been reformed in many countries in recent years, moving from public, pay-as-you-go schemes with defined benefits toward systems in which contributions are deposited in a notional or funded personal savings account.

Similar reforms for other types of social insurance are much more modest. In Sweden, for example, educational savings accounts are being implemented voluntarily by some firms. In the U.S., the Clinton Administration introduced medical savings accounts (MSAs) for the self-employed and employees of small firms. MSAs combine retire-

ment-type savings with high-deductible health insurance policies. As discussed below, as of summer 2003 there were proposals under discussion to expand the scope of these medical accounts.

Unemployment savings accounts have been in place in Brazil since 1986 (Cunningham 2000) and have been introduced in Chile in 2002. Severance pay systems such as exist in Italy, South Korea and many other countries are also quite similar to unemployment savings accounts.¹

Proposals for more comprehensive savings account based reforms have been argued (e.g. Fölster, Gidehag, Snower & Orszag, 2002). An example of a more comprehensive system in existence is the Singaporean Central Provident Fund, originally designed to increase savings and to provide retirement security. It has since been extended with a number of schemes, e.g. saving for medical needs, financing of higher education, insurance of dependents and a variety of other social needs.²

This paper gives an overview of the basic principles behind savings-account based social insurance in section 2. In section 3 health accounts are discussed. Finally, section 4 summarizes a few other examples of savings account based social insurance, including a comprehensive welfare account.

The basic principles behind welfare accounts

The basic idea of welfare accounts is that individuals make contributions to individual accounts. In return, individuals' welfare benefits are paid from their accounts. The contributions may replace general taxes by mandatory saving to finance the requisite welfare benefits. In some systems the contributions are voluntary, but are encouraged by lower insurance premia or other incentives.



* Stefan Fölster, Confederation of Swedish Enterprise, 114 86 Stockholm, Sweden; Robert Gidehag, The Swedish Research Institute of Trade (HUI), 103 29 Stockholm; Mike Orszag, Watson Wyatt, UK; Dennis J. Snower, Department of Economics, Birkbeck College, 7 Gresse Street, London W1T 1LL, UK.

¹ Severance pay systems differ from accounts in that they define the benefit in terms of final salary rather than in terms of accumulated assets on the account.

² See Watson Wyatt (2003), McCarthy, Mitchell, and Piggott (2002), Choon and Tsui (2003) and Asher (1994) for a description of the Singaporean Provident Fund.

The welfare accounts are hence like ordinary savings accounts with two key exceptions. First, to avoid problems of moral hazard, there are restrictions on withdrawals from the welfare accounts. And second, the welfare accounts also serve a redistributive function, so that individuals receive specific minimum welfare benefits regardless of how low their account balances may be. In order to enable individuals to use their welfare accounts to perform their lifecycle redistributions, some types of welfare accounts allow negative balances during individuals' working lifetimes, thereby enabling them to shift purchasing power through time. In accordance with the government redistributive objectives, people with negative account balances at the end of their working lives are eligible for public support. For those people, the incentives to work and save will inevitably be impaired, but various studies indicate that they may be expected to be small in number in comparison with those who have negative account balances in any particular year. Since lifetime incomes are distributed more equally than annual incomes, as noted, welfare accounts tend to impair incentives of far fewer people than do the traditional tax-based systems.

In order to motivate the introduction of welfare accounts, we note that social insurance programmes involve a combination of savings, insurance and redistribution. In traditional social insurance programmes, this combination is often far from transparent to the average consumer (or anyone else, for that matter!). Individuals receive a panoply of benefits, but neither the cost of each nor the degree of cross-subsidy is transparent.

In addition to lack of transparency, another problem with traditional welfare systems is lack of flexibility. Whereas private compensation and benefit arrangements have moved increasingly towards benefits that are responsive to individuals' personal circumstances, public welfare benefits remain relatively rigid in this regard. Single individuals implicitly pay for insurance against spouses' death, while childless couples pay for education and benefits for children they do not have.

The lack of transparency and flexibility in the traditional welfare systems have adverse incentive effects, since individuals do not have to bear the consequences of their own actions. If an individual claims social insurance, it does not affect his or her subsequent contribution rates. The costs of claim-

ing social insurance are thus not internalised and as a result have excessive incentives to claim social benefits.

Yet another major problem is that the benefits provided by traditional welfare systems are devoted, in large part, to redistributions across individuals' lifecycles, rather than to promoting income equality or providing insurance against adverse economic circumstances in a lifetime perspective. Lifecycle redistributions – enabling income smoothing over an individual's lifetime – can be performed more efficiently through comprehensive welfare accounts than through traditional welfare benefits.³ A major insight in recent economic research is that life-time income tends to be much more equally distributed than income in any particular year. An OECD study on income mobility, for example, indicates that the majority of individuals in the lowest income quintile in 1986 had moved up five years later (Sawyer, 1997). In fact, one in five had moved up at least two quintiles.⁴

Studies from several welfare states indicate that as little as 20 to 25 percent of social transfers may actually redistribute between individuals, while the remaining 75 to 80 percent merely smoothes income over the individual's life cycle (Hussénius and Sélen 1994; Fölster 1998). The taxes that need to be levied to finance these transfers inevitably distort economic incentives, reducing the incentive to work, save and invest. In addition, the tax-and-transfer systems are run by costly bureaucracies. Thus, there could be substantial efficiency gains from a reform that focuses public welfare provision on the 20 to 25 percent of current expenditure devoted to the achievement of interpersonal redistribution and social insurance against adverse economic circumstances with significant lifetime income implications.

When the welfare state was first introduced, family structures were more uniform, benefits were more basic and technology was simpler. In such a setting it was both unnecessary to have differentiated benefits and technologically not possible. Flexible ben-

³ This is shown in more detail in Fölster, Gidehag, Orszag and Snower (2002) as well as in a number of theoretical analyses of welfare accounts in Orszag & Snower (1997), Orszag, Orszag, Snower and Stiglitz (1999), Stiglitz and Yoon (2001) and Fölster & Trofimov (1999).

⁴ A Swedish study (Hussenius & Selén 1994) that estimated income distributions over the entire life cycle concluded that the lowest quintile only had 31 percent lower life time income than the highest quintile, while annual incomes were four times higher in the highest quintile than in the lowest.

efits and transparency requires good and transparent information technology. While it would have been inconceivable to implement a transparent, flexible benefits policy in the interwar period or even in the 1950s and 1960s, it is technologically possible today.

In short, welfare accounts promise a number of significant advantages over the traditional welfare systems. In particular, by permitting the government to focus on interpersonal redistribution and social insurance against economic circumstances with significant lifetime income implications, the reform may allow substantial reductions in taxes and thereby improve people's incentives to work, save, and invest. Furthermore, by helping people internalize the social cost of their welfare expenditures, welfare accounts discourage people from making excessive welfare claims. In so doing, welfare accounts also improve people's incentive to work.

Health accounts

In many countries the fraction of health costs that patients pay themselves has been increased in recent years. This development has often been necessitated by a lack of public funds. But often it is also seen as a way of reducing demand for health care above and beyond what is medically necessary. A problem with this approach has been, however, that a large fraction of families have almost no liquid savings and find it hard to make even small payments, especially if they are not anticipated. A risk is therefore that demand is cut even for medically necessary treatment.

As a solution to this dilemma some economists have recommended combinations of catastrophic health insurance with individual health accounts. The central idea is that individuals pay health care costs below a certain deductible from the individual health account; costs above the deductible are paid by the insurance, which may be private or public. The assets in the account belong to the individual.

Some countries, such as Singapore, have had health accounts for many years. Other countries have introduced similar elements covertly. In Sweden, for example, individuals can receive credit to pay for medication which has to be repaid at a later date.

In the U.S. the President's budget included two proposals a tax-favored health account, which would permit them to pay these out-of-pocket costs more easily. They would also allow Americans to build up an account to cover high medical costs when needed. The first is to improve and expand medical savings accounts, removing excessive restrictions on Medical Savings Accounts (Archer MSAs), transforming them into a coverage option that is consistent with recent trends in private health insurance. Under the proposal, employees who have a health plan with a significant deductible (up to \$ 1,000 for individuals and \$ 2,000 for all other cases) could deposit funds into the account, tax free, up to the insurance policy's deductible. The insurance plan could cover preventive care without counting against the deductible. Such plans are increasingly common as employees have become dissatisfied with restrictions on their care in HMO-style, low-deductible plans. Employees who choose these plans would still be protected against high medical expenses with a more affordable premium than in a low-deductible plan. The proposal would make health accounts available to all employees, and would not discriminate, as current law does, on the basis of how many employees their employer has.

The MSA arrangement would be made a permanent program in law, providing more incentives for insurers, financial organizations, and others to spend the start-up money and effort to create MSA products and integrate them effectively with the other health plan options they offer. The proposal costs \$ 5.7 billion over 10 years.

The second proposal are concerns so-called Flexible Spending Accounts. Flexible Savings Accounts (FSAs) are tax-free accounts that many employers have set up to help give employees more control over their medical expenses as well as better protection against out-of-pocket spending. However, FSAs are subject to an end-of-the-year "use it or lose it" requirement that limits their value for protecting against unexpected out-of-pocket medical expenses. Under the proposal, employees could roll over as much as \$ 500 in unspent health care contributions to an FSA for use in the following year or to their 401(k) plan for retirement income or health expenses at older ages. The proposal costs \$8 billion over 10 years.

A more comprehensive and perhaps more equitable proposal is based on our previous work in

Fölster, Gidehag, Orszag, and Snower (2003) and Orszag and Snower (1997). Under this proposal people would make mandatory minimum monthly contributions to their health accounts, and the resulting balances in these accounts would cover both the deductible and the insurance premia. People could voluntarily contribute more than the specified minimum amounts to their accounts.

The deductible and premia are to be set in the market, under competition between the public and private sectors. To make such competition possible, public sector expenditures on health would be financed solely from the payments people make for public health services from their health accounts. Thus the government could not use the tax-transfer system to finance public health provision, artificially driving down prices of public health services, and thereby discouraging private-sector provision. Instead, the public and private sectors would compete on an equal footing. Such competition is particularly desirable in the health service provision, since the public and private sectors have different strengths and weaknesses in these areas. For example, the government has the advantage that it can trace people through the tax system and thus can avoid monitoring costs and default risks usually faced by private providers. The private sector, for its part, is often better able to provide more highly diversified services.

In order to prevent the private sector from "cream-skimming" (providing services only to those who are unlikely to receive large payouts and leaving the others to the public sector), private-sector providers would be required to make their deductibles and premia depend on only a restricted set of individual characteristics, such as people's age and income, and to ignore all others (such as past medical history).

The government could meet its equity objectives by redistributing income across people's health accounts, taxing the accounts of the accounts of high earners and subsidizing the accounts of low earners. However, as noted, these redistributions would have to be of the balanced-budget variety: economy-wide taxes on the accounts would be equal to economy-wide transfers into the accounts. Thus the government would have no incentive to manipulate the contribution rates and withdrawal rates of the welfare accounts in order to ease fiscal pressures outside the welfare state (e.g. to use tax

receipts from health accounts to finance spending on transportation).

These equity considerations deserve careful attention. To the extent that individuals experience different health shocks over many years, the plan could lead to large differences in account accumulations. If illness over working life is distributed very unequally the plan could look like a savings account for the healthy, and self-insurance for the ill. In order to investigate how equally medical expenses are distributed over working life Eichner et al. (1996) use health insurance claims data to calculate the effects of a health account system. They show that medical expenses over an entire working life are more evenly distributed than is often assumed. More than eighty percent of the people in the sample would retain over 50 percent of their contributions. Only five percent would retain less than 20 percent of their contributions. Thus, although the inequality issue may not be as large as some have imagined, some people would undoubtedly be seriously disadvantaged in the absence of taxes and transfers on health accounts.

The health accounts could finance all types of health problems, ranging from short-term illness to disability. The deductible could be applied on an annual basis, or perhaps even over a longer period.

Other examples of savings-account based social insurance

Unemployment savings account

An unemployment savings account has been discussed in several countries (e.g. Orszag and Snower 1997). As noted above this already exists in Brazil and Chile. Such schemes are essentially defined contribution variants of the quite prevalent defined benefit severance pay systems for unemployment which exist in many countries.

In the most simple version, each employee saves a fraction of her wage on the individual unemployment savings account. As in the case of the educational account contributions can be split between the employee and the employer. If the individual loses her job she may withdraw an amount from the account that corresponds to unemployment compensation in traditional systems. If the funds in the account are not sufficient to pay the benefit,

the government lends the necessary amount. At retirement a positive balance on the account can be withdrawn, or used to top up pensions. The government cancels the debt of those who reach retirement age with negative account balances.

With this system all unemployed individuals receive the same cash amounts during spells of unemployment as they would under existing unemployment insurance rules. Their full protection is thus maintained. Any person who expects to retire with a positive balance completely internalizes the cost of unemployment benefits. For individuals who expect to retire with negative balances additional unemployment has no greater personal cost than in current unemployment insurance. Therefore an unemployment savings account will have little effect if unemployment over a lifetime is concentrated to a small group of individuals who also tend to end up with negative balances on their account. But if unemployment spells more commonly affect people who work most of their life and expect to end up with a positive balance, then the account can lead to substantial reduction of public outlays for unemployment insurance and improved incentives.

In order to study this question empirically Feldstein and Altman (1998) analyzed how Americans represented in the Panel Study of Income Dynamics would have fared under an unemployment savings account system. The analysis indicates that merely five percent of employees would retire or die with negative account balances, and that only about half of all benefits from the savings account would be paid to such individuals. Most individuals have positive account balances even after their unemployment spell. In the end the unemployment account would save more than 60 percent of the current tax-payer burden, not counting dynamic effects due to improved incentives. Further, effects on income distribution are shown to be quite small.

Educational savings account

In Sweden an educational savings account has been debated and, in fact, embraced by several political parties, labour unions and employers. A number of firms have introduced educational savings accounts on a voluntary basis. A recent evaluation indicated that they were working well (Hansson och Färm 2002). In Great Britain so

called “educational learning accounts” were introduced decoupled from employers. They have since been temporarily suspended due to an increasing problem with misuse of funds.

The problem that an educational savings account aims to solve is that a growing group of people need additional education throughout their career. Employers’ willingness to pay such education is often below what is socially optimal because of the risk that the employee will leave with the human capital investment, perhaps to a competing firm. Most people’s own financing of such education is limited by liquidity. Also student loans are often not enough to finance education and living expenses later in life when many have high expenses for children and housing. The need for complementary education cannot be easily met by public subsidies because experience shows that such offers are often taken up by people who seek a break rather than an investment in their future career.

The basic idea of an educational savings account is that employees and employers contribute to the individual savings account. Contributions to the account should be tax free. Savings on the account can be used to finance education and income support during education. Withdrawals that are made to finance the costs of education are tax free, while withdrawals that are made for income support are taxed as income. The balance on the account at retirement can be freely withdrawn or used to bolster one’s pension. When an employee changes employer she takes the account with her, but retains only the part contributed by herself, while the employer retains his/her contributions.

A comprehensive welfare account

While a piecemeal approach to introducing savings accounts into social insurance probably is the only practically and politically possible way, there has been some interest in a more comprehensive savings account based social insurance. In Singapore, for example, the Central Provident Fund was originally designed to increase savings and to provide retirement security. But it has since been extended with a number of schemes, e.g. saving for medical needs, financing of higher education, insurance of dependents and other social needs (Asher 1994).

But could such a comprehensive welfare account perform the tasks expected in a welfare state? In

order to analyze this question we examined a longitudinal database of 100,000 Swedes, simulating a switch to welfare account that would provide pensions, sick leave, unemployment insurance, parental leave, housing benefits, child benefits and social assistance. This has been reported in detail in Fölster, Gidehag, Orszag and Snower (2002).

We find that under fairly general assumptions, if accounts were introduced in Sweden, only a small number of individuals would have negative balances. Under the proposed reform, it is this small group that would be the beneficiary of the government's redistributive policy. Because accounts would allow redistribution based on wealth levels rather than period by period income, they would be cheaper to finance and hence the payroll tax burden on the economy would be lower.

We have developed a projection model to simulate the likely effect of accounts. If the unemployment rate remains the same as at present, then our results suggest that accounts would be associated with considerably lower marginal taxes on labor. The gains are even greater if positive employment effects of lower marginal taxation are taken into account.

Conclusion

Health accounts and other types of welfare accounts are gradually coming to use in a number of countries. Considerable evidence suggests that they can improve economic incentives, and help to provide insurance in a more efficient way.

As the experience of the British educational accounts shows, however, careful attention has to be paid to a number of design issues. One is that funds on the accounts must be managed in a way that minimizes the risk of misuse or withdrawals for purposes other than those intended. A second important design feature concerns the insurance element in accounts. Should it be possible to have a negative balance on the account? Under what circumstances should these loans be forgiven?

Undoubtedly there will be some experimentation with various designs, and not all will work perfectly from the start. That should not stop more from trying.

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MANAGED CARE: LOW REPUTATION BUT MOST EFFECTIVE

STEFAN FELDER*

Managed care refers to the employment of the management principle in the production process of health care services. It also refers to an integrated system of provision, where financing and production are governed by one source. The central goal of managed care is to control costs in an efficient way (see Frech III et al. 2000). The tasks of a managed-care organization exceed those of a classical health insurer because it attempts to influence the supply of and the demand for health care services either directly through the selection of providers or indirectly through adequate reimbursement schemes.

Managed care tackles potential market failures involved in hidden knowledge and hidden action both on the demand and supply side of the health care market. The insured have an informational edge regarding their health status (hidden knowledge) and their action to prevent the probability of an illness and to restrict the costs of treatment (hidden action). Likewise, a provider can hide information about his productivity as well as about his efforts to ensure the quality of treatment and to limit the costs. These informational asymmetries lead to adverse selection and to moral hazard, which can be dealt with by applying incentive-compatible contracts.

Different forms of managed care exist, including Health Maintenance Organizations (HMOs), Preferred Provider Organizations (PPOs) and Independent Practice Associations (IPAs). They differ with respect to the extent of the integration

of providing insurance and organizing the provision of services. An HMO is an integrated product where insurance and provision come from one source. In PPOs and IPAs the degree of integration is less accentuated. Since an extensive literature exists on the various forms of managed-care organizations (see, among others, Glied 2000, and Schumann and Amelung 2000), this article focuses on managed-care measures available, and on the effect of managed care improving the quality of health care and controlling the costs in selected countries.

Instruments of managed care

Managed-care measures may be divided roughly into two groups. The first refers to forms of contracts, the second includes measures that address the quality and the costs of health care provision.

Forms of contract

a) Provider selection

Managed-care organizations may contract with selected individuals or a group of providers, and thereby influence the costs and the quality of in-patient and out-patient care. Given its market power, a managed-care organization can achieve lower prices for services and, thus, reduce the costs. Targeting experienced physicians with a high reputation ensures the quality of provision. This requires criteria that can be used to evaluate providers. For instance, it is well-known that the rate of successful operations depends on the number of operations a surgeon performs per year.

In a three-tiered system where insurers do not directly select health care providers, the insurer (or as in the US, the employer) contracts with a managed-care organization, fixing the terms under which the insured should be treated (range, price and quality of services). Then, the managed-care organization itself looks for providers that can supply the corresponding service spectrum.



* Prof. Dr. Stefan Felder, Faculty of Medicine and Economics, Otto-von-Guericke University of Magdeburg; stefan.felder@ismhe.de

b) Provider reimbursement

Different forms of reimbursement have different incentives for physicians. A Fee-For-Services (FFS) scheme reimburses specific services, leaving the risk of high costs entirely to the insurer. In a staff-model HMO, physicians are paid a fixed salary. Again, the cost risk remains with the insurer. While, the HMO can control its physicians, physicians themselves have only small financial incentives for high quality and low cost provision. Of a quite different nature is a capitation system, where the physician receives a fixed sum per time period for each enrollee, irrespective of his/her health care utilization. Here, the incentives for reducing cost are maximal while the quality assurance depends on the degree of competition that takes place on the market for health care services. If competition is fierce and consumers are quality sensitive, then capitation ensures both the quality and the cost goal. Under different circumstances, providers may try to select patients according to expected treatment cost, and, therefore, impose a burden on the system. In this case, partly relying on cost reimbursement is warranted.

In general, managed-care organizations use a mixed-reimbursement scheme. In ambulatory care, capitation contracts are supplemented by measures that partly reimburse the costs of treating cost-intensive cases. Alternatively, a fixed salary or a reimbursement based on FFS is employed, and complemented by incentives to control the costs. The contract between a managed-care organization and an insurer usually applies risk-adjusted capitation.

c) Insurance contracts

The choice of providers is restricted for the insured covered by managed care. HMO enrollees, except for emergencies, always must first visit the HMO physician. In less integrated systems (PPOs and IPAs), the general practitioner is the person to contact. He then acts as a gatekeeper, treating or referring the patient to a specialist or a hospital. Sometimes demand-side co-insurance is also used in managed-care policies. However, the extent of patients' co-payments is less accentuated compared to traditional health care insurance policies, increasing the attractiveness of managed care for the consumers.

Certain services are quite often not covered by social health insurance. Managed care contracts

sometimes cover additional services, such as preventive and maternity services. But it also works in the other direction, that is, some services are excluded from coverage under managed-care plans. The danger with optional coverage is that insurers try to skim off the good risks, which of course run counter to the goals of social health insurance.

Instruments for cost-control and quality improvement

a) Gatekeeping

Gatekeeping is widespread in the managed-care system. It refers not only to patients but also to physicians. The gatekeeper is supposed to overlook the whole treatment process of a patient, that is, to decide on his own part for the treatment as well as coordinate the part of other providers. He may also collect and keep his patients' illness histories and medical data. A cost sharing contract usually goes along with gatekeeping.

b) Guidelines

Treatment guidelines and standard operating procedures play an important role within managed care. These guidelines refer to the treatment of certain illnesses, the decision process between physicians and extend to topics like the continued education of health care personnel.

Drug formularies, a special form of guidelines, specify a list of approved pharmaceuticals, typically based on the effectiveness and costs (Robinson and Steiner 1998). These formularies often prescribe generics instead of brand drugs.

c) Utilization review and management

Utilization reviews are a cornerstone among managed care measures. They prevent physicians from performing unnecessary therapies and guide them to treat patients in an adequate way (do the right thing – do things right) (Amelung and Schumacher 2000). They refer to the specific case and instruct physicians to reveal their actions and plans to external referees who decide on the adequacy of the therapy.

Utilization management by comparison relates to the aggregate performance of a physician or a hos-

pital compared to their peers. Benchmarking allows the evaluation of the productivity and the efficiency of individual providers, giving the managed-care organization its requisites for provider selection, contract design and reimbursement schemes.

d) Disease and case management

Disease management is supposed to optimize the treatment process for specific patients. In particular, special programs for the treatment of a chronic illness, for instance, diabetes, have been developed, since they have a large potential to improve the health status of the patients.

Case management deals with optimization when the treatment is expensive, acting retrospectively and prospectively. If complicated operations are carefully planned, the average length of a hospital stay can significantly be reduced. Close retrospective inspections of very expensive or bad outcome cases help physicians to take preventive actions for similar future cases.

Managed care in selected countries

An appropriate comparison of the effects of managed care in different countries is difficult since the

organization and regulation of the markets for health care and health insurance differ. The table characterises the health care system and the application of managed care in three selected countries. There is social insurance in Switzerland and Germany, while health insurance in the United States mostly depends on a private system. Managed care is most common in the US where it has a long tradition. In Switzerland, which has a similar market oriented health care system like the US, managed care is also important. However, special arrangements with individual providers has not been possible yet and health insurance contracts have been heavily regulated. Germany is the latecomer since it has only started to enter the managed care era.

United States

Managed care dominates the health care market in the United States. In 1999, only 8 percent of persons with employer-sponsored health insurance coverage had a traditional indemnity insurance (Dudley and Luft 2001). Of the total US population, 70 percent with insurance were enrolled in a managed-care plan. Furthermore, the two federal programs for the elderly and the poor, Medicare and Medicaid, use managed-care measures to a large extent. In recent years, the growth of managed care and the satisfaction of consumers with it

Managed Care in Selected Countries

	USA	Switzerland	Germany
Main source of finance	private	social insurance	social insurance
MC-forms	HMO, PPO, IPA, ...	HMO, PPO	pilot projects
MC-share	70%	8%	0 ^{a)}
	MC instruments (MC sector / traditional sector)		
Provider selection	yes / no	no / no	no / no
Provider reimbursement	cost-sharing / FFS	cost-sharing, FFS / FFS	? / FFS – budget
Insurance contracts	different benefits different forms of co-payments	equal benefits regulated co-payments	equal benefits some regulated forms of co- payments
Gatekeeping	yes / no	yes / no	(yes) / no
Guidelines / formularies	yes / no	yes / yes	? / no
Utilization review and management	yes / no	yes / no	(yes)
Disease and case management	yes / no	yes / yes	(yes) / yes
	Effects (MC vs. traditional) ^{b)}		
Utilization	-10% - -20%	-16%	?
Quality	no difference	no difference	?
Consumer satisfaction	lower in MC	no difference	?

