Evidence and projections on the progressivity of health care financing in Finland

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Abstract: This paper examined the distribution of health care financing in Finland in 1990-2012. In addition, the study provided insight to recent developments in the financing system, and analyzed various scenarios associated with the planned financing reform of 2020. The results indicated, that over the two decade study period overall progressivity first steadily decreased, and after turning regressive by 2006, returned to a progressive track leading to the highest level of measured progressivity by 2012. The distributional implications of the financing reform in the "stationary" scenario were shown to be significant; substituting revenue collected previously by local income taxes by an equiproportinate increase in state income tax revenue would increase the progressivity of overall financing to an unprecedentedly high level. In the "counterbalanced" scenario, where the state income tax scales were adjusted to correspond to the average income tax rate, the progressivity of overall financing increased more moderately. Finally, the "system-level" scenario indicated that taking into account recent changes in other financing sources outweighed the progressivity effect, and a slightly less progressive overall financing distribution would emerge in 2020 in comparison to 2012. The monetary effects of abolishing the public reimbursement scheme of private health services fees were shown to be rather small in magnitude, but the economic burden fell more heavily on low-income households.

JEL classification: H22, I19

Key words: health care financing, progressivity, health financing reform

1 Introduction

Health care is typically funded from a mixture of four sources—general taxation, public health insurance, private health insurance and out-of-pocket payments. The predominant financing source varies according to the scheme adopted for collecting and allocating the funds. A broad division can be made between tax-financed and public health insurance financed health care systems. In addition, private financing may play a significant role in schemes where funds are collected by market-driven insurance companies offering voluntary or quasi-voluntary private health insurance. Out-of-pocket payments are mostly applied as a complementary financing source, with varying degree of magnitude.

Finnish health care is mainly publicly financed, with more than three-fourths of total revenue raised from state and local income taxes and public sickness insurance

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contributions. In connection with a large-scale health and social care reform currently under preparation, municipalities will be exempted from their responsibility to organize and finance health care services, as from the beginning of 2020. According to the present government resolution, revenue collected previously by local taxes will be collected as an integral part of state income taxation. State and local tax rates will be adjusted accordingly. The government has been committed to carry out the financing reform in a manner that does not affect the total tax ratio and the distribution of income taxation.

The distribution of health care financing in Finland has been studied rather extensively (e.g. Häkkinen, 1991; Klavus and Häkkinen, 1995; Klavus, 1998; Klavus, 2001). These studies focused on the progressivity of health care financing at the level of overall financing as well as individual financing sources. Another line of research has examined the progressivity and redistributive effect of health care financing in an international perspective (Wagstaff et al., 1999; van Doorslaer et al., 1999). In the latter study, the income redistribution consequences of health care financing systems in twelve OECD countries (including Finland) were examined by decomposing the overall income redistributive effect into a progressivity, horizontal inequity and reranking component. In recent years, several studies have adopted a system-level approach combining benefit incidence analysis (BIA) and financing incidence analysis (FIA) (e.g. Mangham, 2006; Akazili et al., 2012; Chakraborty et al., 2013; Asante et al., 2014). The former approach establishes the benefit from publicly financed health care accruing to different socioeconomic groups through their use of public health services, while the latter approach examines the distribution of the burden of health financing, and is usually carried out by methods of progressivity analysis. In Finland, Klavus and Häkkinen (1996) analyzed the net benefit of public health care by taking simultaneously into account the financing and utilization of public health services. An even more in-depth view was taken by Smith and Normand (2009), who adopted a flow of funds approach, where the flow of health care resources in Ireland were tracked from individuals to financial intermediaries, from there to health care providers and finally to the users of health services. Lastly, in contrast to studies adopting summary measures of progressivity, Klavus (2001) applied methods for estimating the progressivity dominance and asymptotic statistical inference of health care financing distributions.