^{a)} Projects only. – ^{b)} Risk adjusted.

have declined. However, this perception contrasts with the scientific evidence on the effects of managed care (see Robinson 2000). Glied (2000) ascertained that overall reductions in utilization due to HMOs are in the range of 10 to 15 percent, comparable to earlier surveys. Other researches show an even stronger effect in case studies. Cutler et al. (2000), for instance, discovered in the fields of coronary diseases that the expenditure of HMO enrollees were 30 to 40 percent below those with conventional insurance coverage.

Literature on outcome differences for enrollees in managed-care plans relative to conventional insurance arrangements suggests that there are few consistent differences between the quality of care in managed care and the traditional sector (see Glied 2000). Consumer satisfaction tends to prefer conventional insurance to managed care for most (but not all) populations (Miller and Luft 2002). This result is consistent with the nature of rationing in managed care. Managed-care enrollees are more likely to face a situation where the insurer or provider denies access to a medical service compared to persons with a conventional health insurance policy.

Switzerland

In Switzerland managed-care organizations emerged in 1990. The first network of primary physicians, a kind of PPO, was introduced in 1994. A reform of social health insurance in 1996 fostered new forms of health care organizations. Afterwards, managed care began to grow. In 2000, about 8 percent of the population was enrolled in a managed-care plan (see BSV 2002).

The euphoria, however, has been dampened in recent months. Although the demand for managed care is still high and the cost of treatment has come down, cost savings are said to be the consequence of a favorable risk selection. Again, this contradicts scientific evidence, which has recently estimated a cost advantage for managed care of 16 percent, even if risk selection is factored in (see Werblow 2003). This confirms older results for HMOs showing cost reductions between 30 and 35 percent (see Baur and Stock 2002). Since a risk selection bias is always a problem with aggregate data, it is important to look at future studies that deal with specific illnesses where it is easier to compare the effects of different forms of insurance on cost and quality of care.

The outcome of treating hypertension in different settings was studied in Baur and Stock (2002). The authors found no significant difference between managed-care and conventional plans, while the average performance was poor in both forms. Managed-care organizations in Switzerland have set up a foundation for external quality control. This institute has started to certify HMOs and PPOs. With respect to consumer satisfaction, again no significant differences could be detected. Consumer dissatisfaction with managed care is less of a problem in Switzerland, as enrollees can withdraw from a managed-care plan and take up conventional health insurance by the end of a year.

Germany

In Germany managed care is being introduced at a very slow pace. Although PPOs in ambulatory care have been legally possible since 1998, only a few pilot projects have started since then. Major obstacles to the introduction of managed care are the sectoral separation of budgets and the fear of sickness funds attracting high risk patients when they, for instance, offer disease management plans. An intersectoral integration of health care cannot be achieved if financial responsibilities lies in different hands. Currently, sickness funds have no control over the ambulatory sector, as they only contract with the physicians' association about the total budget.

The present system is characterized by a non-systematic application of managed-care elements. Reimbursement in ambulatory care is FFS but capped by physician-specific budgets. Hospitals will face a diagnosis-related-groups financing scheme, the G-DRG, which will start in 2004. Co-payments for patients are more or less absent, only drug use is covered by a fixed, package-size-related co-payment. The reform of social health insurance, currently in the pipeline, will not produce any significant step in loosening the heavily regulated German health care market.

Summary and conclusion

Managed care is a powerful tool to control costs and to foster quality of provision in health care. Even though costs have been reduced without compromising quality in those countries that apply managed care, some consumers are rather disappointed. This may have to do with the fact that

enrollees who prefer restrictions on the access to health care to high premiums ex ante may be dissatisfied with their choice afterwards.

There is no doubt that most instruments work: managed-care organizations can select the best providers, gatekeeping allows for removing double diagnoses and for monitoring the treatment process, and disease and case management ensures good and cost-effective medicine. Research evidence, stemming mostly from the US where managed care plays a dominant role, confirms the advantages of managed care over conventional health insurance plans. However, the perception in the public is different. One further reason for the mismatch between research evidence and public opinion relates to the role of the medical profession in influencing the public perception (Robinson 2000). Managed care is unpopular within the medical profession because it restricts the clinical autonomy and possibly the income of physicians. Not surprisingly, many doctors have complained that their ability to offer the appropriate quantity and quality of care has been compromised. The discrepancies between research evidence and public opinion represent something of a dilemma for European policy makers who seek to introduce and implement managed care in their countries.

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SOLVING THE PREMIUM RISK PROBLEM, INSURER SWITCHES, AND TRANSFERS OF AGING PROVISIONS

VOLKER MEIER*

Dealing with the premium risk problem is one of the main issues in private health insurance contracts in a long-term perspective. The premium risk problem is closely associated with the process of aging. Expected health care costs increase with age for two reasons. First, even low risks will experience a continuous deterioration of their health status. Second, the share of individuals in a birth cohort who have turned chronically ill and, thus, represent high risks, rises. If health insurance contracts are made on a short-term individual basis, a substantial and permanent deterioration of the state of health translates into a sharp increase of premiums. This uncertainty with respect to premiums is called the premium risk. Clearly, having no protection against the premium risk is associated with substantial welfare losses. Around the world, the premium-risk problem is tackled in quite distinct ways. Some of these methods give rise to the problem that leaving an insurance provider becomes quite costly or even impossible for middle-aged and old individuals. Thus, the question arises as to how an institutional framework would look that at the same time solves the premium-risk problem and makes it easy to terminate a dissatisfying relationship with an insurer. Surveys on private health insurance systems (OECD 2001, Mossialos and Thomson 2002) indicate that the approaches to solve the premium-risk problem vary with the role of the private sector in health insurance.

Three approaches

One attempt to deal with premium risk, which basically defines the problem away, is to rely on a

comprehensive public health sector. In particular, mandatory public health insurance as in France or a National Health Service system as in the UK, Italy, or Spain can be established in which everybody is already covered by the public system. Under these circumstances, private health insurance plays only a minor role. If the premium risk problem arises, the maximum loss consists in losing private coverage. This does not create a serious problem if everybody has access to the public program at any point in time.

The second main approach can be found in two of the largest markets for private health insurance in the world, namely the United States and the Netherlands. In the US, a general public health insurance does not exist, while in the Netherlands everybody exceeding a certain income threshold is forced to leave the public system. The solution to the premium risk problem looks quite similar in these two countries. The working age population heavily relies on employer-sponsored group insurance policies, which is the predominant form in the United States, and has a market share of about 60 percent in the Netherlands. In these group insurance contracts, individuals are protected against the premium risk until they retire. It is acknowledged that this type of institutional structure offers only limited protection against the premium risk and therefore constitutes only a partial solution. The issue of treating the retired remains unresolved. In the US, the retirees have access to Medicare, a publicly subsidized health insurance program for the elderly. In the Netherlands, the general private contracts usually elapse at age 65. Afterwards, the elderly enter the WTZ scheme, that is, they purchase a private standard contract that is tightly regulated and subsidized by the young. For individual policies the insurer is neither allowed to terminate the contract before age 65 nor to change the premium according to experience rating at the individual level. The widespread practice of cross-subsidization in order to reduce the premiums of the middle-aged often yields a situation in which the middle-aged face substantial problems when trying to find a new insurer.

* Dr. Volker Meier, Ifo Institute for Economic Research, University of Munich, and CESifo.

The third option of overcoming the premium risk can be found in Germany and Austria. While the market share of private health insurance in Germany lies at about 10 percent of the population, it is substantially lower in Austria at only 1 percent. German private health insurance basically covers civil servants, employees with a high income and self-employed persons, while only the latter group can opt out of the public system in Austria. The typical construction of the contract is an individual policy on a lifetime basis. During the contract, a capital stock is built up as a so-called aging provision, which is not only used to cope with the premium risk but also smoothes the age-specific premium profile. In such lifetime health insurance contracts, insurers are not allowed to terminate the contract, and premiums must not be based on experience during the contract period. Hence, the premium risk problem is solved. The disadvantage of the construction lies in the fact that the insured is practically tied to the insurer. The current legal ruling in Germany states that an insured individual who would like to switch insurers is not entitled to take any share of the accumulated aging provisions to his new insurer. Consequently, switching insurers is quite costly for an insured who has paid premiums for a sufficiently long period of time.

Transfer of aging provisions in the German setting

In the last few years, there has been a debate about how the transfer of provisions can be organized so as to simplify switches between insurers without harming those who remain with their original insurer. It is a well-known fact that transferring the individual's accumulated aging provision including interest payments involves substantial welfare losses. Under such a rule, it pays for healthy individuals to leave the insurer in order to save premiums at any point in time. Those who stay, representing relatively high risks, will have to pay higher premiums. Thus, the main function of the long-term contract – insurance against the premium risk – is lost.

Transferring the individual's aging provision without harming those left behind in the original contract requires a centralized risk equalization scheme and the use of standardized contracts. Insurers who take a disproportionately high share of bad risks will receive transfers that are financed by insurers with a sound risk structure in their communities. Since the transfer scheme can be applied in a meaningful fashion only if the benefit

packages are comparable, standard contracts are the usual outcome. While these contracts may be topped up by some supplementary contract, such a standardization is presumably associated with a loss in product variety. But the main problem of this approach lies in designing an equalization scheme that can easily be administered, does not allow for profitable risk selection policies, and maintains incentives for cost containment. In principle, risk equalization payments should be contingent on the health status. If the design of the transfer system is not appropriate, it becomes profitable either to attract healthy individuals or specific groups for whom transfer payments can be regarded as too high. Again, the premium risk would occur. It cannot even be excluded that insurers who do not engage in an unproductive risk selection policy will end up with premiums above the average. Alternatively, a much simpler scheme would be to equalize benefit payments per person across insurers. However, in this event a single insurer would not bear any consequences of granting benefits that are not undoubtedly within the package of the standard contract. Since incentives for cost containment are destroyed, a substantial premium increase for everybody is to be expected.

The ideal solution

From a theoretical point of view, the ideal solution lies in differentiating the provision transfer according to the current health status. This idea is related to the concept of the time-consistent health insurance proposed by Cochrane (1995), who has modeled an explicit premium insurance in a framework with a series of short-term health insurance contracts. Those who have turned chronically ill can afford the stark increase of the premium due to the high transfer that is paid to them upon losing the good health status. For the lifetime contracts with an accumulation of aging provisions, the concept can be translated into individualized aging provision transfers if somebody decides to leave his insurer. The individualized transfers represent the difference between the individual's expected future health care costs and the individual's future premium payments, both calculated in present value terms. Individuals who have turned into high risks will receive higher provision transfers than those still being healthy. Ideally, such a scheme solves the premium risk problems through the risk-specific transfer scheme, while everybody will, in

principle, be able to leave his insurer without incurring financial losses. However, the implementation of such a rule will induce conflicts if the risk status cannot be verified in court at a low cost. With differentiated provision transfers, it lies in the interest of the new insurer to classify the insured as a high risk. In contrast, the old insurer can save money if the insured is assessed to represent a low risk.

Guaranteed renewability of contracts ...

Another approach to solve the premium risk problem is to apply the concept of guaranteed renewable contracts, as described by Pauly, Kunreuther and Hirth (1995). Every insurer has to guarantee that the health insurance contract can be continued at some predetermined premium profile, which is independent of the current state of health. The premium consists of the short-term expected cost of a healthy individual plus some supplementary premium that covers the present value of additional health care costs due to becoming a high risk within the current period. As a consequence, healthy individuals have the opportunity to leave the insurer without incurring financial losses. Those who are already chronically ill will not be able to find a new insurer at a reasonable premium. Hence, these individuals are again tied to their insurer. However, they are protected against premium increases due to the capital stock that has been built up through the supplementary premiums. This construction allows for a solution of the premium risk problem while healthy individuals face no difficulty when trying to switch insurers.

... plus annuity insurance

If an annuity insurance is added to the scheme of guaranteed renewable contracts, the German-style lifetime contracts with an accumulation of aging provisions is reconstructed. In principle, it is then possible to assign fractions of the aging provision to the functions of premium insurance and annuity insurance. Clearly, the annuity insurance does not contribute anything to protect against the premium risk. Hence, it can be transferred if somebody chooses to switch to a new insurer. In contrast, the premium insurance part serves to finance the additional health care costs of those who no longer pay a premium which is in accordance with their current health status. Further, it can be expected that

exclusively healthy people will depart, causing a deterioration of the risk profile at the original insurer's community. Thus, the premium insurance part of the capital stock is forfeited if somebody decides to leave his insurer.

If lifetime health insurance contracts with an accumulation of aging provisions are employed, it is not clear in advance that the share of the annuity insurance is positive. This basically requires that the age profile of premiums in guaranteed renewable contracts is upward sloping. From a theoretical point of view, this cannot be taken for granted. The stylized facts suggest that the short-run risk premium for healthy individuals increases with age. This property does not hold true for premium insurance everywhere since the remaining lifetime of high risks for whom a capital stock has to be built up decreases with age. As argued by Frick (1998) and Meier (2003), it is easy to construct an example with a decreasing premium profile. The lifetime health insurance contract would then be characterized by a reverse annuity insurance. Such a situation would call for exit fees if somebody wanted to leave his insurer.

Empirical study for Germany

According to a recent study by Meier, Baumann and Werding (2003) in which German statistics on mortality and age-specific health care costs are taken into account, the theoretical curiosity of a negative capital stock in the annuity insurance can be ruled out. For any plausible structure of parameters, the annuity insurance in the lifetime health insurance contract begins with positive savings, and the capital stock of the annuity insurance never becomes negative. The transferable shares of the aging provision exhibit an interesting structure. In all variants of the simulations, the share of provisions that can be assigned to the annuity insurance decreases with age. This is a consequence of the rising fraction of insured who receive benefits from the premium insurance. In a baseline scenario designed for a male cohort entering the contract at age 30 and dying out at age 90, the transferable share of aging provisions falls from 93 percent after the first year of the contract almost linearly by about 1.2 percentage points per year and ends at about 25 percent after 59 years. Since the age profile of average health care costs for women is less steep than for men, aging provisions tend to be

smaller for women, and the annuity insurance has less weight. Therefore, the share of transferable aging provisions is lower for women. Similarly, the fraction of transferable provisions is smaller for individuals at a given age who have entered the contract later in their lives. Variations in the interest rate or in mortality affect the accumulation of aging provisions but have only small effects on the share of transferable provisions.

Determining the transferable shares of aging provisions depends crucially on the transition scenario. In particular, the probabilities with which healthy individuals turn into bad risks matter. The premium insurance will display a higher capital stock if these probabilities increase, or if the financial consequences of losing the good health status become more severe. In either case, the shares of transferable aging provisions will be smaller. If losing the good health status also implies a smaller remaining life expectancy, the bad risks in health insurance constitute the good risks in the annuity insurance. In this event the amount of transferable aging provisions exceeds the per capita stock of aging provisions in the annuity insurance. Given that the aspect of a reduction in lifetime expectancy upon experiencing a health status shock is empirically relevant, ignoring this aspect in the transfer formula will not harm the high risks who have to stay with the initial insurer.

Dealing with cost shocks

Cost shocks arising from time to time present a challenge for any aging provision transfer scheme. They generally hit high risks more than low risks in terms of absolute health care costs. If these cost shocks are not foreseen, the planned aging provisions are too low. In particular, this applies to the premium insurance part, which has to be filled up immediately after a cost shock. Clearly, the regular occurrence of such cost shocks reduces the share of transferable aging provisions. On the other hand, since the year 2000 German private health insurers have been required to charge a supplementary premium that is used to decrease premiums in old age. The study by Meier, Baumann and Werding (2003) indicates that the share of transferable aging provisions, including the capital stock accumulated by supplementary premiums in a scenario with cost shocks and the supplementary premium, is quite similar to a scenario in which both elements are

absent. Thus, the problem of dealing with cost increases when designing a transfer formula for aging provisions upon insurer switches can be overcome.

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PRIVATISATION IN OECD COUNTRIES: THEORETICAL REASONS AND RESULTS OBTAINED

FRIEDRICH SCHNEIDER*

Introduction

Privatisation has been a key element of structural reforms in most European Union countries, including Austria during the last decade. Governments undertaking privatisation have pursued several objectives: achieving gains in economic efficiency given the extensive prevalence of poor economic performance of public enterprises in many countries and limited success with their reform; and improving the fiscal position, particularly in cases where governments have been unwilling or unable to continue to finance deficits in the public enterprise sector. In addition, budgetary-constrained governments, facing fiscal pressures, have sometimes privatised mainly to finance fiscal deficits with the privatisation proceeds.

The issues of privatisation (and sometimes deregulation) have been reviewed in a large literature on the various aspects of privatisation, and this literature has emphasised the potential efficiency gains.¹ The goal of this article is twofold: Firstly, to provide some theoretical reasoning as to why privatisation is useful and has occurred, and, secondly, to illustrate the extent of privatisation in OECD countries.

Reasons for privatising public enterprises

For at least the last century, economists have employed a positive economic theory to explore the implications of wealth maximisation by private firms operating in private property contexts. Only since the late 1960's have empirical studies dealing

with the behaviour of publicly operated firms been undertaken (e.g. Borchering, Pommerehne, Schneider, 1982; Boes and Schneider, 1996). Since then a large number of studies of a variety of activities now exists, and their main focus is the question of how public firms differ from their private equivalents.

Basically two methods are employed. The first is the property rights approach. It concentrates on the differences in the ease of captureability of economic surplus of a resource and the rights to direct an asset's use, alter its form or transfer its claims among existent and potential owners. In short, this approach explores the differences in incentives between public and private agencies caused by variation in the ability of owners to monitor management and the problems that emerge when the goals of "owners" and their agents, "managers" diverge.² The second is the public-choice approach and concentrates on political coalitions and their effect on input usage and reward and/or product characteristics. The public-choice approach also includes the theory of bureaucracy (see Niskanen 1971 and 1975).

The property rights approach

The property rights approach points out one crucial difference between private and public firms: the practical difficulties in transferring ownership rights among individuals in the public sector and the relative ease of such transactions with private assets which includes, of course, the ability of owners (citizens) to monitor their agents' (elected officials' and bureaucrats') behaviour. By now, this approach, pioneered by Armen Alchian, is well known, but it is useful to recall his predictions: government managers will not organise the inputs under their direction in such a way as to maximise the wealth of the ultimate owners, the general citizenry. Alchian predicts, therefore, that public firms will be less efficient, their management will enjoy "quieter lives" and because of this the public will give them lower levels of discretion than their colleagues in private firms. To put it another way, the property rights approach is concerned with any type of co-operation in which ownership and management are separate. The emerging principal-

* Prof. Dr. Friedrich Schneider, Department of Economics, Johannes Kepler University of Linz, Altenbergerstrasse 69, A-4040 Linz-Auhof, Austria, friedrich.schneider@jku.at, <http://www.economics.uni-linz.ac.at>.

¹ Surveys of the privatization literature are provided in Megginson and Netter (1999), Heller (1990), Boes und Schneider (1996), Bartel und Schneider (1991) and a summary for the earlier discussion is given in Borchering, Pommerehne and Schneider (1982).

² The first approach has been developed by Alchian (1961, 1965) and more recently Baron and Myerson (1982), Grossman and Hardt (1983) and MasColell, Winston and Green (1995).

agent problem may be prevalent in private enterprises as well but to a much lesser extent. Numerous studies have been undertaken that have tested this proposition, and the result that public enterprises are less efficient than private one is confirmed in most of them.³

To sum up the results so far, the property rights approach seems to indicate that (1) private production is cheaper than production in publicly owned and managed firms and (2) given sufficient competition between public and private producers (and no discriminatory regulations and subsidies) the differences in unit cost turn out to be insignificant. From this one may conclude that it is not so much the difference in the transferability of ownership but the lack of competition that leads to the often observed and less efficient production in public enterprises.

The public choice approach

The public choice approach appears to provide a broader analysis than the property rights one. The public choice approach assumes that politicians, bureaucrats, managers of public enterprises are selfish utility maximisers subject to constraints (cf. Schneider and Frey, 1988, Bartel and Schneider, 1991, Pardo and Schneider 1996, and Schneider, 2002).

In this approach it is, for example, assumed that a politician acts selfishly in order to reach his ideological or personal goals of not losing the next election. Since staying in power is the most important constraint for politicians (or sometimes the only goal), they will also use public utilities for their own selfish goals. One reason for this is evidently the lack of incentives for politicians and taxpayers to exert effective control of public enterprises or efficient use of resources in the economy. This argument seems especially valid for the case of public utilities. Public utilities offer excellent opportunities to reach the selfish re-election goals of governments, like additional employment and the stabilisation of purchasing power of certain regions.⁴ If such a “misuse” of public utilities or enterprises leads to full employment and higher

income at least for a certain time span then it is easier for a government to win an election without such a “misuse” of public utilities. The cost of such a policy can be made invisible for several years (or even one or two legislative periods) as the deficit of the public enterprises can be hidden in the general budget deficit.

As the public choice approach is more concerned with micro-economic aspects, De Alessi claimed that public managers are growth not wealth oriented. He argued and found supporting evidence that this leads to larger staffs and higher capital-labour ratios since excess capital makes managers and their subordinates’ productivity appear higher to their monitoring agents, the legislature. Already Borcherding, Busch and Spann (1977) argued that public employees effectively coalesce through their organisations and “capture” civil service commissions over time, altering rules in such a way that effective supply of competing labour to public firms becomes less wage elastic than a free market buyer would otherwise face. This public employee market power is enhanced, they claimed, by the fact that public service employees contribute to the election of the ultimate “bosses”, definitely not an option for a private-sector union. In some sense then, public employees can alter the position of the derived demand schedule for their services by (a) “nudging” the final demand schedule for public services to the right and (b) by specifying rules which lower both the elasticity of substitution between themselves and rival factors and the elasticity of supply of these close substitutes. Both (a) and (b) will tend to raise wages, but they may raise employment too, since, in effect, the budget and tie-in effects may offset the usual substitution effects one might derive out of the neoclassical models of labour demand in the presence of a simple monopoly. De Alessi (1974) in another paper argued that given the relatively loose monitoring of public enterprises by the political review authorities, a rational position for the latter given the gain-sharing results of assiduous monitoring, managers will indulge their taste for security rather more than in private firms. He found evidence consistent with the risk-avoiding hypothesis. Public managers’ tenures are more secure, of a longer duration, and their fluctuations in real wages are lower than their private counterparts.

In conclusion, according to the public choice scholars, governmental agencies and firms have distinct

³ Compare the studies by Boes and Schneider (1996), Schneider (1997, 2002), Schneider and Hofreither (1990). As these results are so well known, they are not reported here.

⁴ For Austria, Upper Austria and Styria see Schneider (2002) and Bartel and Schneider (1991).

biases leading to higher production costs, just as the property rights literature suggests, but excessive outputs as well. The latter results because the staff of the bureaucracy can effect demand more readily under monopoly public ownership by the strength of its members' votes and/or lobbying efforts. The absence of a civil service and the constraint on strong unions under more competitive types of supply, public or private, is thought to reduce the ability of members of such bureaucracies to offer their services to the legislature on disadvantageous terms compared to potential competitors. On the other hand, the bureaucracy is not likely to have sole "capture" rights over the bureaus, but share the ownership claims with other interests.

To sum up, the public choice approach not only recognises the differences in behaviour between publicly owned and managed firms and private ones due to the limited transferability of ownership. It also considers the likely oversupply of public services due to the lack of competition in their provision and production. This oversupply is then quite often used for selfish re-election goals of politicians and can result in higher employment and higher wages in certain regions for a certain time.⁵

Summarising the two approaches, one clearly comes to the result that, as already noted in the introduction, there are various reasons to privatise public utilities or enterprises in order to stop the misuse of such policies.

The amount of privatisation in OECD countries

Privatisation and proceeds from privatisation have been substantial all over the world. Even since the beginning of the 1960s, numerous instances of privatisation in market-orientated, industrial countries, but also in transition and developing countries, have been taking place.

A detailed picture of the privatisation proceeds of single countries is given in Table 1.

In the beginning of the 1990s a real wave of privatisation began to develop. In most countries the

wave peaked in the second part of the 1990s. Austria, for example, obtained proceeds from privatisation in 1990/91 of only \$80 million, but in 1996/97 it was \$3.9 billion. Germany started with proceeds of \$325 million in 1990/91, but obtained \$14.3 billion in 1996/97. An exception is the United Kingdom, where in 1990/91 already a peak of privatisation proceeds had been reached (\$34.7 billion). But also the later revenues from privatisation have been substantial.

If one considers standardised figures of privatisation of state-owned enterprises as a percentage of GDP in the year 2000 (column 9 of Table 1), the figures presented there cover a wide range. Apart from Hungary, which was a non-market economy with a large state sector, it is Portugal which has reached by far the highest amount of privatisation proceeds over the period, namely 20.2 percent of GDP in 2000. Considering some developed OECD countries, New Zealand reaches 13.9 percent, followed by Greece with 8.8 percent, Italy with 8.2 percent and Ireland with 7.2 percent.

If one looks at the highest amounts of privatisation proceeds during the 1990s, Italy ranks first with \$98 billion, followed by Australia with \$79 billions, by France with \$74 billions, the United Kingdom with \$64 billion and Japan with \$61 billion. In general, Table 1 clearly shows that privatisation in OECD countries of the Eastern and Western type was a major issue in the 1990s.

A special method of privatisation is through public share offerings.⁶ In Table 2 figures for a longer time perspective and for a special privatisation issue, namely privatisation of state-owned enterprises through public share offerings, are given.

Over the years 1961-2000, the largest amount of privatisation of state-owned enterprises through public share offerings happened in Japan with \$ 146 billion, followed by Great Britain with \$ 98 billion, by Italy with \$85 billions and France with \$ 84 billions. Germany had only an amount of \$ 46 billions of privatisation proceeds of state-owned enterprises through public-share offerings.

⁵ The Austrian type of Keynesian policy used the public enterprises and state owned firms for such purposes quite successfully over the period 1971-1986. See Schneider (2002) and Schneider and Bartel (1992).

⁶ For more country comparative information on privatisation, see DICE database (www.cesifo.de/DICE).

Table 1

Privatisation of State-owned Enterprises: Global Amount Raised from Privatisation, 1990-2000

	1	2	3	4	5	6	7	8	9	10	11
	1990/91	1992/93	1994/95	1996/97	1998/99	2000	Total 1990-2000 (sum of 1-6)	GDP 2000	Total 1990-2000 in % of 2000 GDP ^(c)	Investment of SOE in % of total investment 1978-1991	Privatization intensity (9:10)
	- Million USD -						Billion USD				
Austria	80	191	1,735	3,954	2,564	2,083	10,607	266.3	3.9	6.2	0.62
Belgium	n.a.	956	3,297	3,039	2,277	n.a.	9,569	316.1	3.0	8.8	0.34
Denmark	644	122	239	411	4,521	111	6,048	205.6	2.9	13.5	0.21
Finland	n.a.	229	1,529	1,746	5,713	1,827	11,044	165.8	6.6	n.a.	n.a.
France	n.a.	12,160	9,615	13,288	22,460	17,438	74,961	1,755.6	4.2	14.5	0.29
Germany	325	435	240	14,353	7,098	n.a.	29,549	2,680.0	1.1	11.6	0.09
Greece	n.a.	35	117	1,953	8,772	1,384	12,261	138.1	8.8	17.9	0.79
Ireland	515	344	157	293	4,846	1,458	7,613	104.8	7.2	n.a.	-
Italy	n.a.	1,943	13,927	33,984	39,230	9,728	98,812	1,204.9	8.2	12.5	0.66
Luxembourg	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	24.7	n.a.	n.a.	-
Netherlands	895	780	7,759	2,070	1,816	310	13,630	494.6	2.7	8.1	0.33
Portugal	2,390	2,826	3,557	7,932	5,884	3,256	25,845	128.0	20.2	16.6	1.22
Spain	172	4,043	4,399	15,201	12,582	1,079	37,476	702.4	5.3	10.7	0.50
Sweden	n.a.	630	3,165	1,840	2,243	8,082	15,960	276.8	5.7	16.0	0.35
United Kingdom	34,731	9,127	8,032	12,154	n.a.	n.a.	64,044	1,294.4	4.9	11.0	0.44
EU 15	39,752	33,821	57,768	112,218	120,006	46,756	410,321	9,758.1	4.2	n.a.	-
Norway	73	n.a.	639	695	454	1,039	2,900	170.5	1.7	22.7	0.07
Switzerland	n.a.	n.a.	n.a.	n.a.	4,426	n.a.	4,426	337.0	1.3	n.a.	n.a.
Turkey	730	989	1,973	758	1,816	2,712	8,978	205.1	4.3	35.7	0.12
Czech Republic	n.a.	n.a.	2,282	1,436	1,176	544	5,438	54.0	10.0	n.a.	-
Hungary	508	2,562	4,830	3,123	441	66	11,530	54.4	21.2	n.a.	-
Poland	194	806	1,826	3,485	5,501	5,993	17,805	163.3	10.9	n.a.	-
Slovakia	n.a.	63	1,419	497	n.a.	n.a.	1,979	22.5	8.8	n.a.	-
Australia	1,061	3,950	10,144	36,011	22,366	6,239	79,771	465.2	1.3	16.4	0.08
Canada	2,312	2,004	4,488	1,768	11	n.a.	10,583	694.4	1.5	n.a.	-
Japan	n.a.	15,919	13,773	10,388	21,497	n.a.	61,577	5,639.5	1.1	8.2	0.13
New Zealand	3,912	1,597	293	1,839	1,772	n.a.	9,413	67.6	13.9	n.a.	-
United States	n.a.	n.a.	n.a.	3,650	3,100	n.a.	6,750	9,076.6	0.07	3.7	0.02
Total OECD-30	62,423	107,332	133,873	249,562	275,804	65,063	0.2	27,708.6	0.2	n.a.	-

Note: Column 10: Figures about investment of SOE in % of total investment are not available after 2001. An alternative, to take employment of SOE in % of total employment, is only available for a small group of countries.

See also for privatisation through public share offerings: DICE database Tables "Privatization of State-owned Enterprises Through Public Share Offerings 1961-2000: Issue Size per Country" and "Privatization of State-owned Enterprises Through Public Share Offerings, 1961-2000: Number and Names of Enterprises" (www.cesifo.de/DICE).

Sources: OECD, Financial Market Trends, No 79, June 2001; OECD Main Economic Indicators, December 2001; World Bank, Bureaucrats in Business, 1978-91, CESifo calculations.

Table 2

Privatisation of State-owned Enterprises Through Public Share Offerings, 1961-2000: Issue Size per Country
- Million USD -

	1961-1989	1990-1991	1992-1993	1994-1995	1996-1997	1998-1999	2000 ^{a)}	Total 1961-2000	Total 1990-1999 (only PSO)	OECD ^{b)} 1990-1999 (all priv.)
Austria	662	n.a.	211	1,086	733	n.a.	n.a.	2,692	2,030	8,524
Belgium	n.a.	n.a.	n.a.	2,571	1,100	n.a.	n.a.	3,671	3,671	9,569
Denmark	n.a.	n.a.	n.a.	3,006	n.a.	n.a.	n.a.	3,006	3,006	5,937
Finland	367	n.a.	214	800	285	5,573	1,900	9,139	6,872	9,217
France	15,478	780	9,695	19,263	12,261	24,982	1,770	84,229	66,981	57,523
Germany	4,536	n.a.	n.a.	730	13,300	10,624	17,460	46,650	24,654	22,415
Greece	n.a.	n.a.	33	n.a.	2,365	2,794	n.a.	5,192	5,192	10,877
Ireland	n.a.	136	n.a.	n.a.	n.a.	4,300	n.a.	4,436	4,436	6,155
Italy	1,157	695	2,481	10,220	34,462	36,190	n.a.	85,205	84,048	89,084
Luxembourg	n.a.	n.a.	n.a.	n.a.						
Netherlands	2,278	n.a.	n.a.	11,632	n.a.	n.a.	n.a.	13,910	11,632	13,320
Portugal	434	1,829	2,375	2,255	6,428	5,998	n.a.	19,319	18,885	22,589
Spain	2,326	n.a.	3,193	3,950	13,432	21,652	n.a.	44,553	42,227	36,379
Sweden	165	n.a.	364	3,765	n.a.	n.a.	8,800	13,094	4,129	7,878
United Kingdom	51,766	27,908	7,360	6,200	5,649	n.a.	n.a.	98,883	47,117	64,044
EU 15	79,169	31,348	25,926	65,478	90,015	112,113	29,930	433,979	324,880	363,511
Switzerland	n.a.	n.a.	n.a.	n.a.	n.a.	5,600	n.a.	5,600	5,600	4,426
Japan	82,402	n.a.	7,312	3,400	6,440	46,500	n.a.	146,054	63,652	61,577
United States	1,650	n.a.	n.a.	n.a.	n.a.	1,425	n.a.	1,425	1,425	6,750

Note: PSO = Public Share Offering.

^{a)} Till August 2000. - ^{b)} Total Amount raised from Privatisation; these figures are supposed to be bigger than those of the amount raised only from privatization through PSO. This is the case for most countries, but not for all.

Compare with DICE database table: Privatization of State-Owned Enterprises: Global Amount Raised from Privatization (www.cesifo.de/DICE).

Sources: W.L. Megginson, Sample Firms Privatised Through Public Share Offerings, 1961-Aug. 2000, 2000; <http://faculty-staff.ou.edu/M/William.L.Megginson-1/>; J.D'Souza, B. Bortolotti, M. Fantini and W.L. Megginson, Sources of Performance Improvements in Privatized Firms, 2000; <http://faculty-staff.ou.edu/M/William.L.Megginson-1/>; OECD-Figures: OECD, Financial Market Trends No. 76, 07-2000; CESifo calculations.

In general, Tables 1 and 2 clearly demonstrate that privatisation was a major issue, especially in the 1990s.

Summary and conclusions

Privatisation has certainly been a key-element of structural reform in the OECD but also in the European Union countries, including Austria, and proceeds from privatisation have been substantial in most of these countries. Gross receipts that can be transferred to the budget are affected by actions prior to sale, the sales process and the post-privatisation regime. An evaluation of the potential uses of privatisation receipts or proceeds should reflect the implications for government net worth and their macroeconomic impact. As far as government net worth is concerned, proceeds from privatisation do not often themselves indicate that the government is better off. Privatisation has longer-term implications in terms of revenues forgone and/or expenditures that will not be made in the future. Government decisions on the use of proceeds should reflect these long-run effects. Government net worth will rise to the extent that private sector ownership leads to an increase in efficiency and the government shares in this gain.

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TAXING PENSIONS: CROSS-COUNTRY DIFFERENCES AND INTERNATIONAL CO-ORDINATION

ROBERT FENGE AND
MARTIN WERDING*

How the tax treatment of public pensions and other instruments of old-age provision effectively differs across countries is an interesting topic in itself – certainly for those who are interested in the design of tax systems at a national level as well as in a comparative perspective. The progress of economic integration adds a new dimension to this theme. With the increasing intensity of cross-border activities of firms and their employees, including the cross-border activities of those who offer relevant types of financial services, differences in taxation potentially influence many of the numerous decisions involved in these international operations. In particular, this is considered an issue for EU member countries, where legal entities and individuals are now rather free to operate and locate themselves within the European Single Market.

Not surprisingly, EU level authorities have started to address the problems that may arise from the coexistence of different systems of old-age provision and different national tax codes in a process of consultation and communication that has so far generated a limited number of official statements and directives. The general approach applied to solving these problems on this level is the so-called “open method of co-ordination” (as suggested in the proceedings of the European Council Meeting in Lisbon; European Council 2000, No. 7), while the precise direction to be taken in related efforts is still open (see European Commission 1999, 2001).

Against this background, the task of this article is twofold. First, we will briefly survey the national systems applied to taxing pensions and other instruments of old-age provision across the coun-

tries of the EU-15, plus the US and Switzerland. Second, we will discuss the main reasons why, from an economic point of view, a higher degree of coordination might be useful in this area, and what the current stage of affairs really is in terms of EU-level decision making on this issue. The article draws heavily on a study prepared by Fenge et al. (2003), where features of national pension systems were covered in a much broader perspective, including their tax treatment and the problems involved in tax design at both a national and an international level.

Taxing pensions: a classification of national systems

Basically, there are three types of transactions that constitute a pension scheme and thus provide an opportunity for possible taxation: (i) contributions or premiums paid to the scheme; (ii) income derived from accumulated wealth, if any; and (iii) benefits received or withdrawals made during retirement. Accordingly, a widely used set of short forms that can be used to characterise national taxation regimes is given by three-digit combinations of the letters *T* (for “taxed”) and *E* (for “exempted”), representing the treatment of transactions at all the three stages mentioned before (see, for instance, Dilnot 1992, or Whitehouse 2001). For example, “*T E E*” is the short-hand for a system where contributions are taxed, while returns to investment and pensions are tax-free; “*E T T*” denotes a system where contributions are tax-exempt, while fund income and benefits are not.

The taxonomy introduced here has been originally suggested for occupational pension plans and other forms of private old-age provision. When it is applied to public pension schemes, minor modification are therefore useful. As, throughout the world, public pensions are largely unfunded – or as existing funds are virtually nowhere attributed to individual accounts – taxing capital yields is not an option here. For this reason, two-digit combinations like “*T – E*” or “*E – T*” would form an analogous set of abbreviations for public pensions. In fact, there is even a considerable number of public pension schemes that are financed from the general government budget and, hence, do not even involve any ear-marked contributions that could be subjected to, or exempted from, taxation. In

* Dr. Robert Fenge is senior research fellow at the department for Public Finance, Ifo Institute, Munich.
Dr. Martin Werding is head of the department for Social Policy and Labour Markets, Ifo Institute, Munich.

these cases, “ $- - T$ ” or “ $- - E$ ” are effectively the only two options available.

One of the main distinctions between the different tax regimes that are logically possible is whether, in terms of the conventional public finance literature, they correspond to a “comprehensive income tax” or an “expenditure tax”. The difference between these two types of arrangements lies in whether fund income derived at the intermediate stage is taxed periodically – as it is considered part of an individual’s comprehensive income tax base – or not. In the former case, the tax system does not affect decisions as to how the income is spent in a given period of time, in particular on consumption vs saving; in the latter, it encourages saving, but is basically neutral with respect to consumption today vs consumption tomorrow. From an economic point of view, this difference is much more important than whether taxation is mainly concentrated at the early stages of the accumulation process ($T E E$ or $T T E$) or at later periods of time ($E E T$ or $E T T$).¹ On the other hand, the difference between the “income” vs “expenditure” tax approach is sometimes exaggerated (see, for example, Börsch-Supan and Lührmann 2000) when comparisons are made that are not neutral with respect to the present value of total tax revenues. If this is imposed as an additional constraint, the differential impact of the two regimes on labour supply, saving, economic growth, and other variables rests on a number of potential behavioural adjustments that are not easy to predict.

In the following, we will first of all apply the simple way of characterising national tax systems introduced before in order to illustrate existing differences with regard to how public pensions, occupational pensions, and fully private provisions are taxed in different countries. In order to assess the various systems, one should keep in mind that, as the general rule embodied in national tax codes, virtually all of the countries considered here apply some variant of an “income tax” (sometimes more, sometimes less comprehensive), not an “expenditure” or “consumption” tax. Thus, any deviation from this rule for pensions and other old-age provisions can be seen as favourable tax treatment.

¹ For practical reasons, imposing taxes early or later on can, of course, make a difference – for example, with respect to when public revenues are generated. Also, neutrality results with regard to the timing of taxation – at least for $T E E$ vs $E E T$ or for $T T E$ vs $E T T$ – which are obtained in simple models need no longer be valid when complications like progressive taxation or inflation (and cold progression) enter the picture; see Fenge et al. (2003, ch.7). Here, we will not go into these details.

The treatment of public pensions

In the majority of cases, public pensions schemes are formally taxed according to an $E - T$ -type rule (see table below). As a rule, the share of contributions paid by employers is considered part of the payroll and therefore reduces the firm’s taxable profits; in addition, they are usually not treated as taxable income on the employees’ side. Similarly, employees’ contributions are usually subtracted from the individuals’ income tax base and are thus made from income before taxes. Exceptions are Germany and Ireland, where the deductibility of employees’ contributions is subject to an upper limit, and the UK and the US where contributions have to be made from income after taxes. Consequently, pension benefits accruing later on are mostly subjected to general income taxation in a way which, among other things, reflects how contributions were either taxed or went untaxed.

As public pensions are mainly unfunded and do not involve any capital yields that are attributable to individual tax-payers, $E - T$ systems therefore appear to be basically consistent with the idea of a comprehensive income tax. In many cases, however, there are additional forms of tax breaks related either to the taxpayer’s age or to “pensions” as a particular category of income. Sometimes, these allowances also vary by levels of total income, benefits, etc. As a result, public pensions are often to some extent, in the case of basic pensions even fully, exempted from taxation.

These qualifications imply that the short forms used in the table do not indicate everything that is worth knowing about the tax treatment of public pensions at a national level. For instance, the way things are represented for Germany does not reveal that public pensions derived from (less-than) average earnings are effectively tax free if they are the major source of retirement income.² Similarly, the information provided for the UK system should not be taken to imply that there is a true double taxation in the strict sense of the word in this country. Instead, tax liabilities are limited at both stages so that the total amount of taxes involved is basically not excessive. This should be taken as a general caution which also applies to the short forms used for the tax rules in other coun-

² Currently, Germany is considering the transition to an $E - T$ scheme with a more stringent taxation.

Taxation of public and occupational pensions in selected OECD countries

	Tax treatment of	
	Public pensions	Occupational pensions
Austria	$E - T$	$EE T$ or TEE^c
Belgium	$E - T$	$EE T$
Denmark	$-- T^a$ and $E - T^b$	$EE T$ or ETT^c
Finland	$-- T^a$ and $E - T^b$	$EE T$
France	$E - T$	$EE T$
Germany	$E/T^c - E/T^d$	$EE T$ or TEE^c
Greece	$E - T$	$EE T$ or TEE^c
Ireland	$E/T^c - T$	$EE T$
Italy	$E - T$	$EE T$ or ETT^c
Luxembourg	$E - T$	TEE
Netherlands	$E - T$	$EE T$
Portugal	$E - T$	$EE T$
Sweden	$E - T$	ETT
Spain	$E - T$	$EE T$
Switzerland	$E - T$	$EE T$
United Kingdom	$E/T^c - T$	$EE T$
United States	$T/E^c - T/E^d$	$EE T$

^{a)} For tax-financed basic pensions. - ^{b)} For earnings-related supplementary pensions. - ^{c)} Tax deductibility of contributions limited. - ^{d)} Taxation of benefits limited through special rules (not general tax allowances). - ^{e)} Depending on the type of pension plan.

Note: The three-digit combinations used here to represent national tax rules indicate whether there is taxation (T) or tax exemption (E) of transactions at each of the following stages: (i) contributions or premiums paid to the scheme; (ii) income derived from accumulated wealth; (iii) benefits received or withdrawals made during retirement.

Source: Fenge et al. (2003, ch. 5 and 6).

tries as well as for the tax treatment of other types of old-age provision.

The treatment of occupational pensions

In the countries covered here, the dominant form of taxation of employer-based pensions is $EE T$ (again, see the table). The variant ETT is applied in Denmark and Italy for some types of occupational pensions, and in Sweden it is the standard treatment.

In virtually all the countries considered, contributions made by both employers and employees are tax-deductible at least to some extent. Again, most countries do not treat the employers' contributions as taxable income of employees. Note, however, the requirements that have to be met by a pension plan to qualify for this particular tax treatment are widely different across countries. Returns to investment and capital gains that arise from changes in asset prices are mostly tax-free. Only in some countries are they subject to capital income taxation.

Irrespective of whether accumulated wealth is annuitised or withdrawn as a lump-sum, all pen-

sions paid out are generally included in the income tax base of the recipients. Tax rates and, eventually, tax breaks differ substantially between countries. In some countries, lump-sum payments enjoy a favourable tax treatment, while in contrast they are generally ruled out in others.

Austria, Germany, and Greece are the only countries where, as a deviation from the model described so far, the taxation follows a TEE -pattern for some types of occupational pensions; in Luxembourg, this is the standard procedure.

The treatment of private provisions

Including a discussion of the tax treatment of fully private provisions for old-age is difficult for several reasons. The most important problem is that virtually any kind of savings or wealth can serve as an instrument for old-age provision – even choosing an appropriate timing to buy consumer durables could be seen as a limiting case. Thus, looking at the tax treatment of private pension plans or annuities alone might be too narrow a view. (In fact, markets for financial products of these types are extremely thin in many industrialised economies because of the predominance of public provision and other types of saving.) On the other hand, different types of saving, or wealth accumulation, are often subjected to a very different tax treatment even within a country – often for reasons that are not, or not primarily, related to encouraging private old-age provision. A very prominent example, which is nonetheless important, also as a source of retirement consumption, is certainly owner-occupied housing and wealth in terms of real estate. Another one is the special rules that are meant to subsidise wage earners when investing in small shares of equity capital in general or in own-company stock in particular. As a consequence, including a broad array of instruments of private old-age provision in this investigation is next to impossible as it would lead us into a number of distinct areas of tax rules that would each deserve an in-depth treatment.

Pars pro toto, we therefore concentrate on the tax treatment of life-insurance contracts, including those that are annuitised in the pay-out phase. Across countries, products of this kind are rather uniform, even though the regulatory framework for insurance companies and other providers may

differ. Private life-insurance contracts and annuities are taxed according to *E T T*, rather than *E E T*, rules in the majority of cases. In other words, capital gains are mostly subject to taxation in this area. Also, even for the narrow set of instruments considered here, the tax treatment of private provisions is less uniform than in the case of the other pillars.

Taking *E T T* as the most wide-spread case, it should be mentioned that in Austria, Germany, France, Portugal, Spain and the US, tax deductibility of premiums is limited or even absent. Consequently, these countries – as well as Greece where premiums are tax-free – do not tax insurance benefits under a number of qualifying conditions, such as insurance period, form of payments, or age of the insured when benefits are paid out. Capital gains are tax-free in Austria, Finland, Greece and the Netherlands. All in all, insurance premiums are subsidised and/or benefits are subjected to special tax incentives in more than half of the countries considered, but the precise terms of the favourable treatment are very different and thus cannot be represented in the framework of our very simple scheme.

International co-ordination

Based on the rights to freely move goods, services, capital, and labour in the Single Market, economic integration of the EU is becoming more and more intense. Against this background, national systems of old-age provision can no longer be taken to be entirely separate institutions. Instead, they may create obstacles for further integration, thus contradicting the spirit of the 1957 ECC Treaty and openly violating current EU-level legislation. Effectively, the coexistence of different systems of old-age provision and different tax codes within the Single Market can run counter to all the four freedoms laid down in the EC Treaty.

Those who are affected by restrictions of the freedoms of the Single Market are insured individuals, their employers, and also financial intermediaries that are active in the relevant markets. In addition, any restriction which immediately affects just one of the freedom rights – free mobility of labour, for instance – potentially hits the full set of freedoms through effects on decisions taken by firms and their customers. Co-ordination problems which are

mainly relevant for labour mobility arise from differing tax rules for old-age provisions, differing definitions of membership rules for both public and employer-based pension schemes and from difficulties regarding the portability of pension entitlements, including an effective non-transferability of accumulated wealth, on an international level. For first-pillar pensions, an EU-level legal framework of co-ordinating social law has been in place for quite some time now, effectively removing all major obstacles for labour mobility in this area. An analogous framework for occupational pensions is however lacking. In the following we will discuss in more detail the co-ordination problems of differences in the taxation of pensions.

Discriminating tax treatment

It is easy to see that differences in the acceptance of tax advantages with respect to domestic and foreign providers of old-age pensions are a source of potential restrictions for free mobility of services, labour, and capital. Discriminating tax rules mean that some countries provide tax advantages only for domestic pension schemes. This may hinder free mobility of workers if the destination country does not fully grant tax deductions of contributions to a pension scheme that the worker wants to maintain in his origin country. But also free mobility of services and capital can be obstructed if foreign suppliers of pension provisions have to fulfil special conditions in order to be fully accepted for tax deductions. In the communication KOM (2001) 214, the Commission posits that these obstacles to the Single Market shall be removed. The principle of “non-discrimination” offers a tool for EU-level authorities which can be applied to removing all barriers to labour mobility that are due to differing approaches to taxing old-age provision, including different conditions that have to be met in order to qualify a pension plan for a favourable tax treatment. Similar barriers that are relevant for a free flow of services cannot be tackled in the same way, as national legislators are fully responsible for occupational pensions offered inside their countries. Parallel problems that arise when insured individuals or insurance services move from one country to another thus have to be solved using different approaches. With respect to the latter type of problems, the Commission limits its activities to asking national legislators for a revision of tax rules which hamper cross-border

transfers of accumulated wealth as they may restrict the free mobility of capital.

Co-existence of differing tax rules

If instruments of old-age provision are taxed according to different rules, pensions accruing to mobile workers (or to pensioners who migrate after retirement) can be subjected to double taxation – or, possibly, even tax-free. The Commission therefore discusses several strategies which can be adopted to avoid these cases and help national tax authorities in effectively applying their tax codes without interfering with the freedoms of the Single Market. So far, there is no final conclusion as to what strategy is considered preferable.

Lacking both the responsibility and the ambition for a true tax harmonisation, the Commission states it would be desirable if a larger number of EU countries were to adopt an *EET* approach to taxing instruments of old-age provision. Obviously, this would facilitate co-ordination. But *EET* taxation can adopt a variety of forms in different countries. For example, in some countries the amount of tax-deductible contributions to occupational pension schemes is made dependent on the contributions to the public pension system. Different preferences of the EU member states with respect to the structure of the old-age pension schemes and the relation between public and occupational pension schemes may result in significant differences in the amount of tax-deductible contributions. A standardisation of the taxation of pensions according to the *EET* rule would therefore not fully succeed in removing impediments to mobility. In addition, the rules of the tax-deductibility of contributions, capital gains, and benefits would have to be harmonised across countries in order to allow for a perfect liberalisation of mobility.