As the characteristics related to horizontal inequity and benefit incidence in Finnish health care financing have been examined elsewhere (see above), the present study focuses distinctively on the analysis of progressivity changes in the Finnish health care financing system. The measurement of progressivity is based on a summary measure of progressivity (Kakwani's index) with estimates of statistical significance presented for each financing source. In addition, the distributional implications of the planned health care financing reform are projected in various scenarios. The paper is organized as follows. The next section gives an overview of the Finnish health care system and demonstrates the main features of the health financing reform. Section three describes the data, variables and methods. Following the presentation of estimation results in section four, the final section concludes with discussion on the findings and policy implications of the study.

2 Health care financing before and after the reform

The Finnish health care system is mainly based on public financing and provision of services. Municipalities (local governments) are the basic units responsible for organizing and financing health care for their inhabitants. Municipalities allocate revenue collected through local taxes, user charges, and a state subsidy to the provision of primary and specialized health care services. In 2012 there were a total of 329 municipalities.

Figure 1 demonstrates the main monetary flows of the Finnish health care financing system. Taxpayers contribute in direct taxes, indirect taxes and sickness insurance payments to the government, municipalities and the Social Insurance Institution (SII), respectively. These public entities allocate the revenue to health care providers according to amounts agreed upon in annual budgets. In addition, out-of- pocket payments enter the financing system in the forms of user charges, private services fees and medicine purchases.

Figure 1: Monetary flows of the Finnish health care system

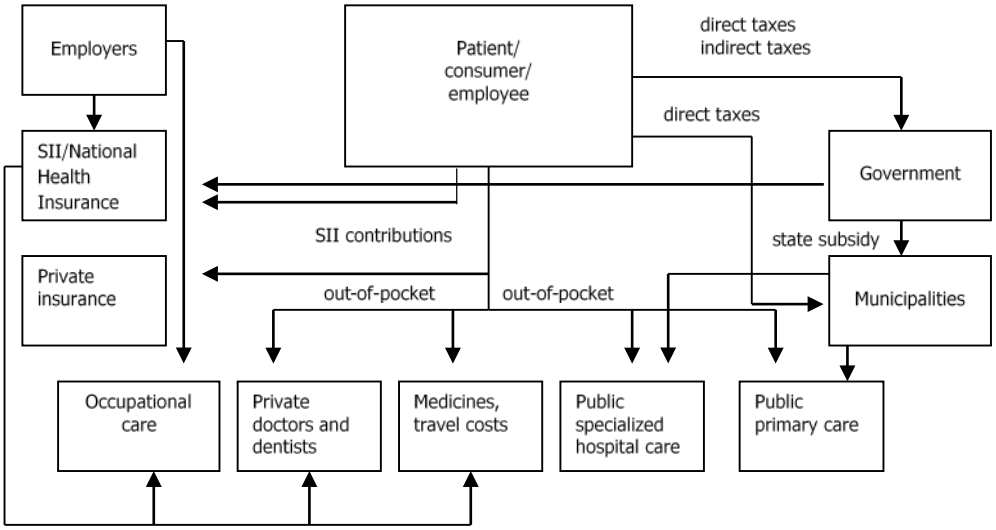
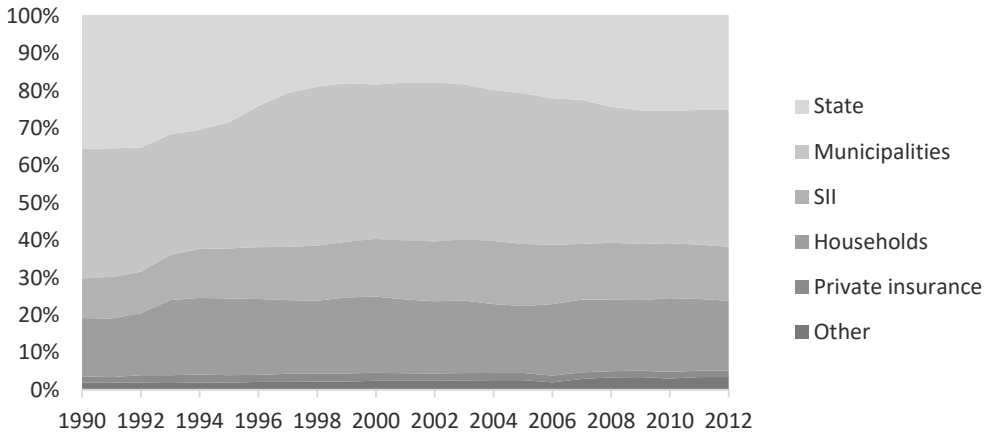


Figure 2 presents the development of health care financing in 1990-2012 by source of revenue. In 2012 about three-fourths of total health care expenditure was financed by general tax revenue and sickness insurance payments. The remaining one-fourth was financed by households' out-of-pocket payments, private insurance, employers and private sector institutions.

The reform of the state subsidy scheme in 1993 decreased the financing share of the state and shifted financial, as well as organizational responsibility for health care towards the municipalities. The share of state financing was further reduced by the abandonment of a tax deduction of medical expenses in 1992. The declining trend in state financing continued throughout the 1990s. After the turn of the century the state's financing share again increased, mainly due to increased liquidity guarantee payments in support of the SII administered National Health Insurance (NHI) scheme.

Figure 2: Health care financing by source of revenue 1990-2012 (%)



The financing share of the SII has remained rather constant. A slight increase took place in the beginning of the 1990s when the sickness insurance payment of the insured was raised from 1.7 to 2.2 percent of gross salaries, and an additional payment was applied to income exceeding EUR 13,300. A higher sickness insurance payment was also applied to pension income in 1993-2002. The two-step payment scheme was abandoned in 1999 and the sickness insurance payment of employees was lowered to 1.5 percent.

In 2006 the financing of NHI was reformed by dividing it into two separate schemes: earned income insurance and medical care insurance. The earned income scheme includes sickness, parenthood and rehabilitation allowances as well as compensation to employers for the costs of occupational health care. The financing of the scheme is divided between employers (73 %) and employees (27 %). Employers are responsible for the financing of NHI benefits and employees for financing daily allowances. The medical care insurance comprises the reimbursements provided by the SII for medicine expenses, doctors' and dentists' fees, charges for examination and treatment, and travel expenses. The financing of the scheme is divided between the insured (45 %) and the state (55 %). In 2012 the medical insurance payment by employees was 1.22 percent of gross salary income.

The economic recession of the early 1990s resulted in a substantial decline in total health care expenditure. This was accompanied by an increase in out-of-pocket payments for the users of health care services. Between 1987 and 1996 the share of health care expenditure financed by out-of-pocket payments increased from 13 to 22 percent, and has remained since then at about 20 percent.

The Finnish health care financing system has been criticized for two major drawbacks. Firstly, the large number of municipalities responsible for financing and organizing health care is regarded as inefficient and administratively complex. The fragmented financing system with numerous small-scale providers has been shown to increase unit costs (Teperi et al., 2009) and aggravate the planning of annual health care budgets. The unpredictability of the incidence of exceedingly expensive illness cases materializes particularly in smaller municipalities as uncontrollable annual fluctuations in the health care budget and expenditures. In small municipalities individual "cost peaks" generate more severe cash flow problems than in larger municipalities, where financing is pooled across larger populations (Klavus et al., 2012).

Secondly, the two-tier public financing system, where sickness insurance is used to finance similar services for same population groups as tax finance, has been criticized for generating cost-shifting and partwise-optimization. The multisource financing system

supports an overlapping supply of services particularly as regards occupational and primary health care, creates oversupply of diagnostic and curative services and invokes shortages in the availability of health care personnel. It also encourages transferring the responsibility for services and costs from one funder to another. From an equity perspective, the overlapping financing system gives rise to inequalities in the access and utilization of health care between regions and population groups (Pekurinen et al., 2011).