As an alternative, bilateral agreements (in the first place, existing tax conventions or double taxation treaties) could be used to find solutions that are geared to particular co-ordination problems arising in a specific context. The advantage of bilateral agreements is that the specifications of each two pension and tax systems can be taken into account and co-ordination is much easier than under multilateral or community-wide arrangements. On the other hand, negotiating and adapting the multitude of mutual agreements that would be needed could

turn out to be very costly, and a uniform treatment of identical cases still is not guaranteed. This is true even if the majority of existing treaties is based on the OECD Model Tax Convention, which establishes a different tax treatment for the three pillars of typical old-age protection systems. Double taxation treaties between Germany and other EU countries generally stipulate that occupational pensions and private provisions are taxed according to the country of residence, pensions accruing to public sector employees and civil servants are taxed in the source country, while other public pensions are taxed in either of these countries depending on the particular case.

Taxation in the source country or residence country?

From an economist's point of view, returns on investments in old-age provision should be taxed in the country of residence – provided that a taxation of capital gains is intended at all. The reason is that this leaves investment decisions unaffected. This holds true for private old-age provisions where the person with pension claims is able to decide in which country the investment takes place. If this is not the case, as in occupational or public pensions schemes, where either the employer or the state undertakes the investment decision it is more appropriate to prevent the option of pensioners' evading the tax burden by moving abroad. This can be done by a taxation in the source country where the pension wealth will also be taxed even if the pensioner has moved to another country.

As to the taxation of either contributions or benefits, none of the two approaches that are feasible turns out to be neutral with respect to the potential mobility of tax payers. Taxation in the source country may distort migration decisions taken by workers in their active period of life; taxation in the residence country may distort choices of residence after retirement. Thus, as Richter and Wiegard (2001) put it, "distortions of the choice of the working place have to be weighted against distortions of the choice of residence in retirement". In combination with an *EET* approach, implying that taxes imposed on transactions with a pension plan are effectively credited until retirement, taxation in the source country is the only way to make sure that tax authorities finally get "their" money. At the same time, taxation in the country of residence is desir-

able to the extent that taxes are meant to remunerate the public sector for the extra-cost associated with an additional resident. If there are good reasons for taxing pensions paid across borders in any one of the two or more countries involved, while double taxation should be avoided, then splitting the right to tax between source and residence countries might be an appropriate solution.

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FUNCTIONAL DECENTRALISATION OF GOVERNMENT ACTIVITY

RIGMAR OSTERKAMP AND

MARKUS ELLER*

The degree of decentralisation of government activity can be measured and analysed in several different ways. One is to focus on total government expenditures and to ask, first, for the share that is spent on sub-central levels of government and, second, for the reasons why countries differ in this share. This has been done in an earlier article of the authors (Osterkamp, Eller 2003). It has been found that the degree of decentralisation differs quite considerably between countries and that the differences can best (but only partly) be explained by differences of the constitution (i.e., federal vs. unitary) as well as by those of country size. However, this rough measure of the degree of decentralisation might hide important features and should, thus, also be looked at in an aggregated way, namely by functional categories (or types of expenditures). This is the aim of this contribution.

The Government Finance Statistics of the IMF contain the necessary data for such an analysis. The data source distinguishes between 14 different types of expenditures: 1. General Public Services; 2. Defence; 3. Public Order & Safety; 4. Education; 5. Health; 6. Social Security & Welfare; 7. Housing & Community Amenities; 8. Recreational, Cultural and Religious Affairs and Services; 9. Fuel & Energy; 10. Agriculture, 11. Forestry, Fishing and Hunting; 12. Mining and Mineral Resources, Manufacturing, Construction; 13. Other Economic Affairs & Services; 14. Other Expenditures, e.g. Interest Payments.

Function-specific decentralisation ratios

Calculating the sub-national (i.e.: non-central or sub-central level) expenditures by function as a percentage of total government expenditures by

(the same) function, we get function-specific decentralisation ratios. Table 1 shows these ratios and indicates specialisation of sub-national tiers of government on specific policy tasks.

The most decentralised policy field is Recreational, Cultural and Religious Affairs and Services (B8). On average over all countries, 73 percent of total government expenditures for this policy field is spent on one or the other of sub-central levels. Housing and Community Amenities (Cat. 7) ranks second in the decentralisation degree, with an average of 70.8 percent. Education (Cat. 4) follows next with an average of 63.7 percent. The least decentralised are the expenditures for Defence (Cat. 2), with an average of less than 1 percent, and for Social Security & Welfare (Cat. 6), with an average of 18.4 percent.

For some of the functions the differences of the decentralisation degree between countries are remarkable. Expenditures for Public Order (Cat. 3) range from only a 12 percent degree of decentralisation in Denmark to 100 percent in Ireland. Health expenditures (Cat. 5) at over 95 percent are highly decentralised in Canada (federal) as well as in Denmark (unitary), while the decentralisation degree of this function in France is only 2 percent.

When we look at the averages of the federal and the unitary countries we recognise – not astonishingly, but also not necessarily – that for each policy field, without exception, the decentralisation degree is higher in the federal than in the unitary countries. But the extent of these differences differs between fields. This is made explicit by the figures in the last line of Table 1, which contains the ratio between the average of the federal to that of the unitary countries and, thus, answers the question of the fields in which the differences in decentralisation are relatively small and large, respectively. Relatively small differences between these two groups of countries are found in the policy areas of Social Security (Cat. 6), Housing (Cat. 7) and Recreation (Cat. 8), whereas the differences are relatively large, e.g., in Agriculture (Cat. 10). This result can also be put differently: Public expenditures for Social Security, Housing and Recreation are decentralised to a similar degree in federal as well as in unitary countries, while the decentralisation degree in agriculture differs widely between the two country groups.

* Markus Eller is Research Assistant at the Research Institute for European Affairs, Vienna University of Economics and Business Administration.

Table 1

 Function-specific Decentralisation Ratios
 Sub-central expenditures by function as % of total government expenditures by function

Country	Latest year available	Cat. 1	Cat. 2	Cat. 3	Cat. 4	Cat. 5	Cat. 6	Cat. 7	Cat. 8	Cat. 9	Cat. 10	Cat. 11	Cat. 12	Cat. 13	Cat. 14	Total sub-central expenditure as % of total government expenditure
		General Public Services	Defence	Public Order & Safety	Education	Health	Social Security & Welfare	Housing & Community Amenities	Recreational, Cultural and Religious Affairs and Services	Fuel & Energy	Agriculture, Forestry, Fishing and Hunting	Mining and Mineral Resources, Manufacturing, Construction	Transportation & Communication	Other Economic Affairs & Services	Other Expenditures (e.g. interest payments)	
Australia	1998	54.4	0.0	86.8	72.2	48.1	9.7	76.6	79.7	26.1	53.4	57.7	85.4	42.1	20.4	49.8
Canada	2000	36.8	0.0	66.8	94.5	95.9	31.2	73.7	69.2	98.5	64.4	99.6	89.9	57.4	35.3	59.8
Denmark	2000f	28.9	0.0	12.1	45.5	95.1	54.9	28.8	54.1	0.1	0.0	11.7	50.5	40.9	3.5	56.5
France	1993	25.7	0.0	27.7	37.2	2.2	8.8	81.7	72.6	81.0	0.0	0.0	42.3	0.0	15.2	18.6
Germany	1996	61.9	0.0	92.4	95.8	27.6	21.4	92.6	95.6	63.9	84.9	6.1	56.6	50.0	36.9	37.8
Ireland	1997	7.9	0.0	100.0	21.8	48.4	6.3	70.4	48.7	51.3	13.1	0.0	43.5	8.3	2.8	23.5
Luxembourg	1995	16.2	0.0	24.5	21.4	1.8	2.2	56.1	58.6	93.9	24.7	n.a.	18.7	10.9	13.9	15.4
Netherlands	1997	28.9	0.0	24.6	33.3	4.6	14.4	78.7	82.6	45.4	0.9	28.3	35.0	0.0	14.9	26.1
Norway	1998	34.4	0.0	16.9	63.5	77.2	18.6	86.9	65.4	0.0	0.0	0.0	30.5	14.8	9.9	37.9
Russia	2000	28.2	0.3	23.3	82.4	90.1	10.2	95.5	75.0	15.7	60.9	59.8	68.3	49.2	14.3	38.7
Spain	1997	56.4	0.0	40.8	71.3	62.7	5.9	93.1	83.0	24.7	72.0	65.8	62.0	44.9	15.7	35.9
Switzerland	1999	58.4	9.8	92.7	89.9	44.2	23.3	85.1	87.0	51.8	44.8	0.0	58.0	60.7	44.4	49.2
United Kingdom	1999	20.6	0.1	49.1	67.9	0.0	19.7	39.9	74.4	0.0	9.8	2.9	60.7	8.9	8.8	25.7
United States	1999	31.6	0.0	81.3	95.3	42.9	31.3	32.4	76.3	0.0	40.3	0.0	74.5	32.9	41.9	48.5
Average		35.0	0.7	52.8	63.7	45.8	18.4	70.8	73.0	39.4	33.5	25.5	55.4	30.1	19.9	37.5
Average Federal		45.2	1.7	73.9	88.3	58.1	21.2	76.0	80.5	42.7	58.1	37.2	72.1	48.7	32.2	47.3
Average Unitary		27.6	0.0	38.3	46.4	41.4	17.4	64.8	66.7	30.8	17.2	18.1	43.0	18.4	9.9	31.9
Avg. Unit. / Avg. Federal		61.1	0.7	51.8	52.5	71.2	82.3	83.3	82.9	72.1	29.6	48.7	59.6	37.8	30.9	67.3

Notes:

- Names of federal countries are in italics.
- Sub-national expenditures refer to the expenditures of the state/regional/provincial government sub-sector (if any) and the local government sub-sector.
- Austria, Finland, Sweden: data for expenditure by function were not available for LOC. The respective authorities were not able to provide a functional classification of the expenditures. However, data for total expenditures is available for LOC - the share of sub-national governments in total expenditures can be constructed. Belgium, Italy, Portugal: the respective authorities did not report data for expenditure by function neither for CEN, nor for LOC. However, data for total expenditures are available by level - the share of sub-national governments in total expenditures can be constructed. Greece has two levels of government (central and local), but they do not report local government data by function for publication in the GFSY.

Source: IMF, Government Finance Statistics Yearbook, 2001, Washington D.C. 2000, Ifo calculations.

Although federal countries exhibit relatively high general degrees of decentralisation, there are also expenditure categories where the central level is still strongly involved. This holds particularly for defence (only Switzerland spends a considerable amount for defence at the sub-central level) and Social Security (the highest decentralisation ratios in the USA and Canada with about 31 percent). Furthermore, we can find different emphases of decentralisation within federal countries (decentralisation ratio ≥ 80 percent): Australia (Public Order, Recreation), Canada (Mining, Manufacturing, Construction, Fuel and Energy, Health, Education, Transport), Germany (Education, Recreation, Housing, Public Order, Agriculture), Russia (Housing, Health), Switzerland (Public Order, Education, Recreation, Housing), USA (Education, Public Order). In unitary countries we can also find expenditure categories where the decentralisation ratio is greater than 80 percent: Denmark (Health), France (Housing, Fuel and Energy), Ireland (Public Order), Netherlands (Recreation), Norway (Housing), Spain (Housing, Recreation), United Kingdom (Education, Public Order).

Comparing the general decentralisation ratios (last column of Table 1) with the function-specific ones, remarkable differences can be seen. France or Luxembourg show a low general degree of decentralisation (France: 18.6 percent, Luxembourg: 15 percent), but within the fields of Housing, Recreation or Fuel and Energy they spend between 60 percent and 90 percent of total expenditures at the sub-central level. Of interest are also the cases of Canada and Denmark: both countries exhibit more or less the same sub-central share in total expenditures (Canada: 60 percent, Denmark: 56.5 percent); but comparing their decentralisation ratios by function, considerable differences arise. While in 10 out of 14 examined categories Canada spends more than 50 percent of general government expenditures at the sub-central level, in Denmark this is the case in only four categories. The high general decentralisation degree in Denmark is mainly the result of the high decentralisation degree of one expenditure category, namely that of social expenditures (Cat. 6) at 55 percent.

Relative importance of sub-central expenditure categories

For a full characterisation of the functional decentralisation one should not only ask for the sub-cen-

tral expenditures of a certain function as a share of all public expenditures of that function (Table 1), but one should ask additionally how the sub-central expenditures are distributed over the different public tasks. This is the content of Table 2.

Table 2 indicates that, on average, the countries concentrate their sub-central expenditures mainly on Education, Social Security and Health, with average shares of 21.2 percent, 17.1 percent and 15.4 percent, respectively. Although health care might be regarded – on economic grounds – as a very meaningful expenditure category for sub-central levels, the central level is, however, strongly involved in the execution of that field of activity, visible from the generally moderate function-specific decentralisation ratios (with the exception of Canada, Denmark, Russia, Norway and Spain). The opposite holds for Recreation: while it is the most decentralised expenditure category, its share in total sub-central expenditures is relatively low.

Normative considerations

In a last step we would like to dig deeper into the expenditure categories with the highest relative importance for sub-national government levels and discuss their appropriate assignment. These are: Education, Social Security and Health. From a general and normative point of view, heterogeneous local preferences, limited cross-regional externalities, limited possibilities for seizing scale effects, or inter-jurisdictional competition stand in favour of decentralisation (see Alesina, Perotti, Spolaore 1995, Andersson, Hårsman, Quigley 1997, Behnisch, Buettner, Stegarescu 2001, Breuss, Eller 2003, Eichenberger, Hosp 2001, Thießen 2000, Thomas 1997). It is necessary to check country-by-country and function-by-function to see whether these features are pronounced and whether the de facto decentralisation corresponds to the normative advice. This is done in a preliminary way for the mentioned most important sub-central expenditure categories.

Education expenditures

For education, arguments have been put forward to justify a central or a sub-central assignment. Consideration of heterogeneous local preferences, effects of inter-jurisdictional competition, or limited cross-regional externalities (see Alesina et al.

Table 2

Relative Importance of Sub-central Expenditure Categories
Sub-central expenditures by function as % of total sub-central expenditures

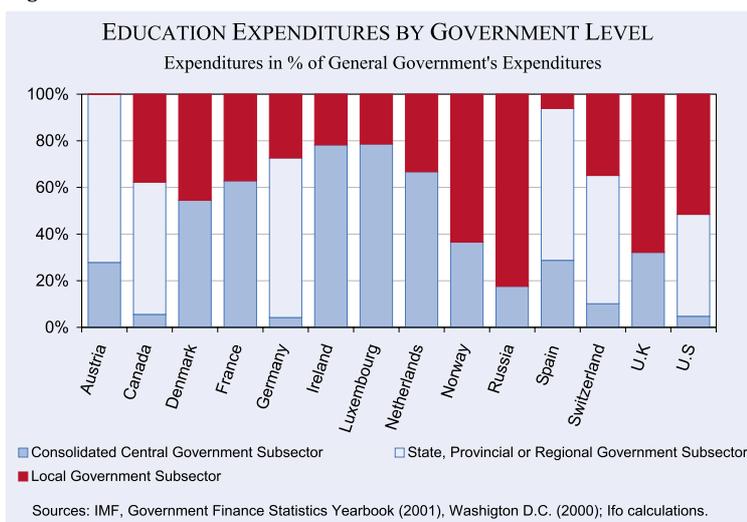
Country	Latest year available	Cat. 1	Cat. 2	Cat. 3	Cat. 4	Cat. 5	Cat. 6	Cat. 7	Cat. 8	Cat. 9	Cat. 10	Cat. 11	Cat. 12	Cat. 13	Cat. 14	Total
		General Public Services	Defence	Public Order & Safety	Education	Health	Social Security & Welfare	Housing & Community Amenities	Recreational, Cultural and Religious Affairs and Services	Fuel & Energy	Agriculture, Forestry, Fishing, and Hunting	Mining and Mineral Resources, Manufacturing, Construction	Transportation & Communication	Other Economic Affairs & Services	Other Expenditures (e.g., interest payments)	
<i>Australia</i>	1998	11.0	0.0	7.5	25.9	18.0	5.0	5.2	5.0	0.3	2.1	0.5	11.0	2.2	6.3	100.0
<i>Canada</i>	2000	2.9	0.0	5.0	27.6	22.9	14.3	2.7	2.4	1.2	1.9	0.2	5.9	2.7	10.6	100.0
Denmark	2000f	3.9	0.0	0.3	12.3	16.1	57.5	0.9	2.8	0.0	0.0	0.1	2.8	2.5	0.8	100.0
France	1993	10.6	0.0	2.3	19.6	2.3	17.7	24.1	7.7	4.2	0.0	0.0	3.6	0.0	7.8	100.0
<i>Germany</i>	1996	6.4	0.0	6.2	18.3	10.6	20.1	8.6	3.5	0.3	2.2	0.1	5.8	4.3	13.6	100.0
Ireland	1997	2.3	0.0	1.8	11.0	44.6	5.1	14.6	1.9	3.8	2.2	0.0	11.0	0.7	1.1	100.0
Luxembourg	1995	10.5	0.0	3.0	14.9	0.2	6.4	20.9	12.3	10.0	2.6	0.0	12.7	0.9	5.4	100.0
Netherlands	1997	9.4	0.0	3.4	17.9	2.6	22.6	20.0	5.8	0.5	0.0	0.5	6.7	0.0	10.6	100.0
Norway	1998	5.6	0.0	0.9	23.1	31.6	17.4	6.7	4.4	0.0	0.0	0.0	4.5	0.8	5.1	100.0
<i>Russia</i>	2000	5.0	0.1	2.7	17.8	13.2	6.0	20.5	3.5	0.5	3.4	5.8	12.3	0.9	8.3	100.0
Spain	1997	6.9	0.0	4.2	18.3	20.6	5.1	10.7	5.4	0.1	3.5	1.0	7.2	2.7	14.3	100.0
<i>Switzerland</i>	1999	6.4	0.6	6.6	24.0	17.2	16.5	4.8	3.4	0.2	3.7	0.0	8.9	0.7	7.0	100.0
United Kingdom	1999	4.0	0.0	12.3	28.7	0.0	32.5	5.4	3.0	0.0	0.1	0.0	4.9	1.0	8.0	100.0
<i>United States</i>	1999	4.4	0.0	7.4	37.1	15.6	13.3	1.4	1.8	0.0	1.1	0.0	7.2	0.8	9.9	100.0
Average		6.4	0.0	4.5	21.2	15.4	17.1	10.5	4.5	1.5	1.6	0.6	7.5	1.4	7.8	100.0
<i>Average Federal</i>		6.0	0.1	5.9	25.1	16.3	12.5	7.2	3.2	0.4	2.4	1.1	8.5	1.9	9.3	100.0
<i>Average Unitary</i>		6.6	0.0	3.5	18.2	14.7	20.6	12.9	5.4	2.3	1.1	0.2	6.7	1.1	6.6	100.0
Avg. Unit. / Avg. Federal		110.0	2.6	59.8	72.6	90.7	163.9	179.3	167.0	562.6	44.1	17.6	78.4	56.3	71.6	

Notes:

- Names of federal countries are in italics.
- Sub-national expenditures refer to the expenditures of the state/regional/provincial government sub-sector (if any) and the local government sub-sector.
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Source: IMF, Government Finance Statistics Yearbook, 2001, Washington D.C. 2000, Ifo calculations.

Figure 1



2001, Smekal 2001, Persson et al. 1996) speak in favour of a local provision of educational services. But there are also strong reasons in favour of an assignment to the central level: adverse effects of sub-national provision on the stock of human capital (Ter-Minassian 1997), avoidance of R&D duplication (Hoeller et al. 1996), or increase of national labour mobility due to enforced teaching of nation-wide subjects (Persson et al. 1996).

Figure 1 shows the decentralisation of education expenditures, which are the most important category for sub-national governments (sub-national education expenditures amount on the average to circa 21 percent of total sub-national expenditures, see Table 2). Remarkable differences arise between federal and unitary countries. 90 to 96 percent of education expenditures are spent at the sub-national level in Switzerland, Canada, USA and Germany, while the respective decentralisation ratios in Luxembourg, Ireland, Netherlands, France and Denmark lie only between 21 and 46 percent. It is unlikely that the stated normative features are so differently pronounced between the analysed countries. It is more obvious that in this case the kind of constitutional structure (federal vs. unitary) determines decisively the allocation of education competencies to different levels of government and indirectly also the amount of expenditures disposable for each level.

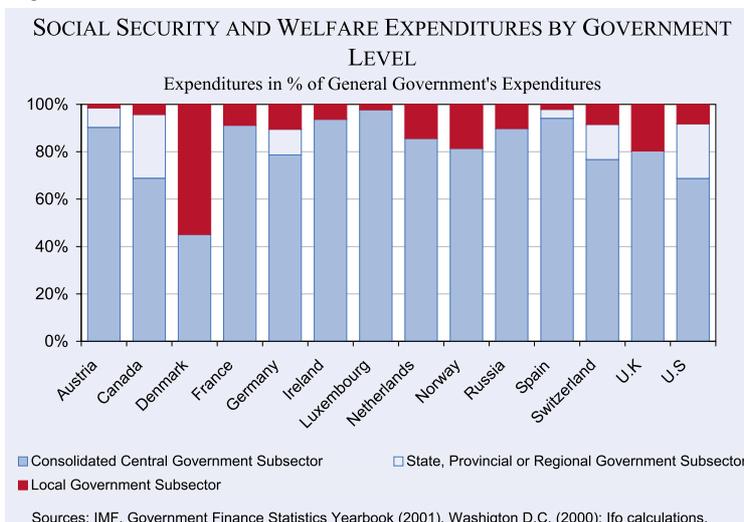
Social Security expenditures

Local preferences and inter-jurisdictional competition are stated as arguments in favour of sub-national responsibility for social policy (Alesina, Angeloni, Schuknecht 2001, Smekal 2001). Additionally, the improvement of administrative efficiency and a low level of mobility, which limits spill-overs (see Hoeller, Louppe, Vergriete 1996, p. 38), strengthen decentralised responsibility. But there are also valuable reasons for central assignment. Ter-Minassian (1997) discusses the effects

of social risk-pooling at the central level and perceives the importance of a central guarantee of nationwide standards for social insurance. Persson, Roland, Tabellini (1996) supplement this position with their politic-economic point of view – they advise a strong role of the central level because of the danger of social dumping between sub-central tiers. Despite this centralisation recommendation, they also acknowledge the dilution of rigid labour market constraints by regulatory competition, which, in turn, calls for decentralised responsibility.

In fact, social expenditures are strongly centralised. Figure 1 depicts the respective decentralisation ratios regarding social security and welfare expenditures. In our sample between 69 percent (United States, Canada) and 98 percent (Luxembourg) of social expenditures are spent at the central level. Federal

Figure 2



countries spend per average more at the sub-national level than unitary countries. A fundamental exception is Denmark, where about 55 percent of social expenditures are spent at the sub-central level. It might be that normative pro-decentralisation arguments are particularly pronounced in Denmark with regard to this expenditure category.

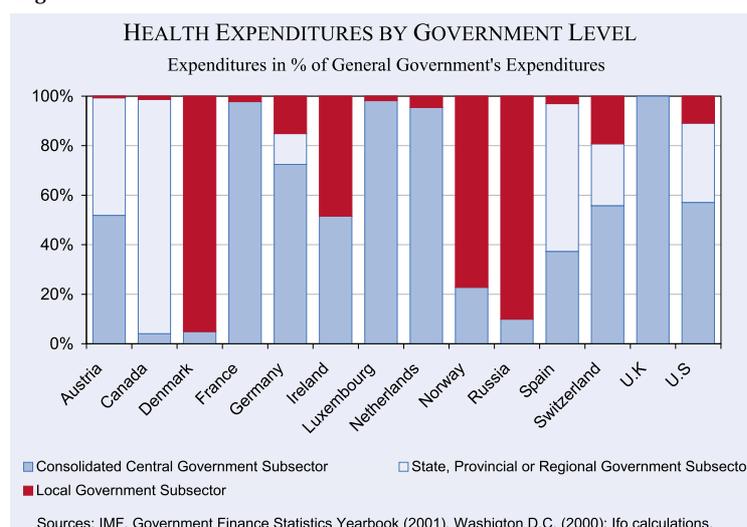
Health expenditures

On the one hand, heterogeneous preferences, inter-jurisdictional competition effects as well as limited cross-regional externalities are the crucial reasons for a decentralised provision of health care. On the other hand, inefficiencies might arise because of overlapping or duplication of health services in the case of local health care provision. Therefore, Ter-Minassian (1997), e.g., favours the assignment of health tasks to the central level and emphasises the importance of a central guarantee of nation-wide health standards. Empirical analysis does not clarify this theoretical trade-off: Letelier (2001) analyses the impact of fiscal decentralisation on the efficiency of education and public health and concludes that fiscal decentralisation produces a significant improvement on the efficiency of education, but the quality of public health services is improved only to a statistically less robust degree.