The preliminary steps of the 2020 health and social care reform were taken already in 2006, when the government implemented a program for reorganizing the structure and tasks of municipalities (PARAS-project). The main objective of the PARAS-project was to strengthen local governments and service structures, and achieve improved functioning and productivity by merges of municipalities into larger catchment areas. While the PARAS-project succeeded in reducing the number of municipalities from 431 (2006) to 336 (2011), the objective of forming catchment areas of a minimum of 20,000 inhabitants was still not achieved. In 2012 the median population of Finnish municipalities was 6,000 inhabitants.

In 2011 the PARAS-project was replaced by a more comprehensive programme, the Social Welfare and Health Care reform (SOTE). After lengthy negotiations, the government published in April 2016 a resolution on reforming health and social services and establishing 18 autonomous counties. The counties will be responsible for all public health and social services, rescue services, environmental health care, the duties of the regional councils and selected other municipal and regional administrative duties. Financial resources for the counties will be collected in a centralized manner in connection with government income taxation. The government allocates the funds to counties according to particular criteria based on the demographic composition and service needs of the counties. Accordingly, the local tax rates of all municipalities will be lowered by an equal amount through legislation in 2020. The required cut in local tax rates is estimated to be 12.3 percentage points (the average local tax rate in 2016 was 19.9 percent). Consequently, municipal income tax revenue has been estimated to decrease by about EUR 11,3 billion.

Relating to the SOTE reform, the overlapping financing scheme, involving tax and sickness insurance funding, will be dissembled by terminating the present SII reimbursement scheme of private physician and dentist fees. In 2015, the reimbursement rates were 24.1 percent for private dentist fees, 20 percent for private physician fees and 22.6 percent for private sector examination and treatment. Already in 2016, SII reimbursements were cut by EUR 75 million (private physicians) and EUR 78 million (private dentists).

In the beginning of 2016 the user fees of public health services were raised by 27.5 percent. This involved mainly public physician and dentist fees, and hospital inpatient and outpatient fees. In accordance with the government programme, the aim was to increase revenue collected from user fees by EUR 150 million.

3 Data and methods

The empirical analysis was carried out using data from Household Budget Surveys (HBS) of 1990 (N=8,258); 1998 (N=6,743); 2001 (N=5,495); 2006 (N=4,007) and 2012 (N=3,551).

HBS data were complemented by data from administrative registers such as those on household income, taxation, national pensions, sickness insurance payments, child benefits and housing supports.

Estimation bias arising from systematic non-response in the samples was taken into account by using sample weights. All monetary variables were adjusted by the OECD

equivalence scale. The OECD-scale assigns a weight of 1 for the first adult 1, 0.7 for other adults and 0.5 for each child.

Progressivity was analyzed with respect to household gross income. Revenue from the following sources was included in the estimation of total health care financing: state income taxes, indirect taxes, local taxes, sickness insurance contributions and households' out-of-pocket payments. The distribution of expenditure on SII reimbursed private health services was analyzed in relation to the distribution of household disposable income.

The incidence of indirect taxes was estimated from HBS data by weighting household consumption expenditure by the value added and excise tax levies on aggregated commodity groups. In estimating the incidence of sickness insurance payments, it was assumed that the employers' contribution share was borne entirely by employees. This conforms to the common convention in the literature, assuming forward-shifting and totally inelastic labor supply (e.g. van Doorslaer et al., 1999; Klavus, 1998).

All financing variables were weighted by a "matching scalar", calculated as the ratio of National Health Accounts (NHA) expenditure and survey expenditure per household. These weighted financing variables conformed to macro-level data reported in the NHA and assigned a corresponding revenue share for each financing source and household in the survey.

The effect of the rise in user fees in 2016 was estimated to increase household's out-of-pocket payments as share of total payments by 2.5 percentage points. Accordingly, it was assumed that the state's financing share decreased by a corresponding amount. Assuming further that the cuts in SII reimbursements did not affect the use of private health services, the financing share of households was estimated to increase by another 2.5 percentage points, adding up to 5 percentage points in total. Accordingly, the financing share of the SII decreased by 2.5 percentage points.

In accordance with the 2020 financing reform, three alternative scenarios were examined. First, the "stationary" scenario considered the distributional outcome of a progressivity preserving shift in financing from local income taxes to state income taxes. In this scenario revenue collected previously by local income taxes was included to state income tax revenue at the household level. The state income tax scales and the distribution of tax payments (progressivity) across households were assumed to conform to those prevailing in the 2012 HBS. The relative shares of other financing sources were retained at the 2012 level in order to assess the distinct effect of the shift from local income taxation to state income taxation.

Secondly, the study considered the "counterbalanced" scenario, where progressivity of state income taxation was adjusted to correspond to the level of progressivity of overall income taxation in 2012 (e.g. the distribution of state and local taxes overall).

In the third scenario, "system-level", recent changes in other financing sources were taken into account in estimating the distributional outcome as regards overall financing in 2020

Progressivity was measured by Kakwani's progressivity index (KI). KI indicates the extent to which the financing system departs from proportionality (Kakwani, 1977). In the case where health care financing is distributed proportionally to income, KI obtains a value of zero. If the relative share of payments increases (decreases) with income, financing is progressive (regressive), and KI obtains a positive (negative) value. KI can attain values ranging from 1 to -2. Both changes in the income distribution (measured by the Gini coefficient) and changes in the distribution of health care financing affect the value of the progressivity index.

Gini coefficients and progressivity indices were estimated by means of the regression method applied to weighted samples (Kakwani et al., 1997; Klavus, 1998). This

estimation method provides asymptotic standard errors, which were used for constructing confidence intervals (95 %) for the progressivity indices.

4 Results

4.1 Changes in progressivity 1990-2012

In the beginning of the 1990s overall financing was clearly progressive. Progressivity decreased steadily during the decade, and at the turn of the century overall financing was distributed proportionally to income or slightly regressively (Table 1). As regards individual financing sources, the most distinctive change took place in the revenue share and regressivity of out-of-pocket payments. Increases in out-of-pocket payments between 1990 and 1998 led to a higher share of revenue collected from the users of services. As out-of-pocket payments were concentrated more heavily at lower income levels, also their distribution became more regressive. The declining progressivity of overall financing was mainly caused by the increasing regressivity of out-of-pocket payments.

Progressivity was restored by 2012. The swift and rather substantial rise in overall progressivity was driven by parallel movements of all financing sources; a slight increase in progressivity took place in the distributions of state income taxes, local taxes and SII contributions, whereas the regressivity of indirect taxes and out-of-pocket payments decreased. These distributional changes outweighed the effects of the slight increase in the revenue shares of regressive indirect taxes and out-of-pocket payments, and that of a reduction in the revenue share of slightly progressive local taxes.

Table 1: Progressivity of health care financing 1990-2012

	Gross income	State income tax	Indirect taxes	State taxes total	Local taxes	Sickness insurance	Public total	Households	Total financing
1990									
Revenue share (%)		14.0	24.0	**38.0**	37.0	11.0	**86.0**	14.0	**100.0**
Gini coefficient	0.256								
Kakwani index		0.269	-0.097	**0.039**	0.077	0.086	**0.061**	-0.198	**0.024**
*se	(0.0051)	(0.0097)	(0.0056)	**(0.003)**	(0.0023)	(0.0027)	**(0.0021)**	(0.0110)	**(0.0023)**
L95	0.246	0.25	-0.108	**0.033**	0.072	0.081	**0.057**	-0.219	**0.019**
U95	0.266	0.288	-0.086	**0.045**	0.082	0.091	**0.065**	-0.177	**0.029**
1998									
Revenue share (%)		8.0	12.0	**20.0**	44.0	16.0	**80.0**	20.0	**100.0**
Gini coefficient	0.299								
Kakwani index		0.296	-0.135	**0.05**	0.06	0.079	**0.061**	-0.181	**0.007**
*se	(0.0040)	(0.0104)	(0.0057)	**(0.0032)**	(0.0044)	(0.0047)	**(0.0033)**	(0.0126)	**(0.0040)**
L95	0.291	0.276	-0.146	**0.044**	0.051	0.07	**0.055**	-0.156	**-0.001**
U95	0.307	0.316	-0.124	**0.056**	0.069	0.088	**0.067**	-0.206	**0.015**
2001									
Revenue share (%)		8.0	10.0	**18.0**	45.0	16.0	**79.0**	21.0	**100.0**
Gini coefficient	0.320								
Kakwani index		0.308	-0.144	**0.055**	0.048	0.067	**0.052**	-0.215	**-0.007**
*se	(0.0040)	(0.0101)	(0.0050)	**(0.0037)**	(0.0035)	(0.0040)	**(0.0027)**	(0.0139)	**(0.0036)**
L95	0.312	0.288	-0.154	**0.048**	0.042	0.06	**0.047**	-0.242	**-0.014**
U95	0.328	0.328	-0.134	**0.062**	0.055	0.075	**0.057**	-0.188	**-0.001**