In our sample the degree of decentralisation differs enormously between the countries analysed. Canada, Denmark and Russia spend between 90 percent and 96 percent of health expenditures at the sub-national level, while France, Netherlands, and Luxembourg spend only between 2 and 4 percent and the United Kingdom spends nothing at the sub-national level. In the case of education, the degree of decentralisation amounts to 96 percent in Germany, but in the case of health care this degree decreases to 28 percent. Strong deviations from education can also be detected in Switzerland (education: 90 percent, health: 44 percent) and the United States (education: 95 percent, health: 43 percent).

These remarkable international differences and policy-specific deviations call for further work at

Figure 3



the theoretical and empirical front. Pros and cons of a decentralised government have to be detected in a task-specific way, following a case-by-case approach (see Breuss, Eller 2003). For a clearer understanding of the political, social and economic factors governing the assignment and the effects of certain assignment decisions, it will be indispensable to develop country-specific normative profiles and evaluate the de facto decentralisation of public activities.

Summary and concluding remarks

Public expenditures on sub-central levels have been analysed by function (14 different types of expenditure) and for 14 countries. The following results were obtained:

- (i) The functional decentralisation degrees in our country sample are highest in the policy fields Recreational, Cultural, Religious Affairs; Housing and Community Amenities; Education; Transportation and Communication; as well as in Public Order and Safety. Even countries which show low general degrees of decentralisation, like France or Luxembourg, exhibit a high decentralisation ratio in these policy fields.
- (ii) Federal countries, on average, exhibit in each of the different fields of activity higher decentralisation degrees than the average of the unitary countries. In the fields of Agriculture, Public Order and Education, these differences are specifically pronounced.

- (iii) Sub-central spending is heavily concentrated on Education, Social Security, Health, and Housing.
- (iv) Comparing normative recommendations regarding the optimal assignment of these policy tasks to different levels of government with the de facto distribution, remarkable discrepancies arise with respect to Health, while Social Security and Education expenditures correspond more or less to the normative advice.
- (v) However, the development of country-specific normative profiles must be regarded as an undeniable prerequisite for the adequate evaluation of the de facto assignment of various tasks to different levels of government.
- (vi) Finally we would like to appraise critically our approach chosen for measuring decentralisation. The budget data approach does not inform about the real autonomy or independence of sub-national governments. Additionally, there is a lack of reported data for sub-national levels, and function-specific decentralisation ratios can only be constructed for few countries. Furthermore, a fine-tuning of the compared categories is necessary in order to cope with different functions of policy responsibility, with additional institutional and non-government tiers, or with disaggregated policy functions. Thus, it is essential to construct additional reliable and comparable indicators for the degree of decentralisation. In order to cope with a multi-level government, the exploration of alternative approaches gets a crucial role. At the moment there is a lack of thorough cross-country econometric verifications. International comparisons, which modulate the various costs and benefits of decentralised government structures, could provide a clearer advice regarding the optimal degree of decentralisation (see Breuss, Eller 2003). To sum up, further work is needed at the theoretical and empirical front in order to design optimal assignment patterns for different countries, compare international differences and advise valuably political processes of competence allocation and public sector reorganisation.

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SWISS SOCIAL HEALTH INSURANCE: CO-PAYMENTS WORK

STEFAN FELDER AND
ANDREAS WERBLOW*

From the perspective of an insurance community, co-payments are only interesting if they affect total expenditure by a decrease in the probability or the size of damages. If the insured take preventive actions to reduce the risk or change their behavior when damages occur, their expenditure will decrease. If insurance coverage is comprehensive, important incentives for prevention and restricting damages are absent. Economists speak of moral hazard, referring to the effect of the extent of insurance coverage on the behavior of the insured.

In health insurance, the insured have a particularly large influence on the amount of services they demand. Healthy food, sufficient physical motion, prevention of stress, all these reduce the probability of an illness. Moreover, the behavior in case of an illness, i.e. the choice of therapy or the patients' compliance with the physicians' prescriptions will substantially affect health care expenditure. Do co-payments reduce moral hazard in health insurance? Swiss social health insurance is an ideal candidate for studying this issue, as co-payments have a long tradition there.

Characteristics of the Swiss health insurance system

In Switzerland, 100 percent of the population is enrolled in the statutory (basic) health insurance system. In the complementary private insurance sector, the equivalence principle holds – the insured pay risk equivalent premiums. By comparison, community rating applies in social health insurance, i.e. every person within a sickness fund pays the same premium irrespective of his/her risk. This implies that the so-called good risks (persons whose payments exceed their expected expendi-

ture) subsidize the bad risks (persons with payments below the expected expenditure). With the given health care expenditure profiles, community rating means for instance that the young subsidize the old and that men subsidize women.

In contrast to Germany and other countries, Switzerland does not impose any substantial interregional redistribution in financing health care. Premiums are differentiated according to regional differences in health care expenditure. Furthermore, contributions to health insurance are not paid from the payroll but function as in other insurance sectors. Every individual – adult, adolescent or child – therefore pays his/her own premium. Nevertheless, low-income persons receive a subsidy from the local government as well as from the federal state to pay for health insurance. The average health insurance premium is around € 170 per month.

Co-payments in Swiss health insurance include a minimal € 160 deductible per year. Expenditure that exceeds this threshold is subject to a 10 percent co-insurance rate. The system is capped: the maximum co-payment for a person is € 560. This implies that medical bills up to € 4,160 (€ 160 plus € 4,000) are subject to demand-side co-insurance. 90 percent of the insured have expenditure below this threshold. Exemptions for chronically ill or low-income persons from the compulsory co-payment rules do not exist. This consistent employment of coinsurance is directed at moral hazard. The adverse equity implication is seen as the price that the community must pay for achieving a more efficient use of health care services.

In Switzerland, the insured can opt for a deductible above € 160. The optional deductibles amount to € 270, € 400, € 800 and € 1,000. They come with (maximal) premium rebates of 8 percent, 15 percent, 30 percent and 40 percent. The 10 percent co-insurance rate for expenditure above the deductible does not change. This is also valid for the cap, which is only adjusted by the chosen deductible.

The goal of the optional deductibles is to influence the demand for health care services by the insured, i.e. to fight moral hazard. However, there is a disadvantage to these options. They allow the insured to choose the insurance contract that suits their expected health care expenditure best. In other words, good risks will opt for a high deductible,

* Prof. Dr. Stefan Felder and Andreas Werblow, Faculty of Medicine and Economics, University of Magdeburg (stefan.felder@ismhe.de).

whereas bad risks will stay put with the compulsory minimal deductible.

Still, even though individuals will rationally choose the size of the deductible, the incentives of the measure remain. Yet, they are reinforced since the extent of co-payments has been enlarged by these options.

Moral hazard or self-selection? - That is the question!

While 60 percent of the insured stick to the minimal deductible, 40 percent choose one of the higher deductibles (see Fig. 1 that summarizes the shares for a representative sample of 60,000 persons in the canton of Zurich). Of these individuals, three fourths opted for the € 270 deductible. The figure reveals a substantial decrease in gross health care expenditure with an increasing deductible. A person with the minimal deductible (€ 160) on average incurred € 2,150 health care expenditure per year; the average in the highest deductible (€ 1,000) only amounted to € 510.

The second bar in each category of Figure 1 represents health care expenditure net of the patients' co-payments. The third bar illustrates the average premium per deductible. A comparison with the expenditures shows that despite large rebates, a substantially financial redistribution from low- to high-risk individuals occurs.

These observations do not tell whether the lower expenditure in the higher deductible classes is in

the first place a consequence of the contract selection by the insured, expecting different future health care expenditure, or whether it is a reflection of a change in the behavior of the insured. One would expect that both self-selection and moral hazard matter. The separation of the two effects is methodologically challenging, as the two simultaneously show up in the health care expenditure data. While one observes lower expenditure of the insured who have opted for a high deductible, one does not know the reason for it.

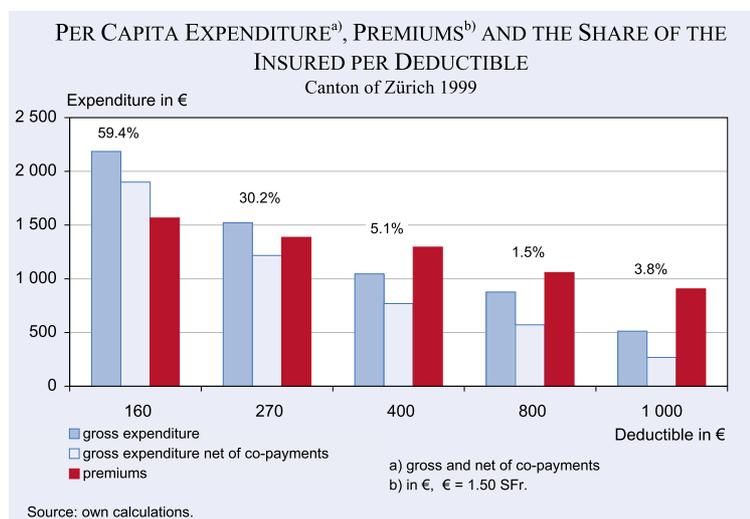
In the 1980s, the RAND corporation sponsored an extensive study designed to detect the price effect of deductibles on the demand for health care. In a controlled randomized experiment, persons were allocated with health insurance contracts that differed with respect to the co-insurance rate. Since the persons had no possibility to choose their contract, a selection effect could be excluded. On average, the RAND researchers detected a reduction of 20-30 percent in the demand for health care due to co-insurance (see Manning et al. 1987).

In the Swiss system, persons have the choice between different deductibles. If one expects that the choice reflects the expectation of future health care expenditure, the problem of self-selection can be solved by explicitly incorporating the choice of contracts.

This, indeed, was the approach we took in the Swiss study. In the first step, we estimated the choice of the individuals with respect to the size of the deductible. In the second step, taking into account the results of the first step, we estimated the influence of the deductibles on the demand for health care services.

Three months prior to the end of one year, an insured has to choose the deductible in his health insurance contract for the next year. In this decision, he/she will take into account the health-care expenditure he/she expects for the following year. If the premium rebate exceeds the expected additional co-payments, he/she will likely opt for a high deductible. Why should a person who expects very low health-care

Figure 1



expenditure not go for the highest deductible? A chronically ill person, by comparison, will likely adhere to the minimal deductible.

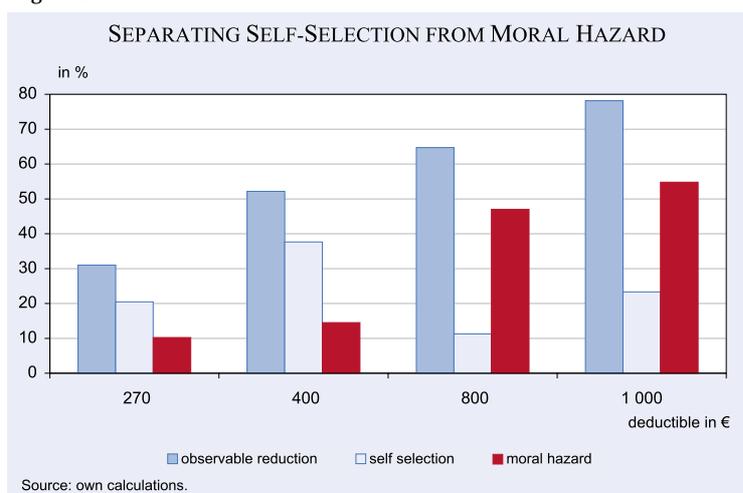
In the Swiss study we modeled the contract choice using individual health care expenditure data of the following three years, 1997–1999. The expenditure in 1997 and 1998 were used to form the expectation of future expenditure, as they indicate the health status of an individual. Additional explanatory variables for the choice of the contract for 1999 are the individual's age, sex, income as well as his/her premium (for details, see Werblow and Felder 2003).

The estimation results confirm the hypotheses: The higher health care expenditure in the past, the higher the probability that an individual distances himself from choosing an optional (higher) deductible. Low-income individuals likewise prefer the compulsory minimal deductible. Individuals with a low income fear the risk of high co-payments more than high-income persons. Individuals living in high-premium regions more likely choose a higher deductible. This has to do with the regulation of proportional rebates. For any deductible, the rebate in absolute terms, therefore, increases with the premium level. For this reason, in high-premium regions, it is more profitable to restrict insurance coverage by means of a high deductible.

Does moral hazard exist in Swiss health-care insurance?

In the second step of the estimation, we dealt with the explanation of the demand for health-care services, given the choice of contract. By taking into account the endogeneity of the choice, it is possible to net-out the effect of selection from the change in demand. In the second estimation, age, sex and income, but also supply-side factors such as the density of physicians in the neighborhood of an insured serve as explanatory variables for the demand for health-care services. The estimation results confirm to a large extent the existence of moral hazard. Despite self-selection, health-care expenditure for high-deductible individuals is sig-

Figure 2



nificantly lower compared to individuals with a minimal deductible.

Figure 2 summarizes the results for an average male person. The first bar in each category shows the observed reduction of health-care expenditure for the four optional deductibles compared to the level of the minimal deductible (corresponds to the bars in Fig. 1). The next two bars present the division of this change between self-selection and moral hazard.

A forty-year-old man who opted for a deductible of € 270 on average incurs 30 percent lower health care expenditure than a man of the same age and a minimal deductible of € 160. Two thirds of this reduction are – according to our estimations – due to self-selection. The remaining one third is caused by a change in behavior. The same division between self-selection and moral hazard occurs at the deductible level of € 400.

For the two highest deductibles, moral hazard is more prone. Of the observed change in health care expenditure 70 percent is due to moral hazard. With a higher reduction of health-care expenditure in total, self-selection makes up 30 percent.

Deductibles in Switzerland reduce health-care demand

The Swiss social health insurance system includes differentiated optional deductible schemes. The insured appear to deal rationally with these options, i.e. as in other insurance sectors they

choose their coverage depending on the expected damages and the premiums. Our study based on health-care expenditure data of 60,000 individuals shows that price signals from deductibles significantly affect behavior even when taking into account the endogeneity of the contract choice. Optional deductibles substantially reduce health-care expenditure.

Even though part of the reduction of health care expenditure is due to the rational choice of contracts, co-insurance induces a change in demand that significantly contributes to the reduction. Depending on the size of the deductible, between one third and 70 percent is due to moral hazard. Furthermore, the higher the deductible, the higher the change in behavior of the insured.

There is an efficiency-equity trade-off when the government goes for optional deductibles in social health insurance. However, it is noteworthy that there is an efficiency gain involved. If demand-side coinsurance in health care were only redistributive, no one would have to care about co-insurance. The efficiency-equity trade-off can be handled with restricting the rebate, which persons can attain whenever they choose a higher deductible. It is important, however, that some incentives for the insured remain, taking into account the costs whenever they demand health care services.

Conclusion

Patients' co-payments are a suitable measure to reduce health care expenditure. They positively affect prevention and foster the expenditure awareness of the insured. These effects can be identified in Swiss social health insurance, a system that contains a compulsory deductible of € 200 extended by optional deductibles up to € 1,000.

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EXIT AND VOICE IN DUTCH SOCIAL HEALTH INSURANCE

STEFAN GRESS, DIANA DELNOIJ AND
PETER GROENEWEGEN*

Introduction

According to Hirschmann's concept of exit and voice, people have two options to make sure that firms or organisations realise what they (their consumers or members) are interested in (Hirschmann 1970). Exit is the dominant option in the realm of the economy. It is easy to use for members or consumers and the effects are quite clear for the firm or the organisation: a loss of consumers or a loss of membership. However, specific reasons why exactly consumers or members have used exit is not clear to the management of firms or organisations. Voice is the dominant option in the realm of politics and public services where choice is often practically impossible. Voice is more difficult to use: the use of voice implies lengthy discussions and arguments. However, management gets to know more clearly what is wrong within a firm or organisation. Although it is possible – according to Hirschmann it is even desirable – to combine exit and voice in order to achieve optimal results, it can also be argued that the introduction of the exit option reduces the influence of voice. Moreover, the information conveyed by exit may be based on different groups of consumers or members with different preferences than the information conveyed by voice.

In the Dutch public health insurance system voice existed for a long time, but exit was only introduced in the 1990s. In this paper we examine the introduction of exit in the Dutch health insurance system and discuss the combination of exit and voice. Until the early 1990s consumers in Dutch compulsory social health insurance did not have the exit option. There was no consumer choice between sickness funds. However, sickness funds were the focal point of Dutch health system

reforms in the early 1990s. Giving the insured free choice between sickness funds was supposed to bring about competition that would at the same time favour quality through selective contracting by sickness funds and curb costs through incentives for efficiency (Greß 2002). The possibility to use voice – for example, through the 'Council of Insured' or by filing a complaint – remained unchanged throughout the reforms.

Exit in Dutch Social Health Insurance

Comprehensive social health insurance is mandatory for people with an income below a legally specified level in the Netherlands. Social health insurance is administered by sickness funds, which are not-for-profit organizations. The benefits package is uniform, and insurance funds are not allowed to select good risks. Benefits not covered by social health insurance (e.g. dental health care for adults) are covered by voluntary, supplementary health insurance. Here, the selection of good risks is allowed. The market for supplementary health insurance is not differently regulated by government than other damage insurance. Insurers are free to determine benefits, premium rates, and underwriting practices. Although sickness funds are not allowed to offer supplementary health insurance, they do so via private subsidiaries. In their external communication they present themselves as one organisation.

People with income above the threshold are not entitled to social health insurance, so they can only buy private health insurance. This is a major reason why the proportion of the population with private health insurance is quite high (roughly 38 percent). There is also social health insurance for long term care which is compulsory for the whole population in the Netherlands but is not subject to competition. Table 1 summarises briefly the main characteristics of social health insurance in the Netherlands.

Reform attempts that use the position of sickness funds as their point of departure have focussed on three points. The first is the relation between the insured and their sickness funds. Traditionally in the Netherlands people had no free choice of sickness funds at all. Free choice between funds was made possible in the Netherlands only in 1992. Until 1992, most sickness funds were located in separate regions and people had to enroll in the

* Dr. Stefan Greß, Assistant Professor, Institute for Health Care Management, University of Duisburg-Essen; stefan.gress@uni-essen.de

Dr. Diana Delnoij, Research coordinator, NIVEL (Netherlands Institute for Health Services Research); d.delnoij@nivel.nl
Prof. Dr. Peter P. Groenewegen, Head of research department at NIVEL and Professor of social and geographical aspects of health and health care at Utrecht University; p.groenewegen@nivel.nl

Table 1
Social Health Insurance in the Netherlands 2001

Membership	Obligatory for employees under the income ceiling of about € 30,000 (2001) and their families, some groups of social security dependants, old age pensioners (income ceiling € 18,879), self-employed (income ceiling € 18,970); no voluntary membership possible.
Market Share of Sickness Funds	62 percent (37 percent private insurance, 1 percent others or uninsured)
Services insured by obligatory sickness funds insurance	Medical care, pharmaceutical prescriptions, hospital care, dental care <18 years. Supplementary, voluntary insurance possible (e.g. for dental care >18 years and parts of physiotherapy). Only private health insurers may offer supplementary health insurance.
Premium	Income dependent part is uniform, paid by employees and employers to the central fund, distributed to the individual funds. Prospective risk adjustment according to capitation formula based on age, gender, region, employment status and pharmaceutical cost groups. Flat-rate part of premium determined by the individual sickness funds.
Financial responsibility of the sickness funds	Individual sickness funds responsible for increasing share of expenses, currently 41 percent. Minimum level of financial reserves.
Instruments of competition	Selective contracting; supplementary health insurance; flat-rate premium; collective contracts with employers

sickness fund located in their region of residence. In 1992, legally protected regional monopolies were abolished and sickness funds were required to have open enrollment periods, during which subscribers were free to switch sickness funds. At the beginning, the insured could switch every two years, but since 1996 they can switch during the last two months of each year and during two months after a premium increase. All former regional sickness funds expanded their market to the national level and thus began offering social health insurance nationwide, though a few sickness funds explicitly limit their activities to their regions of origin and still present themselves as regional sickness funds. In addition, the legal entry barriers to the sickness fund market were largely removed and several new sickness funds entered the market. Most of these new funds were started by a private health insurer. In 2001 there were 24 competing

sickness funds left, 19 former regional funds and 5 new funds (Schut et al. 2003).

Before the reform, all sickness funds charged uniform income dependent contributions. Income-related contributions are not determined by individual sickness funds but are uniformly set by the government. Contributions are deducted from payroll and paid to a General Fund. From the General Fund the money is redistributed among sickness funds. Prior to the reforms, sickness funds' expenses were fully covered by payments from the General Fund, and sickness funds were not allowed to charge any direct contribution for mandatory insurance.

In order to establish price competition between sickness funds and to increase incentives for choice for consumers, a flat-rate contribution (additionally to the uniform income dependent part) was introduced. The need to charge a flat rate contribution was created by setting the risk-adjusted capitation payments to the sickness funds

below expected costs. Sickness funds have to recover the remaining costs via charging the flat-rate contribution directly to their insured. On average, sickness funds recover 10 to 15 percent of their costs by these out-of-pocket contributions. It was and is expected that differences in flat-rate contributions induce the insured to choose the cheaper insurance with the best service and that sickness funds are induced to increase their efficiency and service orientation in order to lower their costs and increase their attractiveness to the insured (Schut et al. 2003).

A second relationship also changed in the Netherlands: that between sickness funds and health care providers. The sickness funds used to be obliged to contract with every provider in their area. Abandoning obligatory contracting was an important change in the Netherlands, because it gave way to the possibility of selective contracting

based on quality and costs of the services provided. Sickness funds are able to contract selectively with providers of ambulatory care, e.g. general practitioners, specialists and physiotherapists. They still are obliged to offer contracts to all hospitals and other health care facilities. Price competition between providers is limited. The maximum tariffs for ambulatory care services are fixed by the Central Tariff Authority within the boundaries of global budgets determined by the Health Ministry. Insurers and providers may contract at prices below those maximum tariffs, but not above them. Also, hospital budgets are fixed by the Tariff Authority (Greß 2002).

A third reform for sickness funds to work efficiently is the extent to which they are actually responsible for their financial results. Before the reforms, sickness funds were not responsible at all for their financial results. If sickness funds had higher costs than what they received as premiums, the difference was compensated by a central fund. The absence of appropriate incentives for sickness funds was perceived as a major problem. Therefore, in 1993 the retrospective reimbursement system was replaced by a system of prospective risk-adjusted capitation payments. Initially, the risk-adjustment methodology was very crude (only age and gender were used as risk adjusters). Therefore, 97 percent of surpluses or deficits were still equalized retrospectively among sickness funds or compensated by the General Fund. Since 1995, however, the financial risk for sickness funds has been raised gradually from 3 percent to 41 percent in 2002, alongside a refinement of the risk adjustment methodology. Consequently, individual sickness funds faced increasing incentives to act as a prudent buyer of health services. For administrative expenses sickness funds receive a separate budget from the General Fund. Sickness funds bear the full risk of exceeding the budget for administrative expenses.

Effects of Exit in Dutch Social Health Insurance

Implicitly, the hoped-for success of the health care reforms in the Netherlands was based on three assumptions. First, consumers have free choice between insurers and exercise their right to choose – or at least threaten to use Exit. Second, sickness funds compete with each other via price and quality of services without having permanent mono-

poly power. Third, non-effective and/or non-efficient providers are induced by insurers to work more effectively and efficiently and provide good quality (Greß et al. 2001).

A crucial precondition for the success of social health insurance reforms in the Netherlands is that consumers to some degree search for lower-priced sickness funds. So far, this has not been the case. From 1995 to 1999 only one sickness fund gained a considerable amount of members – almost 100,000 since 1995. But it did so, not because of its low premium or excellent service, but because it took over another sickness fund. Four others gained more than 20,000. Three sickness funds experienced a relatively large loss of more than 20,000 members. The majority of funds gained only a little. In total, gains were larger than losses, indicating a growing market (Greß et al. 2002). A more recent survey of membership gains and losses has shown that between 2002 and 2003 the total number of publicly insured has slightly decreased. Overall, there were more losses than gains. Losses were experienced particularly by the funds with the highest premiums. The five sickness funds with lowest premiums saw an increase in their number of members. However, the number of insured actually changing funds was relatively low, suggesting that the effect of premium differences is limited (College voor Zorgverzekeringen 2003). Premium differences between the funds with the highest premium and the funds with the lowest premium increased from 3 percent in 1995 to 63 percent in 2003. Thus, relative price differences between insurers increased quite significantly. However, in absolute terms potential savings for individual insured are rather limited. Compared to other countries, price sensitivity of Dutch consumers is rather low (Schut et al. 2003, Schut and Hassink 2002).