Table 1: Progressivity of health care financing 1990-2012 (continued)

	Gross income	State income tax	Indirect taxes	State taxes total	Local taxes	Sickness insurance	Public total	Households	Total financing
2006		10.0	12.0	**22.0**	41.0	16.0	**79.0**	21.0	**100.0**
Revenue share (%)									
Gini coefficient	0.321								
Kakwani index		0.329	-0.141	**0.066**	0.042	0.049	**0.051**	-0.251	**-0.009**
*se	(0.0054)	(0.0134)	(0.0058)	**(0.0043)**	(0.0055)	(0.0061)	**(0.0035)**	(0.0169)	**(0.0046)**
L95	0.311	0.303	-0.152	**0.058**	0.031	0.037	**0.044**	-0.284	**-0.018**
U95	0.332	0.355	-0.129	**0.075**	0.053	0.061	**0.057**	-0.218	**0,000**
2012									
Revenue share (%)		12.0	14.0	**26.0**	37.0	15.0	**78.0**	22.0	**100.0**
Gini coefficient	0.299								
Kakwani index		0.376	-0.092	**0.133**	0.089	0.084	**0.103**	-0.222	**0.034**
*se	(0,0035)	(0,0136)	(0,0059)	**(0,0062)**	(0,0038)	(0.0038)	**(0,0028)**	(0,0212)	**(0,0049)**
L95	0.293	0.349	-0.104	**0.121**	0.082	0.076	**0.097**	-0.263	**0.024**
U95	0.307	0.403	-0.081	**0.145**	0.097	0.091	**0.108**	-0.181	**0.043**

*se: standard error

L95 and U95: 95 % confidence interval 95 %: lower (L95), upper (U95)

4.2 Projected distributional implications of the financing reform 2020

The distributional impact of the "stationary" scenario was substantial in magnitude. Substituting revenue collected previously by local taxes by an equiproportinate increase in state income taxes would increase the progressivity of overall financing from KI 0.034 (2012) to KI 0.141 (2020) (Table 2).

Table 2: Overall progressivity in various reform scenarios

2020*	State income tax	Indirect taxes	State total	Local taxes	Sickness insurance	Households	Total financing
Stationary							
Revenue share (%)	49.0	14.0	**63.0**	-	15.0	22.0	**100.0**
Kakwani index	0.376	-0.092	**0.276**		0.084	-0.222	**0.141**
Counterbalanced							
Revenue share (%)	49.0	14.0	**63.0**	-	15.0	22.0	**100.0**
Kakwani index	0.181	-0.092	**0.120**		0.084	-0.222	**0.040**
System-level							
Revenue share (%)	46.5	14.0	**60.5**	-	12.5	27.0	**100.0**
Kakwani index	0.181	-0.092	**0.118**		0.084	-0.222	**0.022**

*Estimated from 2012 HBS data.