A survey of Dutch consumers conducted in 2000 showed that they perceived differences between sickness funds as being quite small. This survey has recently been repeated (Delnoij/E. van der Schee 2003). In Table 2 the results of both surveys are presented. In the 2000 survey, the added result of the two answer categories “very large differences” and large “differences” was never bigger than 30 percent for any item. The highest percentage was for the extent of the supplementary coverage package and its premium (both 30 percent). Only 19 percent perceived large or very large differences of the flat rate premium. 14 percent perceived large or very large differences between the basic benefits packages of

Table 2
Perception of differences between sickness funds by Dutch consumers
in 2000 and 2003

	Very large or large differences (%)		Small or no differences (%)	
	2000	2003	2000	2003
Supplementary coverage package	30	39	70	61
Supplementary coverage premium	30	43	70	57
Arrangements regarding complaints or objections	26	26	74	74
Efforts to cut down waiting lists	25	30	75	70
Speed in which bills are remunerated	24	27	76	73
Accessibility by telephone	23	26	77	74
Consumer orientation	22	22	78	78
Flat rate premium	19	32	81	67
Basic benefit package	14	14	86	86

Source 2000 data: Kerssens et al. 2002.

Source 2003 data: Delnoij/E. van der Schee 2003.

Sample size: 2000: (n = 846); 2003: (n = 976).

individual sickness funds although the basic benefits package in fact is uniform. In 2003 this overall picture has remained the same, though compared to 2000 somewhat more consumers perceive differences between sickness funds when it comes to the supplementary coverage package and premium, and the flat rate premium.

All in all, from 2002 to 2003, after the largest increase of flat premium rates ever, 3.1 percent of the publicly insured switched to another sickness fund. Those who did were younger and higher educated than the insured who did not switch. In response to the question as to why they are insured with their current sickness fund, most people state that they have been with this sickness fund ever since they were young (37 percent of the respondents), that it is the most well-established sickness fund in the region (28 percent of the respondents), and that family and friends are also insured with this particular fund (16 percent of the respondents). These top three reasons for being insured with a particular fund reveals that the Dutch insured do not yet act as rationally calculating consumers, but base their choice on affective reasons (e.g. reputation of the sickness fund) rather than cognitive ones such as the premium level or benefits package (Delnoij and van der Schee 2003). Differences in flat rate premiums are probably not large enough to overrule these other considerations and the (psychological) costs of collecting information, getting at a decision and actually implementing the decision.

However, after the abolishment of regional monopolies and the introduction of competition between sickness funds, the health insurance landscape changed significantly. A process of formal mergers between sickness funds and informal cooperation between sickness funds and private insurers sharply reduced the number of insurers (de Roo 1995; Groenewegen 1994). Sickness funds were intent on defending their regional market shares by merging with their competitors. Thus, formally regional monopolies are abolished but in fact they are still in place (only the regions have become larger or multiple).

There has been little change in the contractual relations between providers and sickness funds. So far, sickness funds have hardly used their power to contract selectively with providers. Until recently, sickness funds and providers still negotiated collectively on a national and regional level. This has been heavily criticized by the Dutch Competition Authority, which has issued new regulation demanding individual bargaining and contracting of ambulatory providers (Nederlandse Mededingingsautoriteit 2002). Yet, there is hardly a culture of bargaining on the micro-level. Sickness funds, which traditionally focused on equity and solidarity, might have difficulties adapting to a culture where they are supposed to bargain for the best possible health care arrangement exclusively for their own insured (e.g. in terms of waiting times or quality of care), but deny those advantages to customers of other sickness funds. It is also not clear whether or not health care providers are prepared to differentiate between patients who are insured with different insurance carriers – although until the 1970s they used to differentiate between privately and publicly insured patients. Individual contracting also introduces higher transaction costs (Groenewegen/Greß 2000, Terstegge 2003). Furthermore, there is no price competition between providers, since there are no contracts with prices below maximum tariffs. As a result of manpower shortages in health care, it is the providers rather than the sickness funds who can afford to display selective behavior. In a recent survey, about 10 percent of Dutch general practitioners stated that they ask patients to choose

between only a limited number of sickness funds (with high local market shares) in order to cut down the administrative burden of contracting (Kerssens/Delnoij 2003).

So far, there is quite a gap between the expected results of health care reforms in the Netherlands and the changes that really took place. Actors did not behave according to the three behavioral assumptions outlined above. This discrepancy is mostly due to a conflict between cost control and competition and due to a conflict between competition and cooperation in the health field.

The conflict between cost control and competition ensues from government policy which is rather ambiguous. Certainly, the Dutch government postulates competition and increased responsibility of actors, such as sickness funds, providers and consumers. However, much policy is actually focused on cost control and regulation of supply and prices rather than a shift of responsibilities from government to market actors. Market actors have few incentives and instruments to act according to the behavioral assumptions outlined above. Insurers still face limited financial risk. Moreover, they are not allowed to contract selectively with hospitals. More importantly, capacities of some providers are quite tight. Sickness funds are quite happy to be able to contract with almost any GP, because the supply is extremely short.

The second conflict is caused by a contradiction between the cultural and institutional context of primary care in the Netherlands and competition. Traditionally, ties between patients and general practitioners (GPs) are stronger than ties between sickness funds and insured. Consumers would rather change their sickness fund than their physician. Accordingly, insurers are afraid of losing their insured if they stop contracting individual GPs. Since high market shares are one of the most important strategic targets of all sickness funds, they try to avoid the loss of insured. Moreover, there is strong local and regional cooperation between GPs, which is encouraged by the Ministry of Health. Regional groups of physicians organize night and emergency services; local groups meet to discuss prescription patterns as well as quality assurance issues. In practice, under the new regulation of the Dutch Competition Authority, for sickness funds these local groups of GPs are more or less the biggest unit they are allowed to contract with. Existing groups of GPs may be unwilling to welcome newcomers in their area, and sickness funds are hesi-

tant to contract individual physicians who may not have access to shared arrangement for emergency services. But under the Competition Law, providers (GPs) are not allowed to use their market power to block newcomers' entrance to the market.

Voice: The influence of the insured persons in the governance of sickness funds

Sickness funds are not allowed to make profit from their social health insurance business.¹ Therefore, they can either be a foundation or a mutual guarantee fund (which is the common form). The insured need to have a reasonable amount of influence on the governance of the sickness funds. Formally, the highest power of mutual guarantee funds has to be a council in which the insured are represented. The by-laws of sickness funds specify the recruitment of members of the councils. Recruitment usually is based on co-optation by the existing members of the councils or on nomination of the board of directors or the board of governors. The rank-and-file insured are usually not informed about the possibility to participate in the governance of the sickness funds or about how the councils actually function (van de Schee et al. 2000). Nearly 90 percent of the insured do not know that there is a formal possibility to exert influence.

The following are areas where the councils can formally exert influence: appointing and suspending of directors and governors, changing the by-laws and determining the annual accounts. Determining the budget is only in a few cases the official competence of the "Councils of Insured". The subjects actually being discussed are broader than the formal topics. Examples of subjects are: developments in health insurance, internal organisation and general policy of the sickness funds, external policy, cooperation and mergers, premium, insurance package, service, and complaints. However, formally councils have no right to decide on these matters.

According to sickness funds managers, the formal power of the councils is large but the actual influence small. The reason is an alleged lack of professionalism on the side of the members of the councils, while the subjects being discussed are quite complicated. As advantages of the "Councils of

¹ Sickness fund subsidiaries for supplementary health insurance are allowed to make profits – and indeed they are quite profitable.

Insured“ the following were mentioned by managers: public relations function, controlling the board of directors, sounding board for the directors. The disadvantage is that the ‘Councils of Insured’ can delay decision-making.

According to the perception of council members – nearly half of them old-age pensioners with an average age of 60 years – they are quite well able to understand the topics that are being discussed, with the financial subjects most difficult to understand. Most members feel that they are being taken seriously by the managers of the sickness funds. Nearly half of the members of the councils say that they have much influence; 40 percent state that they have little influence. On the whole the members themselves are more positive about their influence than the managers of the funds. If voice is used at all, it is used by different category of people than Exit. As a rule, the old and sick have a high interest in the benefits package and service, do not switch insurance funds and hence are either satisfied or have only voice as an option – while the young, healthy and higher educated have a higher interest in low premiums and switch more often, using the exit option.

On the whole, voice as a social mechanism to convey information from insured people to the management of public insurance funds does not work well. One of the reasons is that it is not clear who the members of councils of insured represent. They lack the backup of a constituency. With the rise of the organized patient movement in the Netherlands, one of the obvious ways to strengthen the voice option would have been for the patient movement to constitute itself as representing patients interests in insurance councils. One other way through which voice and exit may gain strength in their combination is when firms or organisations that hold collective contracts start voicing their preferences. In that case voice is backed up by a credible threat of a large number of insured exiting.

Conclusions

In theory, consumers of social health insurance in the Netherlands are able to use exit as well as voice in order to inform their sickness fund of their dissatisfaction. The use of exit was introduced only in the early 1990s. In theory, this combination could be a very efficient way to signal to the directors of

sickness funds the need for readjustment in managing their organisations. Thus, it is worthwhile to examine the results of the combination of both mechanisms. Exit alone only conveys the information that something is wrong but not what is wrong. That is the reason that quality systems, which were originally developed in the market sector, emphasize client or customer surveys.

The introduction of free consumer choice of sickness fund has been a major part of social health insurance reforms in the Netherlands. Their main purpose has been to increase the efficiency in the provision of services by giving market actors such as consumers, sickness funds and providers more instruments and incentives to compete. Consumers can exercise their option to use exit by switching to another sickness fund on a regular annual basis or when their sickness fund is increasing its flat-rate contribution.

So far, the overall success of these reforms has been limited. This is mostly due to strong government regulation of prices and capacities as well as to a strong tradition of cooperation in the Dutch health care system. Accordingly, incentives for consumers to exercise their right to use exit are rather small. Price differences between sickness funds are still small – at least in absolute terms. Moreover, since sickness funds still are reluctant or restricted in their possibilities to contract selectively, consumers do not perceive quality differences in the provision of services between sickness funds – which might be another important reason to switch. There may be a vicious circle at work, where sickness funds do not contract selectively because the limited use of the exit option hardly triggers competition between them, and consumers hardly switch to other sickness funds because they see no differences.

Members of Dutch sickness funds can use voice by becoming member of councils of the insured. The costs of this option are much higher than the costs of exit. The situation would be different if they also could use voice by voting on one of a number of competing candidates for a seat in a council of insured. However, a large majority of the rank-and-file insured have no knowledge about their right of formal representation, let alone that there is something to choose. New members of these councils in fact are mostly nominated by existing members of councils or by the directors of sickness funds. The

topics that the members of these councils and rank-and-file insured are most interested in are discussed at council meetings. However, the councils have no formal right to decide on these topics.

According to Hirschmann, the combination of exit and voice is desirable in order to establish an efficient mechanism to signal to management that something is wrong (Hirschmann 1970). However, thus far consumers have not perceived any benefit in exercising their right to exit. Moreover, most members of sickness funds are not even aware of their right to use voice. The introduction of exit did not strengthen the voice option and current policy ideas tend towards a much weaker representation of insured in the governance of public insurance organizations, as recently proposed by a committee to advise on 'good governance' in health insurance (Glasz 2002). Obviously, both mechanisms need major adjustments in order to work efficiently.

The exit mechanism will probably work most efficiently when consumers have sufficient incentives to switch sickness funds. Experience from German social health insurance shows that consumers are inclined to switch if contributions to sickness funds differ significantly. However, this experience also shows that there needs to be an effective mechanism for risk adjustment in order to avoid risk selection of sickness funds.

The voice mechanism will probably work more efficiently when members are better informed about their right of formal representation. Moreover, members of councils will enjoy a much a higher degree of legitimacy when they are elected by the rank-and-file insured. Another way to 'modernise' voice would be to have a (chosen) commissioner (not necessarily a member) in the governing board of insurance funds and the obligation for the insurance funds to organize yearly surveys of their members, with the chosen commissioner having the special task to see to it that the results of the member surveys are translated into policy.

Government could also design and implement a set of quality criteria for public health insurance organisations, based at least in part on surveys among the insured, and have these published internally and externally. Exit and voice would then be organized on a different level, but it would steer public insurance organisations away from only looking at premiums, as is the danger now.

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SICKNESS-RELATED ABSENTEEISM AND ECONOMIC INCENTIVES IN SWEDEN: A HISTORY OF REFORMS

DANIELA ANDRÉN*

Since the 1980s, Sweden has had a much higher rate of absence due to sickness than most other countries (OECD Health Data 2002, Nyman et al. 2002, Barmby et al. 2002, Osterkamp 2002).¹ The number of people who have received sickness benefits at some time during 2002 was approximately 862,000 (i.e., almost 10 percent of the 9 million inhabitants of Sweden), having increased by 161,000 (or 18.68 percent) since 1999. This considerable increasing trend raised concerns related to the health of the working-age population, their work environment and job demands, but also about the size of the compensation and the source of payment (social insurance and/or the employer). This trend has also led to questions of whether generous insurance not only compensates for sickness and disability but also induces such outcomes. Consequently, one of the solutions of the Swedish government (and also the Netherlands and Germany) was to initiate changes in the sick payment schemes that reduce the economic compensation to be received during sick leaves. Thus, a general view exists that sickness absence is responsive to the individual cost of absence or economic incentives. Moreover, the government is collaborating with the unions and the employers in finding other solutions that can stop (and even reduce) the increasing trend of the sickness absenteeism. Even though some of them are based on the previous experiences, these new solutions are not linked explicitly to the lessons learned in almost 50 years of experience with the social insurance. It is the goal of this article to point out the changes and lessons learned from them, with special emphasis on economic incentives.

The institutional framework

Social insurance in Sweden is compulsory and publicly administrated, and aims at providing financial

security in case of sickness or disability, for families and children, and for the elderly, by reallocating funds over periods of time and between individuals in society. Every resident of Sweden is covered. Benefits are provided partly through replacement of lost income and partly through allowances. The social insurance sectors (sickness insurance, work injury insurance, the national basic pension, survivor's pension, partial pension, and parental insurance) are financed wholly or in part by revenue from social security charges that are collected from employers and from the self-employed, as well as from general and special pension charges.

The proportion of expenditure covered by these charges varies, and has changed over the years. Some social insurance benefits are financed wholly by central government funds, such as child allowance, housing allowance, and certain other allowances for families with children, as well as a number of benefits for the disabled (such as car allowance), and housing supplement for pensioners. Other benefits, such as attendance allowance, is today partly financed by the municipalities, whereas a number of smaller public insurance plans are financed by premiums and/or the yield from funds; among these are voluntary pensions, voluntary sickness insurance, voluntary occupational health insurance, and small business insurance.

Every resident in Sweden, whether they were born there, immigrated, or merely came to work or study, is registered with a social insurance office when they reach the age of 16. People are eligible for sickness compensation if they cannot work because they lose 25 percent or more from their working capacity. The National Insurance Act (1962:381), which monitors the social insurance benefits in Sweden, gives no general definition of sickness, but according to the National Social Insurance Board's recommendation, sickness is an abnormal physical or mental condition; if it reduces normal work capacity by at least 25 percent, the individual can qualify for compensation of earnings loss due to sickness. Normal work capacity is defined as either the ability to perform the same task, or the ability to earn the same income, as prior to sickness.

The compensation may be full, three-quarters, half or one-quarter, depending on the extent of absence from work. The size of the compensation is related to the previous earnings of the insured people.

* Department of Economics, Göteborg University, Sweden; Daniela.Andren@economics.gu.se

¹ The National Social Insurance Board and Statistics Sweden (SCB) are the sources of the data for Sweden for the entire paper except where other sources are mentioned.

They can also get a special parental allowance if they cannot go to work because their children are sick. If they have to stop working (temporarily or permanently) due to reduced working capacity, they are eligible to receive a disability pension.

Self-employed people are not covered by the system just described, and must pay a separate “premium” for their sickness insurance, together with their taxes. People who have no income or very low income can receive tax-free voluntary sickness allowance from the social insurance office. Normal sick pay and sickness benefit are taxable like regular income.

Repeated change of the rules

In 1955, compulsory sickness insurance was introduced in Sweden. The sickness benefit covered around 65% of the expected net earnings of the insured person, and it was reduced after the ninetieth sick day. In practice, the compensation level was higher due to the effects of the marginal tax and to the fact that the sickness benefit was tax-free. There was a waiting period of three days and a limit of two years replacement in long-term sickness. Since 1955, there have been many changes to the rules of sickness insurance (the most important are listed in the Box), which may be grouped with respect to the following aspects:

1) *The compensation level.* For example, in 1963, there was an increase of the daily replacement rate, i.e. the minimum amount of the daily cash benefit during sickness; in 1967, the replacement rate increased to approximately 80 percent of the expected net wage, and in 1974 it increased to 90 percent of the

Box

The main changes of rules regarding the compensation of income loss due to sickness in Sweden

- 1955: According to the 1955 Law, the sickness benefit would cover around 65 percent of the expected earnings of the insured person. In practice, the compensation level was higher due to the effects of the marginal tax and to the fact that the sickness benefit was tax-free.
- 1963: The National Insurance Act (allmän försäkring lag, AFL, 1962:381) substitutes the 1955 Law.
- 1967: The compensation level becomes 80 percent, and the money from sickness benefit is not taxed. A waiting day (karensdag) and the two so-called “free days” are introduced.
- 1974: The compensation level is 90 percent. The money from sickness benefits counts for the national supplementary pension scheme, ATP (allmän tilläggspension), but they are now taxed.
- July 1977: The Work Injuries Insurance Act (Lagen om arbetsskade-försäkring, LAF 1976:380) covers 100 percent of the income loss due to work injury or poisoning.
- Nov. 1979: The sickness benefit is paid at maximum once per week.
- Jan. 1982: Participants in an active labor market program (AMU) must report their absence due to sickness to the social insurance office.
- Jan. 1985: A new system (Dagmar-systemet) of compensation is introduced from the social insurance of public health authority. It contains both public and private outpatient treatment. Additionally, the payment of the sickness benefit for the state employees is simplified, and the compensation is calculated based on a stereotyped model that it is applied by the state institutions for all spells less than 14 days.
- Jan. 1986: A pilot scheme of 1/4 and 3/4 compensation for sickness benefit and travel compensation (10 municipalities in 3 counties) is tested, which will be extended until July 1990. The Dagmar system now even applies for the compensation for hospital costs.
- 1987: Starting with December 1987, the waiting day was abolished, and a sickness cash benefit was provided from the day the sickness was reported to the social insurance office. However, a cash benefit was now only provided for scheduled workdays during the first fourteen days of absence.
- July 1990: Partial compensation of 3/4 and 1/4 is introduced in the whole country.
- Mar. 1991: The compensation rate from the sickness benefit is reduced from 90 percent to 65 percent for the first 3 days, 80 percent for day 4 to day 90. The collective agreement of 10 percent is maintained.
- 1992: The “employer period”, which requires the employers to pay for the first 14 days of sickness is introduced. Since January 1992 there has been a two-week employer period, except the time period. The compensation rate is increased 75 percent for the first 3 days of compensation and to 90 percent thereafter.
- April 1993 (a): A waiting day for sick pay and/or sickness benefit is reintroduced. The sickness benefit rate is reduced from 90 percent to 80 percent from day 90. A “5-day repeated-spell” rule is introduced, according to which if a sick person records a new case within a five day period, the new spell is seen as a continuation of the previous one regarding the waiting day, the compensation rate and the length of the sick pay. The compensation rate for rehabilitation is reduced from 100 percent to 95 percent.
- July 1993 (b): The sickness cash benefit rate is reduced from 80 percent to 70 percent from the 365 day of each sickness spell, but the compensation of 80 percent may be kept in certain cases, such as medical treatment.
- June 1996: The compensation level is 75 percent all over for both sickness cash benefit and rehabilitation cash benefit.
- Jan. 1997: The “employer period” is extended to the first 28 days (up to and including March 1998, when is reduced to the first 14 days).
- Jan. 1998: The payment level for full sickness benefit is 80 percent of the income qualifying for sickness allowance, for entire sickness period, excepting the waiting day.
- July 2003: The sick pay period increased from 14 to 21 days, and there is a compensation ceiling for the sick unemployed that cannot be higher than the highest unemployment benefit.

expected gross earnings. In 1974, a sickness cash benefit was made *taxable* and eligible for the calculation of the earnings-based, old-age pension. Since March 1991, the previous uniform rate of 90 percent has not been paid until the 91st day; only 65 percent was paid for the first three days, fol-

lowed by 80 percent through the 90th day. From 1 July 1993, the sickness cash benefit decreased from 80 percent to 70 percent after the 365th day of sickness, except in special cases (medical treatment).

2) *The covered period*, i.e., waiting days period and a maximum period. In 1963, the time limit for long-term sickness was abolished (except for old-age pensioners); in 1967, the waiting days were abolished except for the day of calling in sick, and in 1987, even this day was abolished; in 1993 a waiting day was reintroduced.

3) *Partial compensation*. Only 100 percent and 50 percent benefits were provided until 1 July 1990; since then 25 percent and 75 percent have also been available. These partial sickness benefits are received in connection with rehabilitation for persons returning to work after a long period of sickness.

4) *The source of funds*, i.e., social insurance and/or employer. Before 1 January 1992, all compensations for earnings lost during sickness were paid by the social insurance system, but since then, during the first days of a sickness period (called the sick pay period or the *employer period*), employees receive sick pay directly from their employer. From 1992 to 1996, the sick pay period was 14 days, then through March 1998, it was 28 days, and since then, it has once again been 14 days. Since July 2003, the employer period is 21 days.

Most of these rules influence the *economic incentives*. More exactly, the compensation level can affect the individual decision of going to work even if they do not feel good, or the individual decision of not going to work even though their health status and working capacity would allow them to work. Additionally, the compensation level and/or other institutional settings (such as the eligibility, the duration of entitlement for benefits, etc.), may affect the individual decision of choosing among various systems of the welfare system. Thus, the sickness absence is expected to be responsive to the individual cost of absence or economic incentives. Therefore, the effect of economic incentives on the sickness absenteeism can be analyzed from at least three perspectives, all of them having a direct or indirect effect on the individuals' health: 1) to what extent the institutional setting of the sickness insurance may allow for the insured employee to be affected by economic incentives; 2) to what extent the sickness insurance is a better

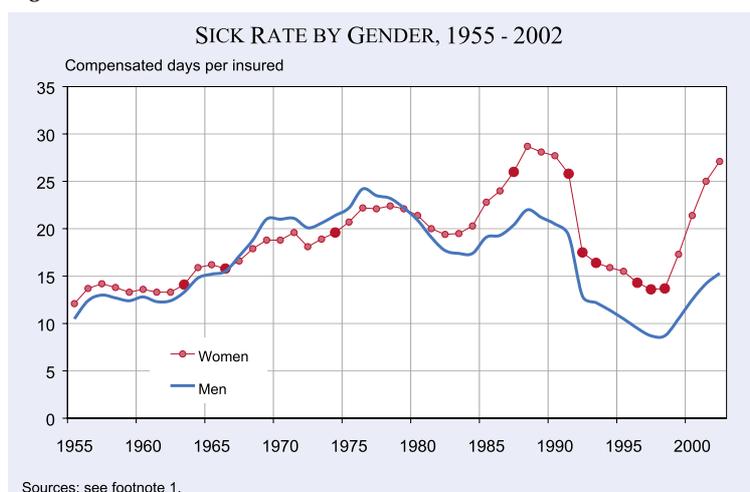
alternative to other states, such as unemployment insurance, temporary child allowance, social allowance, and disability pension; 3) to what extent the sickness insurance may decrease the risk exposure to less friendly work environment and/or job requirements.

Facts and empirical evidence

It is well known that Sweden is one of the countries with very generous sickness insurance (the same as in Norway and in the Netherlands). The generosity of the Swedish insurance system varies across time, being more generous during the good times and less generous during the bad times. This trend has been revealed by empirical tests (e.g., Henrekson and Persson 2002), but it is also easily shown by simple plots of the evolution of the sickness absenteeism in Sweden over time (Figures 1–4). The National Social Insurance Board makes available a huge amount of data on sickness absenteeism in the form of aggregated time series and several micro databases (some of them longitudinal). At the aggregate level, for example, three main indicators are presented: days of sickness with cash benefit (*sjukpenningdagar*), the sick rate per insured person (*sjuktalet*), and the sickness frequency rate (*sjukpenningfall*). The sick rate per insured person represents the annual number of benefit days (full or partial) per insured person in relation to the number of persons insured for sickness benefit at the end of the year. Sick pay to employees from the employer is not included. The sickness frequency rate stands for the annual number of concluded cases of illness, that led to benefit payments viewed in relation to the number of insured individuals, at the end of the year. These indicators are aggregated by year, quarter, and month, and by different characteristics (gender, age, region, etc.).