In accordance with the government´s requisite, the relative financing shares (progressivity) of households in different decile groups would remain constant. However, in monetary terms, the reform would affect households at different income levels differently. In the lowest deciles, health care financing through state income taxation increased on the average by EUR 90, while financing through local income taxation decreased by EUR 300. Consequently, households in the lowest decile would finance health care by EUR 210 less after the reform. Households in the highest decile contributed EUR 12,400 more through state income taxes and EUR 5,750 less through local income taxes after the reform. This amounted to an increase in total health care financing of EUR 6,650 for the highest decile.

As regards the "counterbalanced" scenario, the progressivity of state income taxation would have to be lowered to KI 0.181 in order to preserve the progressivity of overall income taxation at the pre-reform level (Table 2). In this scenario the progressivity of overall health care financing would rise less than in the "stationary" scenario, from KI 0.034 (2012) to KI 0.040 (2020). Even in this scenario the neutrality premise at the level of an individual financing source was not preserved at the level of overall financing; the increased revenue share of progressive state income taxes increased the progressivity of overall health care financing, but to a lesser extent.

Taking into account the recent increase in user charges and the shift of financing responsibility from the SII to the users of private services generated an opposite distributional outcome. In the "system-level" scenario, the increased share of total revenue collected by regressive out-of-pocket payments, and the decrease in revenue collected from progressive state income taxes and sickness insurance contributions outweighed the progressivity effect indicated by the "counterbalanced" scenario (Table 2). According to this scenario, the progressivity of overall health care financing would fall to KI 0.022.

Despite of the fact that SII reimbursed private health services were used more heavily by high-income households, payments for these services were distributed regressively (Table 3). This was due to the fact that payments for these services accounted for a greater proportion of disposable income at lower income levels. Regressivity was more pronounced in private physician fees, but slight regressivity also existed in private dentist fees. The abandonment of the proportionally fixed SII reimbursement scheme would not create a distributional effect, and even in monetary terms, payments for these services would rise rather moderately. On the average out-of-pocket payments for private physician services would increase by EUR 15/year and those for private dentist services by EUR 30/year. As the SII reimbursed a fixed share of the private services fees, the same regressive distribution applied to the distribution of the reimbursements. Therefore, the economic burden from terminating the reimbursement scheme would fall in relative terms more heavily on low-income households.

Table 3: Private health services fees before and after the reform by deciles (EUR)

Decile	Disposable income	Private doctor[a]	Private doctor[b]	Private dentist[a]	Private dentist[b]
1	11 092	34	39	86	98
2	15 735	61	71	98	112
3	18 373	66	77	115	133
4	20 915	105	123	116	133
5	23 148	60	69	223	257
6	25 589	95	111	266	306
7	28 268	78	91	320	368
8	31 847	93	109	198	228
9	37 103	103	120	339	390
10	55 405	217	253	346	398
Total average (EUR)	26 743	91	106	211	242
Progressivity index (KI)		-0.107		-0.030	

Private doctor/dentist[a] Average fees by deciles before the reform.
Private doctor/dentist[b] Average fees by deciles after the reform.

5 Conclusions and discussion

Progressivity of health care financing decreased steadily from 1990 to 2006. This was mainly due to the increased revenue share and regressivity of households' out-of-pocket payments. A return to overall progressivity took place between 2006 and 2012. In this period, the progressivity of income taxes increased, while the regressivity of indirect taxes and out-of-pocket payments decreased. In 2012 overall financing reached its highest level of progressivity in the study period.

According to scenarios presented in the study, the distributional impact of the planned financing reform indicated increased overall progressivity. In the "stationary" scenario, substituting revenue collected previously by local income taxes by an equally

proportioned increase in state income tax revenue would raise progressivity of overall financing to an unprecedented high level in 2020, even by international standards (see for example, Wagstaff et al., 1999). For households in highest income deciles the additional monetary contributions from state income taxation would exceed the reduction of contributions from local income taxes. Therefore, the financing burden of high-income households would increase considerably. This scenario should be regarded as indicative, as it departs from the government's current proposals for implementing the reform. However, it demonstrated the fact that regardless of attempts to implement a financing reform in a distributionally neutral manner at the level of an individual financing source and the general tax system, the neutral distributional outcome was not preserved at the level of a public sub-system, in this case, overall health care financing.

It is evident that state income tax scales must be adjusted if the total income tax rate is to be retained at the pre-reform level. The "counterbalanced" scenario indicated that in terms of progressivity, a distributionally neutral outcome would require a considerably lower level of progressivity of state income taxation. A moderate increase in the progressivity of overall health care financing in 2020 was indicated by this scenario.

In the "system-level" scenario the previous scenario was extended by taking into account the recent and planned changes in other financing sources. These included the already actualized increase in out-of-pocket payments and the pending termination of the reimbursement scheme of private health services fees. In a system-level perspective, the projected distributional outcome prevailing in 2020 indicated lower overall progressivity in comparison to 2012.

In monetary terms, the effect of abandoning SII reimbursements of private health services fees was rather small. The study demonstrated that in contrast to the common perception, the distribution of private physician and dentist fees was in fact regressive. Accordingly, fixed-proportion SII reimbursements provided a greater relative monetary support at lower income levels, and therefore, abolishing the reimbursement scheme would generate a more pronounced negative income effect for low-income households.

As regards additional reliance on out-of-pocket payments, the study demonstrated that the shift from overall progressivity to regressivity that took place in the 1990s, was mainly caused by increased out-of-pocket payments. With the highly skewed distribution of these payments, even a moderate change in their revenue share generates pronounced distributional implications at the level of overall financing. Moreover, out-of-pocket payments are rather inefficient for generating large revenues. This stems from their narrow financing base, consisting solely of the users of services, as well as the high administrative costs associated with collecting the payments. The financing potential of out-of-pocket payments is clearly secondary to that of general taxation, which covers the entire population and a wide variety of economic activities.

Some aspects regarding the scope and methodology of the study are worth mentioning. Firstly, the study focused solely on the incidence of health care financing. A more comprehensive framework taking into account the additional monetary flows in the health care system would involve an analysis of the incidence of benefits generated by the utilization of the services. Klavus and Häkkinen (1996) examined the characteristics of cross-subsidization in the Finnish health care system by measuring the net benefit from health care, i.e. the relationship between payments and the monetary value of utilization of services at different income levels. The study demonstrated that the poorest one-third of the population financed (through taxes and sickness insurance payments) only about one-third of the public health services they utilized, whereas the five richest deciles contributed more in taxes and sickness insurance payments to the public health care system than they benefited from using it.

Secondly, while the study identified the degree and sources of vertical inequity, differential treatment may occur in the form of horizontal inequity, if payments differ across households at the same income level. In the current Finnish health care system, horizontal inequity might arise from the fragmented nature of revenue collection, where several local governments levy local taxes with differing tax rates. However, in an international perspective the Finnish financing system has performed reasonably well with respect to horizontal equity (van Doorslaer et al., 1999). In Finland, the level of horizontal inequity of the public financing sources was rather low, while the highest values obtained for out-of-pocket payments. In other Nordic countries where local tax rates vary geographically (Denmark and Sweden), a substantially higher level of horizontal inequity existed. This may stem from the fact that despite of the variation of local tax rates among Finnish municipalities, the dispersion was rather small in magnitude, and has further reduced by the recent reforms involving municipal mergers. Moreover, as local tax revenue will be entirely replaced by state income tax revenue in the 2020 reform, horizontal inequity due to geographical variation in tax rates will no longer be of distributional concern.

Lastly, it should be noticed that the distributional outcome indicated by a summary measure of progressivity may not apply to all income levels along the payment distribution. Klavus (2001) demonstrated on Finnish data that despite of the regressivity of overall health care financing indicated by the progressivity index, regressivity was statistically supported only for the part of the distribution with lowest income. In fact, for middle and high-income households the financing system was proportional to income, which to some degree contradicted the perception of pro-rich inequality indicated by the progressivity index. Therefore, while the summary progressivity index was regarded as the most suitable estimation method for the present analysis involving a long time series, the restrictions of this approach should be borne in mind.

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