Sweden has had at least 13 changes in the rules of the sick leave compensation system since 1955 (1963, 1967, 1974, 1987, 1991, 1992, 1993a, 1993b, 1996, 1997, 1998a, 1998b, 2003), which are represented by the bold circles of the lines in Figure 1. There have also been changes in the rules of the administrative process that monitor the sickness cases, such as the requirement of a certificate from a doctor as soon as the spell exceeds a certain number of days, and the qualification criteria for receiving long-term sickness benefits. There is

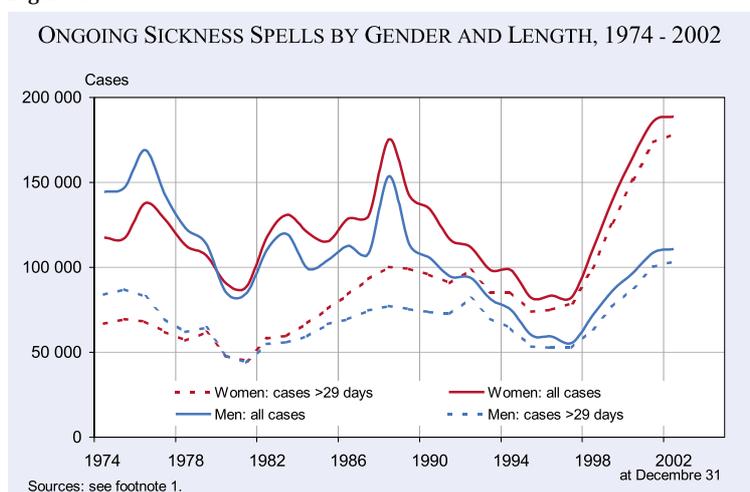
Figure 1



empirical evidence of the effect of the rule change on sickness absenteeism², but some of the fluctuations are caused by the changes in the definition of the indicators. For example, before 1977, the sick rate per insured person is computed using the total of all compensated days, divided by the number of all insured people, i.e., all residents of at least 16 years of age.

² For example, Lantto and Lindblom (1987), Johansson and Palme (1996, 2002), Johansson and Brännäs (1998), Bäckman (1998), Lidwall and Thoursie (2000), André (2001a, 2001b, 2001c), Broström et al. (2002), Henrekson and Persson (2002), and Skogman Thoursie (2002). These studies used different databases and statistical methods, the most common setup being to analyze how absenteeism differs across individuals with respect to individual characteristics (age, gender, marital status, earnings, etc.). Economic incentives are captured by the after-tax wage rate, or the difference (or ratio) between the wage rate and the sick-leave compensation. The analyses are done either at a single point in time, or over time. The latest data format (being time series or longitudinal) allows for variation in economic incentives, individuals differing with respect to marginal tax rates, compensation levels, or other aspects of the insurance scheme. Johansson and Brännäs (1998) analyzed the economic incentives of work absence using a household model, which does not seem to add any more explanation than the individual model, estimated by Johansson and Palme (1996).

Figure 2



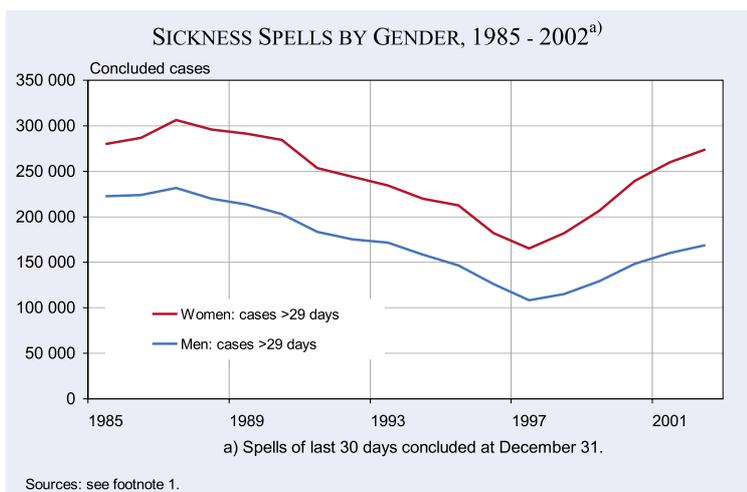
All figures indicate that sickness absence tends to vary cyclically.³ This may suggest effects of the change in the rules of the sickness insurance and/or disciplining effects of unemployment, but may also reflect changes in the composition of the workforce and/or that health is affected adversely in boom periods. There is empirical evidence that when the benefits become more generous, i.e., higher compensation rates compared to the previous period (as in 1963, 1967, 1974, 1987 and 1998), the number of

sick days increase, and when the insurance system becomes more austere, i.e., lower compensation rates (as in 1991 and 1995), the number of sick days fall (e.g., Lantto and Lindblom, 1987, Bäckman, 1998, Lidwall and Thoursie, 2000, André, 2001a, Johansson and Palme, 2002, Henrekson and Persson, 2002). Additionally to the effect of the compensation rate, other constraints also affect the decision of work absence due to sickness. For example, a doctor's certificate was required in most of the cases only from day eight of the sickness spell. Therefore, one might expect in some cases of seven days or less that people would go to work instead of taking sick leave. There is empirical evidence that shows that the closer the beginning of the spell was to the following weekend, the shorter was the spell, and absences that started on the weekend (especially Sunday) lasted the longest (see André 2001a). Additionally, watching sporting events on television is found to explain some of the increase in the number of men who reported sick.⁴

³ Arai and Skogman Thoursie (2000) using industry-region panel data for the period 1989:1-1999:4, find a stable negative correlation between sick-rates and shares of temporary contracts, implying that procyclical sick-rate is compatible with the idea that sick-report incentives are procyclical.

⁴ Skogman Thoursie (2002) estimate the potential abuse of the sickness insurance system in Sweden by comparing the change between the number of men and women who report sick during a popular sporting event (i.e., the World Championship cross-country skiing competition over 30 kilometers in Oberstdorf, Germany, on 12 February 1987 and the Winter Olympic Games in Calgary, Canada, 13-28 February 1988) and a preceding time period.

Figure 3

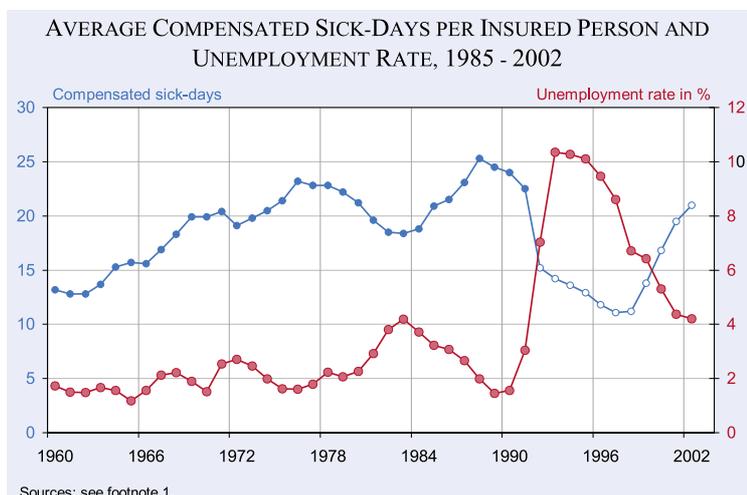


After the unpaid waiting day was abolished in December 1987, there was a significant jump in the average number of compensated days of absence due to sickness, even though during the first two weeks only scheduled workdays were covered. After the replacement rates were lowered (especially during the first three days) in early 1991, the absence rate fell drastically. Besides the high unemployment and lower replacement rate, the introduction of a two-week “employer period” in January 1992 (represented by the light circles in Figure 4), contributed to a drop in average days of absence due to sickness. During the 1990s, the unemployment rate increased very much (from less than 2 percent in 1991 to more than 10 percent in the middle of the 1990s). The unemployed are also covered by sickness insurance, and for example, according to government estimates for 1999, unemployed people, including students, reported

about 20 percent of the total sick days. This may be explained by the fact that those who become unemployed may have previously had a higher rate of work absence than the rest of the labor force. Additionally, sickness insurance seems to be a more attractive choice than unemployment insurance, which offers a lower compensation rate⁵ and a coverage limit of 300 workdays.⁶

Figures 1–3 show that there are differences between the sickness absenteeism of women and men. Even though women’s participation in the labor market was relatively low, women were sick more days per year than men until 1966. During the period 1967–1980, men were sick more days than women. Afterwards, until the present, the sickness insurance compensated more days of sickness for women. The difference between the compensated days of women and men increased from less than 1 percent (or 273,000 days) in 1981, year to year, until 1990, when it was 26.60 percent (or 13.3 million days). Afterwards, the relative difference fluctuated around this value until 1994, when it started to increase again: from 26.51 percent in 1995 to 69.3 percent (or 28.5 million days) in 2002. Empirical evidence shows that the economic incentives appear to be the predominant factor in explaining the higher work-absence rate of females (e.g., Henrekson and Persson, 2002, Broström et al., 2002).

Figure 4



⁵ The sickness benefit for unemployed people was adjusted from 1 July 2003 to prevent it from being higher than unemployment benefit. Before, many unemployed people, and especially white-collar workers, received higher benefits when they were sick, because of trade union insurance and other schemes (e.g., the ceiling level for the maximum compensation). The government believes that it is appropriate that unemployed workers should not receive a higher income when they are sick than other workers do.

⁶ For example, Larsson (2002) analyses how the sickness report rate and the length of the subsequent sick period among the unemployed are affected by the limit of 300 workdays for unemployment benefits, and the difference in maximum compensation paid by unemployment and sickness insurances. Her results suggest that sick reports increase as the unemployment benefit expiration date approaches, and an incentive effect on the sick-report rate due to a greater compensation paid by the sickness insurance.

For example, one third of the gender difference in work absence behavior during 1990–1991 can be attributed to differences in costs of being absent (see Broström et al. 2002). Another explanation of the gender difference can be attributed to a relatively high stock and/or inflow of sick women (Figures 2 and 3). For example, since 1998 the number of women who have been listed sick longer than a year has more than doubled, whereas the number of men has grown by 80 percent.

Conclusions

It is almost impossible to draw definite conclusions about the difference between Sweden and other countries, but statistical evidence (e.g., Nyman et al. 2002) gives indications that the age structure of the Swedish work force, the high level of employment among older people, the high frequency of gainful employment among women and the high proportion of permanent employees have contributed to a higher rate of absence due to sickness.

The total of transfers for sickness and disability through the social insurance system constitute an important part of the economy, and policymakers are occasionally motivated (for example, by government deficits) to reduce them. However, regardless of the magnitude of the effects of the economic incentives, the health status of the people is the most important factor. Therefore, there are always individuals who are insensitive to economic incentives.⁷

Sickness insurance aims to help such persons. It is also aimed to help prevent illness. Therefore, being absent from work due to a temporary illness might imply an increasing probability of maintaining a good health status, both in the short and long run. Consequently, decreasing the replacement rate of sickness insurance increases the cost of making such investments.

Nevertheless, total expenditure for any particular program, such as sickness and disability insurance,

depends not just on the average expenditure level per recipient and on their length of stay in the program but also on the total number of recipients. Therefore, in attempting to limit sickness and disability expenditures, policymakers could choose to limit the average daily benefit or the duration of stay, or to restrict the flow of new recipients into the program. Unfortunately, the effects of policies to limit duration of stay are uncertain, because there is not very much known about the duration of sickness and temporary disability spells.

In conclusion, sickness insurance is a potential source to maintain relatively good health of the working age population, and even to decrease the health care cost during retirement. However, it seems that preventing employees from diminishing their work capacity is one of the most desirable solutions. The work capacity of the individual should be better utilized and lost work capacity should largely be regained. This should be achieved in collaboration with relevant authorities and other agencies. Regardless the employers' cost for prevention (e.g., improving work environment, job requirements and working conditions), their contribution to the social sickness insurance seems to be a guarantee of better health.

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⁷ Andrén (2001a) analyzes spells of 7 days or less during 1983-1991 (a period with three regimes of sickness insurance) for two samples: working-age population and working age population long-term sickness history. The results for both samples show that the 1991 reform (which lowered the replacement rate) had a stronger effect on the hazard of ending short-term absenteeism than did the 1987 reform (which eliminated the previous unpaid "waiting day", while restricting the remuneration to only those days when people were scheduled to work). Even though economic incentives matter, people with poorer health do not "shorten" their absences in the same extent as those with better health.

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PUBLIC PROMOTION OF RESIDENTIAL CONSTRUCTION

In nearly all European countries, the state intervenes in the housing construction market with various support measure, for example, to increase the supply of affordable housing units to compensate social imbalances for low wage earners in high-rent areas or to stimulate residential housing construction in the private sector. Also the promotion of environmentally friendly construction has become increasingly more important.

The individual promotion systems are strongly marked by national and historical structures. Fundamentally there are two models of residential construction promotion in Europe: the centralised French model and the decentralised German model. In Germany the federal government makes funds available to the federal states ("Länder") according to a distribution key. In addition to the promotion by the states, many German municipalities also support housing construction. In Austria residential construction promotion was regionalised in the 1980s, so that now a very complex support-landscape exists. In the Netherlands as well, the central government transferred the administration of public housing assistance to the regions. In Great Britain the environmental department (DETR) determines the annual investment volume of the Housing Investment Programme. The municipalities, however, can freely decide on how to use the funds.

Promotion via tax benefits lies in the jurisdiction of the federal or central government in all European states. The table summarises a study by BIPE, pre-

sented at a Euroconstruct Conference in 2000, comparing five European countries and the United States.

In most European countries, direct assistance is in the form of mortgage subsidies for new housing construction or renovation. Indirect assistance is understood as subject-related, which is primarily granted to individual renters, or with few exceptions also to home owners. Indirect assistance also includes promotion of savings at building societies. This type of assistance is wide-spread in France and Great Britain.

Tax benefits for housing play a very different role in individual European countries. Promotion via tax allowances is to advance home ownership in most countries and tends to benefit higher-wage households, depending on how the benefits are designed in the tax code. Tax allowances for the acquisition of dwellings are granted in almost all countries. In France and Germany there are also tax reductions for the construction of rental-flat buildings, but not in Austria, the Netherlands, Sweden or Great Britain. In Germany as well as in the United States, tax allowances are the dominant form of assistance for promoting residential construction.

Ursula Triebswetter*

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* Ifo Institute for Economic Research.

Type of promotion of residential construction

Countries	Type of promotion, in %			Total
	Direct assistance	Tax allowance	Indirect assistance	
Austria	71	13	16	100
France	15	27	58	100
Germany	18	65	17	100
Sweden	40	30	30	100
United Kingdom	22	14	64	100
United States	9	77	14	100

Source: Euroconstruct, 2000

FIXED BOOK PRICE AGREEMENTS

In most European countries book prices on the retail level are fixed, while outside Europe this is mostly not the case. In Europe it is only Finland, Sweden, the United Kingdom, Belgium and Ireland where book prices on the retail level are freely set by the retailers. However, the latter countries, Belgium and Ireland, are considering introducing fixed book prices. Thus, the minority of European countries with free and fully competitive book markets is going to shrink further. In some countries the fixing of book prices is limited to a certain period, e.g. in the Netherlands to two years.

Formerly, this price fixing on the retail level (in Germany: *Preisbindung der zweiten Hand*) was practised in Europe for several goods (mainly of the “trademark” type), but today is limited mainly to books and pharmaceutical products.

In countries with fixed book prices, publishers fix the retail price and force the retailers to sell for this price. They conclude a “fixed book price agreement” with the book stores. In the framework of such an agreement, the retailers are not allowed to sell for lower prices or to give any rebates – neither open nor hidden – to the final consumer. If a retailer does not stick to the prescribed price, he is excluded from the further supply with this book – which is nothing else than an embargo, and the publisher is allowed to do so. In Germany publishers administer the fixed book prices by making the retailers sign a specific document called *Sammelrevers*.

Fixed book prices do not mean that there is no competition in the book market. Publishing houses compete by introducing new book titles, by advertising, by using a rebate system related to the sales volume of the retailers, and by the (fixed retail)

price. Book stores, however, compete mainly by the quality of their service and by being well-stocked with titles – but not by rebates on the fixed price. Thus, competition in the book market is limited insofar as there is no price competition between retailers.

The European Commission is suspicious of fixed book prices because such a system might hurt the free flow of goods between countries. But insofar as this is not the case, the Commission takes a perspective of subsidiarity and accepts the national systems of fixed book prices, while the Commission’s own argument in favour of fixed book prices is linguistic diversity in Europe.

A system of fixed book prices is commonly seen as leading to

- a larger number of (mainly smaller) book retailers and a regionally denser network of them,
- better-stocked book stores,
- a larger number of new book titles.

Fixed Book Price (FBP) Agreements in Europe

Country	Fixed Book Prices ?	FBP anchored in Law?	Schoolbooks exempted from FBP?	Remarks
Austria	Yes	Yes	n.a.	
Belgium	No	---	---	Considering introducing FBP
Denmark	Yes	Yes	Yes	
Finland	No	---	---	
France	Yes	Yes	n.a.	
Germany	Yes	Yes	n.a.	Publishers administer the FBP by forcing the book stores to sign a <i>Sammelrevers</i>
Greece	Yes	Yes	n.a.	
Ireland	No	---	---	Considering introducing FBP
Italy	Yes	Yes	Yes	
Luxembourg	Yes	Yes	n.a.	
Netherlands	Yes	No	Yes	FBP limited to two years; further limitation under consideration; exemption from FBP for schoolbooks under preparation
Portugal	Yes	Yes	n.a.	
Spain	Yes	Yes	Yes	
Sweden	No	---	---	Public subsidies for fiction and youth books
United Kingdom	No	---	---	

Source: Compiled from van der Ploeg (2003).

But it also leads to

- higher book prices on the retail level,
- a lower amount of sales per book and – perhaps – of the total book market volume,
- subsidies from readers of one type of books (those that would be relatively strongly reduced in price were there no fixed prices) to readers of another type of books (those that would be less strongly reduced in price).

The main arguments in favour of fixed book prices are based on cultural grounds, where the basic idea often is that “culture” and “the market” are enemies. Thus, the market should be tamed as much as possible for the benefit of culture, here: books. Specifically, it is often believed that this taming of the market – e.g. by fixed book prices – will lead to relatively more book titles of cultural value and relatively less pulp. Apart from the fact that this is not exactly in line with consumer sovereignty, it is also not at all clear – from empirical grounds – that this is the case.

What is most probably true with fixed book prices is that there are more book shops, and, thus, that the access of consumers to book stores is made easier. However, this argument has become less relevant by the spread of mail-order and internet retailers in the book market.

If, however, the aim of public cultural policy is to activate more readers and to promote more reading of “good” books, a more direct way would be to increase subsidies for public libraries – or even to subsidise the publishing of certain titles (as Sweden does).

R.O.

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DISABILITY BENEFIT RECIPIENCY

Disability Benefit Programmes play an important role in some countries. Poland is the country with the highest disability benefit recipiency level in the OECD. In 1999, more than 12 percent of the working-age population received a public disability benefit. In Norway, the Netherlands, Sweden and Denmark disability benefit recipiency was between 9.2 percent and 7.7 percent. In twelve other countries the respective rates were between 6.7 percent and 3.9 percent (see Chart 1).

In 1999 spending on disability benefits ranged from 3.3 percent of GDP in Poland to 0.7 percent in Canada. Over the period 1990–99 the costs of disability benefits as a percentage of GDP increased slightly on an overall average of 17 OECD countries. The major increases took place in Switzerland and Australia. The greatest reductions occurred in Italy and the Netherlands (see Table).

Disability transfers are not the only types of transfers payments that people who identify themselves

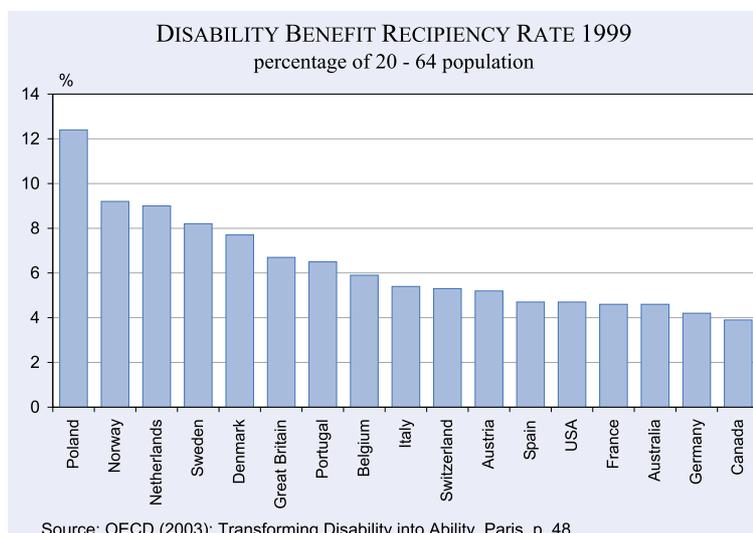
Disability programme expenditure, 1990 and 1999

	Percentage of GDP		Percentage of expenditure on unemployment compensation
	1990	1999	1999
Australia	0.51	0.86	137
Austria	1.30	1.75	254
Belgium	1.32	1.06	95
Canada	0.46	0.67	130
Denmark	2.31	2.28	227
France	0.73	0.83	113
Germany	1.05	1.01	146
Italy	1.69	0.95	330
Netherlands	3.42	2.65	178
Norway	2.23	2.36	1190
Poland	2.39	3.28	719
Portugal	1.32	1.03	235
Spain	0.96	1.24	162
Sweden	2.03	2.05	292
Switzerland	1.05	1.83	267
United Kingdom	0.88	1.27	268
United States	0.56	0.71	554

Source: OECD (2003), *Transforming Disability into Ability*, Paris, p. 17.

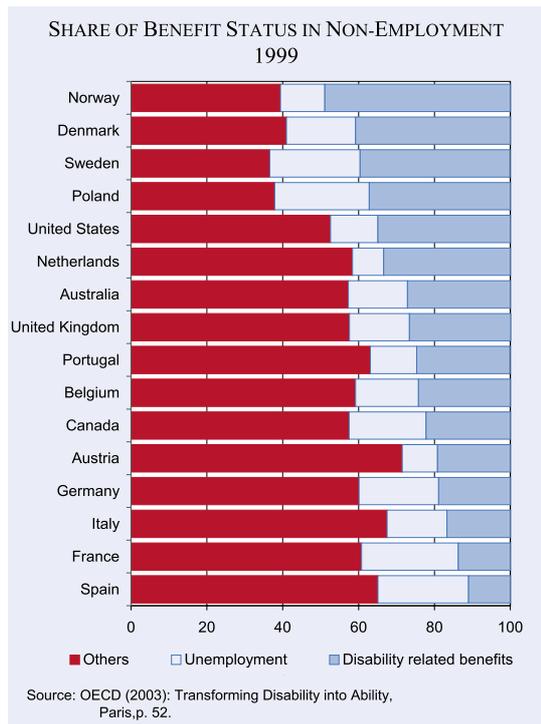
as disabled receive. On average, only one in two disabled persons who are not employed and receive some public benefit reports receiving a disability benefit. On the other hand, not all recipients of disability benefits are disabled. Sometimes these benefits are a substitute for unemployment benefits or some other kind of benefits.

Chart 1



By 1999, in all countries except Belgium, expenditure on disability-related programmes exceeded expenditure on unemployment compensation – on average by a factor of two and to a much larger extent in Norway, Poland and the United States (see Table). These findings are also reflected in the benefit distribution of the non-employed population. In the majority of countries, disability benefit recipiency is more widespread than unemployment benefit recipiency. The major exceptions are France and Italy. In some countries disability

Chart 2



benefit reciprocity is several times higher than the unemployment benefit reciprocity. This is particularly true for Norway, the Netherlands, Denmark and the United States, all of which have very low levels of unemployment (see Chart 2).

W.O.

PUBLICATION DATES OF GDP AND CONSUMER PRICE DATA

The European Central Bank's responsibility for monetary policy must be based on reliable, comparable and – last but not least – the most up-to-date national data, especially concerning financial data, foreign trade data, GDP and consumer price data, but also labour market and industrial output data. This concern for data quality is also reflected in the Annual Report of the ECB, which regularly contains a chapter called “The Statistical Framework”. The European Commission is responsible for the economic data at the EU level, specifically for the comparability (“harmonisation”) of national data, but the ECB and the Commission monitor the Action Plan that has been set up in this regard, specifically with respect to the Economic and Monetary Union.

Sometimes the quality of the national data is also a topic of the ECB's Monthly Reports, most recently in the issue of April 2003. However, of specific interest is the issue of April 2001, which contains a country comparison of publication dates of important aggregate data of all European Union countries as well as of the United States. The Figure is a reconstruction of some information given in the form of a table in this Monthly Report.

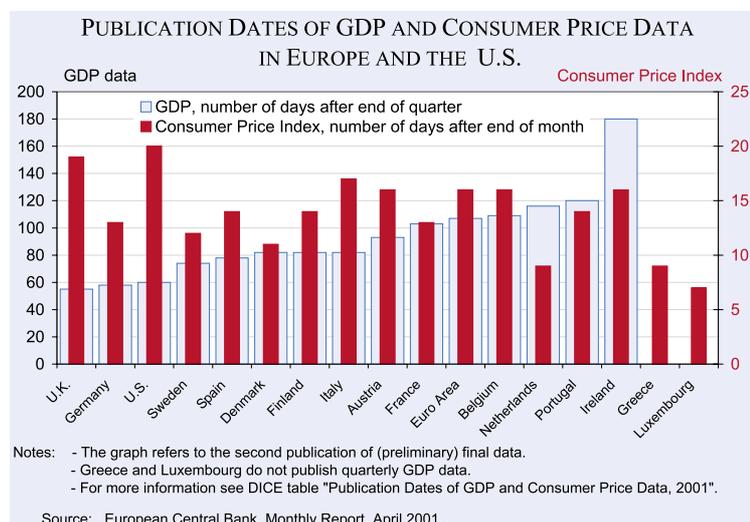
The delay of publication of quarterly GDP data varies widely. The United Kingdom publishes the data only 55 days (about two months) after the end of the quarter, while Portugal needs 120 days (about four months) and Ireland as much as

180 days (half a year). Greece and Luxembourg do not publish quarterly GDP data. But the majority of European countries and – more important – the major European economies publish their quarterly GDP data within less than 100 days after the end of a quarter.

Consumer price data, by contrast, are generally published monthly, and the delay of publication after the end of a month is much smaller than is the case with GDP data. Luxembourg is the fastest. Only seven days after the end of a month the Luxembourg consumer price data are published. The United Kingdom – the fastest country with GDP data – is, however, the slowest European country to come out with the national consumer price data (19 days). It is only the United States that needs even more time (20 days). The major European economies publish their consumer price data within about 15 days after the end of a month.

The April 2003 issue of the ECB's Monthly Report concedes that the quality of the data has been improved in several respects in recent years, but that also much remains to be done. One problem is improved availability and timeliness of key indicators.

R.O.



WORKING TIME DIFFERENCES

Working time differs considerably in EU member countries, Norway, Hungary and Slovakia. Column A in the table sets out the average normal weekly working hours in 2002 for full-time workers as set by collective bargaining, across the whole economy. The overall average weekly hours for the 15 EU member countries plus Norway was 38.2 hours. The range of weekly hours was between 35.7 hours (France) and 40 hours (Greece).

Since 1998 major working time reductions were absent across the EU and Norway, with the notable exception of France, where a 35-hour week has

been introduced progressively and, to a lesser extent, Belgium.

The annual duration of working time is strongly influenced by the amount of paid annual leave to which workers are entitled. The average number of days of collectively agreed annual leave was 25.3 in 2002 for the EU and Norway. Agreed annual leave entitlement varies considerably, from 31.3 days in the Netherlands to 20 days in Ireland.

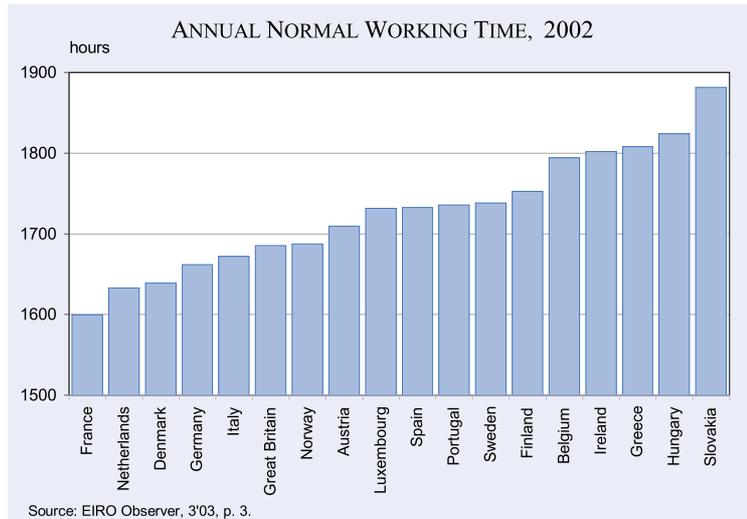
Variations in the number of public holidays are wide, with 13 a year in Austria, Portugal and Spain and only eight in the Netherlands. The total of agreed annual leave and public holidays varies in the EU and Norway from 40 days in Italy to 29 days in Ireland – a difference of two working weeks. Other notably high-leave countries include Germany, the

Average collectively agreed normal annual working time, 2002

Country	A. Weekly hours	B. Annual hours (A)x52	C. Annual leave (days)	D. Public holidays (days)	E. All leave expressed as hours (C+D)	F. Annual hours (B-E)
Austria	38,5	2002,0	25,0	13,0	292,6	1709,4
Belgium	39,0	2028,0	20,0*	10,0	234,0	1794,0
Denmark	37,0	1924,0	29,0	9,5	284,9	1639,1
Finland	39,3	2043,6	25,0	12,0	290,8	1752,8
France	35,7	1856,4	25,0	11,0	257,0	1599,4
Germany	37,7	1960,4	29,1	10,5	298,6	1661,8
Greece	40,0	2080,0	23,0	11,0	272,0	1808,0
Hungary	40,0	2080,0	20,0*	12,0	256,0	1824,0
Ireland	39,0	2028,0	20,0	9,0	226,2	1801,8
Italy	38,0	1976,0	28,0	12,0	304,0	1672,0
Luxembourg	39,0	2028,0	28,0	10,0	296,4	1731,6
Netherlands	37,0	1924,0	31,3	8,0	290,8	1633,2
Norway	37,5	1950,0	25,0	10,0	262,5	1687,5
Portugal	39,0	2028,0	24,5	13,0	292,5	1735,5
Slovakia	40,9	2126,8	20,0*	10,0	245,4	1881,4
Spain	38,5	2002,0	22,0*	13,0	269,5	1732,5
Sweden	38,8	2017,6	25,0	11,0	279,4	1738,2
UK	37,2	1934,4	24,5	9,0**	249,2	1685,2
Average EU and Norway	38,2	1986,4	25,3	10,8	275,8	1710,6

* Statutory annual leave figure. - ** Great Britain only – one extra day in 2002, norm is 8.

Source: EIRO Observer, 3'03, p. 3.



Netherlands and Denmark while Belgium, the UK and Greece are low-leave countries.

In order to arrive at a crude estimate of annual working time annual paid leave and public holidays (column E) have been subtracted from the collectively agreed annual normal working time (column B). The resulting figures do not, of course, take into account factors such as overtime working, or other forms of time off and leave. Normal annual working time ranged from just over 1,800 hours in Greece and Ireland to under 1,600 hours in France. In Hungary and Slovakia annual working hours are higher than in any EU member country or Norway (figure).

W.O.

DEMOGRAPHIC DEPENDENCY RATIOS

The process of ageing of populations is not limited to high income countries. The “elderly dependency ratio” (the relation of old persons (65 years and above) to the economically active population (between 15 and 64) is on a steady increase even in Africa. However, the – actual and future – elderly dependency ratios in poor countries are quite a bit smaller than those in rich countries.

Facts and figures

When one looks to single countries (a selection is presented in the Table below) it is noticeable that the elderly dependency ratios cover a wide range. The projected values for 2050 range from Turkey (lowest value, 30 percent) to Italy (highest value, 69 percent). Other countries with comparatively low elderly dependency ratios in 2050 are Denmark and United States (35 percent), Finland (38 percent), United Kingdom and Sweden (39 percent). Rather high dependency ratios are projected also for Spain (66 percent), Greece and Japan (56 percent) and Austria (52 percent).

Increases of the dependency ratios

The future demographic burden is not only characterised by the – actual or projected – level of the elderly dependency ratio but also by its change over time. Here also we observe considerable dif-

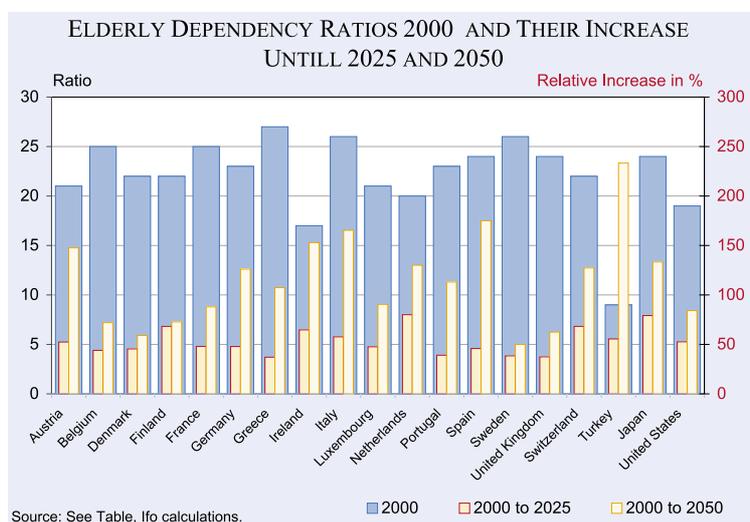
ferences between countries and group of countries (see Figure). When we look first at the development until 2025, the dependency ratio in Africa increases only by around 16 percent (from 6 percent to 7 percent), while the World Total increases by 36 percent and the OECD total by 52 percent. Looking again at some single countries, the increase ranges from 37 percent (Greece) to 80 percent (Netherlands). Other countries with relatively low increases of the elderly dependency ratio up to 2025 are the United Kingdom (37.5 percent), Sweden 38.5 percent) and Portugal (39 percent). Rather high increases can also be observed in Japan (79 percent) and in Finland (68 percent).

Considering now the change within the 50-years period between 2000 and 2050, the relative increases of the elderly dependency ratio become enormous. The least increases are projected to occur in Sweden (50 percent), Denmark (59 percent), Belgium (72 percent) and Finland (73 percent), while the highest increases are projected for Turkey (233 percent), Spain (175 percent) and Austria (148 percent).

Total and weighted dependency ratios

The Table shows not only the “elderly dependency ratio” but also provides information on the “total dependency ratio” and on the “needs weighted dependency ratio”. The total dependency ratio relates not only the elderly to the active population, but the elderly plus the young (0–14 years) to the active population. The needs weighted dependency ratio is a refined measure of the total dependency ratio. It takes into consideration (or assumes) that the demographic burden of children is lower than of elderly persons and adjusts the measure accordingly by weighting.

Comparing the elderly dependency ratio to the needs weighted dependency ratio for 2050 we notice that in many country groups (e.g. Africa, Arab countries, Asia) the needs weighted dependency ratios are higher than the (narrower) measure of the elderly dependency ratios (which are relatively low there). This is also true for the world as a whole. In these cases, obviously, the demographic burden (of the



Age Structure of the Population: Dependency Ratios, 1975 - 2050

	Elderly dependency ratio ^{a)}			Total dependency ratio ^{b)}			Needs weighted dependency ratio ^{c)}		
	1975	2000	2050	1975	2000	2050	1975	2000	2050
Austria	24	21	32	62	46	54	27	22	30
Belgium	22	25	36	57	51	62	25	25	33
Denmark	21	22	32	56	50	60	25	23	31
Finland	16	22	37	48	49	67	20	23	35
France	22	25	37	60	53	64	26	26	34
Germany	23	23	34	57	45	54	26	23	30
Greece	19	27	37	57	49	59	24	26	33
Ireland	19	17	28	73	48	57	28	20	28
Italy	19	26	41	57	47	59	24	25	35
Luxembourg	20	21	31	53	48	60	23	23	31
Netherlands	17	20	36	57	47	61	23	22	33
Portugal	16	23	32	61	48	55	23	24	30
Spain	16	24	35	60	46	54	23	24	31
Sweden	24	26	36	56	56	66	26	27	34
United Kingdom	22	24	33	59	53	61	26	25	32
Switzerland	19	22	37	54	47	61	23	22	34
Turkey	8	9	14	81	52	46	24	18	19
Japan	12	24	43	47	46	66	18	24	38
United States	16	19	29	55	51	61	22	22	30
OECD average	17	21	32	57	49	59	23	23	31
Africa average	6	6	7	92	86	65	26	24	20
Arab states average	6	5	8	98	81	63	28	23	20
Asia and Pacific average	7	9	14	80	56	47	24	18	19
Central and Eastern Europe and Central Asia average	14	17	24	54	49	50	20	21	24
Latin America and the Caribbean average	8	9	14	84	58	50	25	19	20
World Total	10	11	15	74	58	52	23	20	21

Note: The forecasted ratios are of a "medium" scenario.

(a) $(65 \text{ and over}) / (15-64)$. - (b) $[(0-14) + (65 \text{ and over}) / (15-64)] \cdot (0.25 \times (0-14) + 0.75 (65 \text{ and over})) / (15-64)$.

Sources: United Nations, Demographic Yearbook, various issues, New York; ILO, Social Security Pensions - Development and Reform, Geneva 2002.

year 2050) stems more from the younger than from the older population. In the OECD, and specifically in the European countries, however, the picture is quite different. Here the needs weighted dependency ratios (again for 2050) are lower than the elderly dependency ratios (which are relatively high here).

That means, generally, that (nearly all) societies with a high old-age demographic burden (the rich countries) have – or will have – a low young-age demographic burden, so that their total (or weighted total) burden is not quite so high. And it means that societies with a low old-age demographic burden (the poor countries) have – or will have – a

high young-age demographic burden, so that their total (or weighted total) burden is not quite so low.

A good and a bad message

The figures contain a good and a bad message. The bad message is that – in what society soever you might live in the world – the demographic burden will keep rising for the next half century. But not only are levels and rates of increase of the dependency ratios high, they also differ quite considerably between countries. And this is the basis for the good message.

The demographic burden must always be shouldered by those who are economically active – but the demographic burden of one society is not necessarily to be shouldered by the active population of that same society. The burden can (temporarily) be shifted from one society to another. This can be effectuated by means of the international capital markets and by corresponding flows of real goods and services.

A society with an unfavourable projection of its demographic burden (society A) can save (more) and invest their money in financial and other assets of societies of a more favourable demographic projection (B). Society A is, e.g., going to have less children and the parents can, thus, save more. During this period country A has current account surpluses. When the savers of country A become old their investment is honoured with interest payment and repayment of the principal. During this period country A has current account deficits. This is all the more possible the more differentiated levels and increase rates of the dependency ratios are.

Unfortunately, there is one problem and one condition connected with this good message. The problem is that the countries with relatively low demographic burdens are mainly economically weak and will not be able to offer significant investment opportunities, nor to honour in a credible way the bonds they have sold to the demographically older countries. But there also are exceptions: The United States and the United Kingdom, e.g., are economically strong *and* have relatively good demographic projections.

And there is a condition. The temporary shifting of demographic burdens by means of international

capital flows is – generally speaking – independent of the type of old-age financing which prevails in a certain country. It may happen with a pay-as-you-go as well as with a funded system. But a pay-as-you-go system is implausible to lead to higher savings – because people tend to think that their pensions are unrelated to their (own) number of children. And while they economise on costs for raising children they might increase their consumption. By contrast, a funded system enforces people to save for their old age. And it is this (additional) saving what not only leads, but *automatically* leads – provided the international capital markets are free enough – to the desired international shifting of demographic burdens.

R.O.

TEENAGE BIRTHRATES

President Bush is propagating abstinence for teenagers. One of his objectives is to reduce teenage birthrates, which are much higher in the United States than in other OECD countries. In the late 1990s the teenage birthrate in the United States reached 52 per thousand: 52 teenagers per 1,000 women aged 15 to 19 years gave birth. Other countries with high teenage birthrates were the United Kingdom and New Zealand. But there are marked differences among countries. The lowest rates can be observed in Japan, Switzerland and in the Netherlands, where the birthrates were ten times lower than in the United States (see Chart 1).

There are many interacting factors behind teenage births. Teen pregnancy is rarely intended and is mainly the result of the inappropriate use of contraceptives, together with attitudes of teenagers towards sex. Full sexual intercourse tends to start at earlier ages. On the other hand, family planning,

contraception and abortion are used differently from one country to the other.

Chart 2 indicates that where school drop-outs are high, teenage birthrates also tend to be high. Furthermore, the likelihood of unprotected sex is correlated with growing up in single parent households, with low parental educational levels and poverty. Moreover, these teenagers abort less often than their counterparts in richer families.

Teenage mothers are more likely to bring up their children as single mothers and to live on welfare. Their children are often neglected and have less attachment to school. Policymakers should help young women choose when to become mothers so that they can provide their children with a more favourable environment.

W.O.

Chart 2

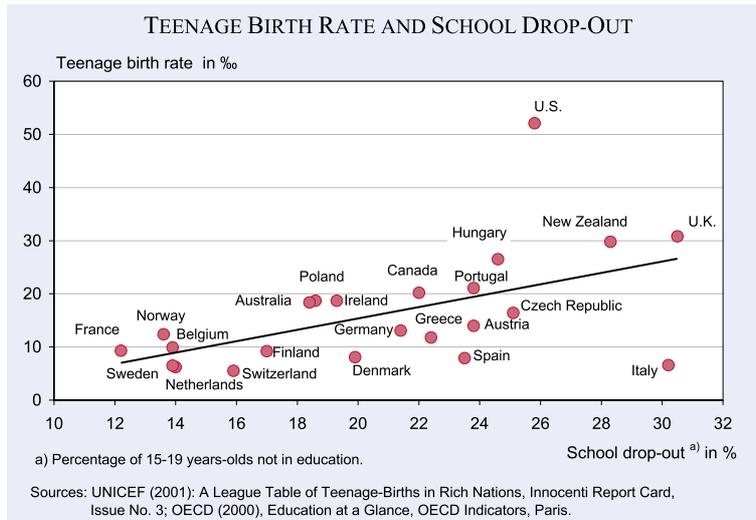
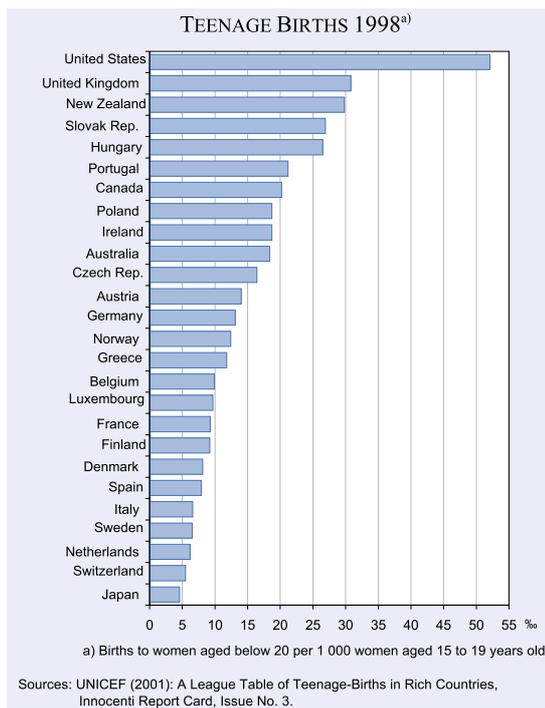


Chart 1



RECENT NEW ENTRIES TO THE DICE DATABASE

In June, July and August 2003 the DICE database received about 100 new or up-dated tables and charts. The main topics have been the following:

- Employment injuries
- Lost working days due to strikes
- Temporary employment, foreign labour force
- Labour costs and net income
- Public, private and total expenditures for different sectors of health-care
- Expenditures for health research
- Social assistance, specifically for maternity
- Government budget balances, cyclically adjusted, primary balance, net lending
- Organisation of government levels: vertical institutional set-up
- Educational Attainment

OECD HEALTH PROJECT

After the database "OECD Health Data" which is annually updated has become an established source for researchers interested in questions of health economics in a country-comparative perspective (see DICE Report 1/2003, Rubric News), the OECD has started the "OECD Health Project".

This research project will focus on

- institutional and incentive characteristics
- questions of regulation and self-regulation
- equity issues
- and on performance assessment

of existing national health-care systems.

The first phase of the project is scheduled to be terminated in 2004.
(www.oecd.org)

CONFERENCES

CESifo Economic Studies Conference on "Migration and the Welfare State"
November 7–8, 2003, Munich

The Conference will focus on the interrelations between migration and the various ingredients of the welfare state (old age security, public education, income maintenance programs, etc.). Keynote

lectures will be given by Robert Holzmann from the World Bank and Hans-Werner Sinn from CESifo.

CESifo-Delphi Conference on "Designing the New EU"
November 14–15, 2003, Munich
June, 4–5, 2004, Delphi, Greece

The CESifo-Delphi Conferences work as a two-stage process, dealing with the design of the new EU. Authors of accepted papers will be invited to give short presentations at a workshop meeting in Munich. Selected authors are then invited to present (possibly revised) versions of their papers at a conference meeting in Delphi.

CESifo Conference on "Schooling and Human Capital Formation in the Global Economy"
September 3–4, 2004, Munich

The Conference, jointly organised by CESifo and the Program on Education Policy and Governance (PEPG) of Harvard University, will focus on the possible equity-efficiency tradeoff in education, with a special focus on the role of school systems for human capital formation in the global economy. Invited papers will be presented by Eric Hanushek (Stanford), Stephen Machin (LSE), Thomas Nechyba (Duke), and Hessel Oosterbeek (Amsterdam).

For further information about CESifo Conferences see: www.cesifo.de.

RONALD COASE INSTITUTE

Workshop on "Institutional Analysis",
December 6–11, 2003, Sao Paulo, Brazil

and Conference on "Promoting Institutional Reforms in Latin America",
December 12–13, 2003, Sao Paulo, Brazil.
(www.coase.org)

THE INTERNATIONAL SOCIETY FOR NEW INSTITUTIONAL ECONOMICS (ISNIE)

organises a session on "Developments in Institutional Economics" within the annual meeting of the Allied Social Science Association (ASSA),
January 2004, San Diego, California.
(www.isnie.org)

**THE EUROPEAN SCHOOL ON NEW
INSTITUTIONAL ECONOMICS (ESNIE)**
announces its next spring school for May 2–8, 2004.
(www.esnie.org)

PUBLICATIONS

The Legal Scholarship Network (LSN)
announces the splitting of the existing journal
“Law & Humanities/Legal History” into two separate daughter journals

- Law and Humanities
- Legal History

The LSN currently publishes 123 journals.

The Ifo Institute takes pleasure in announcing

THE 2004 CESIFO INTERNATIONAL SPRING CONFERENCE
"PROSPECTS FOR THE EUROPEAN ECONOMY"

Thursday and Friday
18-19 March 2004
at the British Embassy in Berlin

This annual event offers macroeconomic forecasts as well as industry analyses. The conference, which will take place over two half days, is aimed at business and banking representatives, as well as the public at large.

The first section of the Thursday afternoon session will examine the outlook for the world economy, with special emphasis on the impact of exchange rates followed by an analysis of the state of European economy and its prospects. The second section will start with a close look at trends in foreign direct investment that are of major importance for the evolution of the industrializing economies. Then the development in CEE, China and the Asian NIEs will be examined. Discussion of these issues will be further pursued over dinner at the end of this first day.

On Friday morning the focus will be on sectoral aspects of the European economy. In the first section experts from large international groups will present developments in commodity markets. In the second section, the development in major industries will be analysed. This second day concludes with a hot buffet lunch.

For further information:

Angelika Six ++49-89-9224-1269 phone
 ++49-89-9224-2269 fax
 six@ifo.de e-mail

Dr. Hans-Günther Vieweg ++49-89-9224-1362 phone
(Conference Manager) ++49-89-9224-2362 fax
 vieweg@ifo.de e-mail

Mark your calendar and register now

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IFO WORLD ECONOMIC SURVEY

WORLD ECONOMIC CLIMATE BRIGHTENS

World Economic Climate

ECONOMIC EXPECTATIONS FOR THE NEXT SIX MONTHS IMPROVED, BUT CURRENT ECONOMIC SITUATION REMAINS UNSATISFACTORY

Economic Expectations

INFLATION EXPECTED TO SLOW DOWN

Inflation

RENEWED DECLINE OF INTEREST RATES EXPECTED

Interest Rates

EURO SEEN AS OVERVALUED

Currencies

SARS EPIDEMIC HAD TEMPORARY NEGATIVE IMPACT ON ECONOMIC SENTIMENT WORLDWIDE

Special Topic

DICE
Database for Institutional Comparisons in Europe
www.cesifo.de/DICE

The database DICE was created to stimulate the political and academic discussion on institutional and economic policy reforms. For this purpose, DICE provides country-comparative information on institutions, regulations and the conduct of economic policy.

To date, the following main topics are covered: Labour Market, Public Finances, Social Policy, Pensions, Health, Business Environment, Capital Market and Education. Information about Basic Macro Indicators is added for the convenience of the user.

The information provided comes mainly in the form of tables – with countries as the first column –, but DICE contains also several graphs and short reports.

In most tables all 15 EU and some important non-EU countries are covered. Many topics already contain information on the EU accession countries.

DICE consists mainly of information which is – in principle – also available elsewhere. But we think that the access we provide is very convenient for the user, the presentation is systematic and the main focus is truly on institutions, regulations and economic policy conduct. Some tables are based on empirical institutional research by ifo and CESifo colleagues as well as the DICE staff.

DICE is a free access database.

Critical remarks and recommendations are always welcome.
Please address them to
osterkamp@ifo.de
or
ochel@ifo.de