



Health care reform and change in public–private mix of financing: a Korean case

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Abstract

The objective of this paper is to examine the changes in the Korean health care system invoked by the reform (in the latter part of 2000) in regard to the separation of drug prescription and dispensation, especially from the point of view of the public–private financing mix. It seeks particularly to estimate and analyse the relative financing mix in terms of both modes of production and types of medical provider. The data used to estimate health care expenditure financed by out-of-pocket expenditure by were sourced from the National Health and Nutritional Survey (conducted by interviewing representatives of households) and the General Household Survey (a household diary survey). National Health Insurance data, etc. were used to estimate health expenditure financed by public sources. This study concentrates on the short-run empirical links between the reform and the public–private mix in finance. The reform increased remarkably the public share in total health expenditure. This public share increase has been prominent particularly in the case of *expenditure on drugs* since the reform has absorbed much of the previously uncovered drugs into the National Health Insurance coverage. However, a higher public share in medical goods than in out-patient care would raise an issue in terms of prioritization of benefit packages. The five-fold increase in the public share of *expenditure at pharmacies* reflects not only the fact that drugs previously not covered by NHI are covered now but also the fact that prescribed drugs are currently purchased mainly at pharmacies, as opposed to in doctors' clinics, as a result of the reform.

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1. Introduction

The appropriate role of public and private finance/provision in health care has been the subject of vigorous debate and discussion in many countries [1–8]. Many developed countries have constructed public systems pursuing equitable health care. Their

public nature should not necessarily indicate inefficiency. Our primary concern about the public–private mix is the development of hybrid solutions capable of combining the best of public and private sectors in order to integrate equity and efficiency.

In Korea, rapid economic development was paralleled by a significant increase in life expectancy and expanded access to health care. Universal population coverage by the National Health Insurance (NHI) was achieved in 1989, only 12 years after its inception. The

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augmentation of benefit coverage, i.e. the range of benefits covered by the insurance package is a continually advancing process despite the achievement of blanket coverage of the population. The reform in regard to the separation of drug prescription and dispensation (SPD reform) was one of two big reforms that were introduced in July 2000 to the Korean health care system. The other was the integration of multiple health insurers into a single payer. Despite its significance in the Korean health care system, the latter is not particularly related to the change in the public–private mix, at least in the short run. In this sense, this study mainly focuses on the SPD reform.

Kang et al. [9] recognized the SPD reform positively. The report emphasized the definition of the SPD reform to the extent of creating an ethos of teamwork and cooperation between the two professions with each contributing according to their specialist knowledge. Potential effects were also emphasized such as improving quality of care and achieving cost reduction by decreasing abuse, over-use, and misuse of medications among patients and providers. However, Kim et al. [10] criticized the decisions made by the Korean government concerning the separation of the roles of medical institutions and pharmacists for out-patient care (SMP), differentiating it from the separation of the prescribing and dispensing roles of physicians and pharmacists for out-patient care (SPD). Kang et al. [9] had expected that, by keeping independent ownership and management between hospitals and pharmacies, the SMP (*institute separation*) would remove the economic incentives of prescribing unnecessary drugs from the physicians' decisions about medication.

The objective of this paper is to look at what change the SPD reform has brought about in the Korean health care system, particularly from the viewpoint of the public–private mix. Of particular interest is to estimate and analyse the relative mix of public and private sources of financing in terms of both modes of production and types of medical providers. Since the inception of the reform is such a recent development, the real impact on the utilization behaviour of the end users will become apparent in the years to come. This study focuses on the short-run empirical connections between the SPD reform and public–private mix in finance. The long-term effects will be the subject of a forthcoming study when sufficient empirical evidence becomes available.

Better information on the financing of the health sector is an essential basis for wise policy change in the area of health sector reform, but not enough information exists on the health sector. Analysis of health care financing should begin with sound estimates of national health expenditure. In response to the pressing need for reliable and comparable statistics on health expenditure and financing, the OECD developed the manual, *A System of Health Accounts* (SHA), releasing the initial 1.0 Version in 2000 [11]. Since its publication, a wealth of experience has been accumulated in a number of OECD countries during the process of SHA implementation. The OECD has performed a project to implement the *System of Health Accounts* in member countries since 2002. Thirteen countries¹ including Korea are now participating in this 'SHA implementation project'. The author has been in charge of the construction of Korea's health accounts, and the main part of the results of this study have been shared with other member of the OECD's SHA implementation project [12].

2. Public–private mix in the Korean health care system

The Korean health care system can be characterized by private management on the supply-side and mixed public and private financing on the demand-side. Public financing of privately provided health services might have been the prevailing modality in much of Western Europe too, but Korea is extreme in its implementation.

2.1. Supply-side

In Korea, private providers are responsible for the provision of the greater part of medical services. Private hospitals and clinics comprise over 90% of the total number of medical institutions and hold nearly 90% of the total number of beds. Additionally over 90% of specialist doctors are employed in the private sector. The provision of private medical facilities has not been subject to stringent legislation. The planning of human resources has not been a direct process in terms of

¹ Australia, Canada, Denmark, Germany, Hungary, Japan, Korea, Mexico, Netherlands, Poland, Spain, Switzerland and Turkey.

planned recruitment, etc. Patients are given great freedom when it comes to choosing care providers and have the choice of western or traditional (oriental) medicine. This makes the consultations per capita high (10.6 visits in 2001), even though the number of practicing doctors per capita is the second or third lowest among OECD countries (1.4 per 1000 population in 2001). Both the number of acute-care beds (5.2 per 1000 population in 2001) and average length of stay (11.0 days in 2001) are higher than OECD averages [13].

This 'laissez-faire' policy for the private medical care sector is sometimes attributed with having been responsible for the skewed distribution of health resources between different regions, particularly between urban and rural areas. In Korea, while less than 80% of the population resides in urban areas, more than 90% of physicians and hospital beds are concentrated in urban areas. As in most OECD countries, the government provides public health services but its role in disease prevention and health promotion remains comparatively weak.

2.2. Demand-side

Public sector's involvement on the demand-side focuses mainly on the medical fee schedule and the list of NHI benefits. The government has retained practically sole control over the setting of fees and annual revisions of fees, although fees are now negotiated in a legal sense. In this respect, the expansion of coverage for the NHI is closely related to the public–private mix on the demand-side.

Rapid economic growth in the 1970s enabled the introduction of the first compulsory public health insurance scheme in 1977, which covered enterprises with 500 or more employees (Medical Insurance Act). Population coverage was gradually broadened to enterprises with fewer employees since then: 300 or more employees in 1979, 100 or more employees in 1981, 16 or more employees in 1983 and 5 or more employees in 1988. On the other hand, the public health insurance scheme was also expanded to include the rural self-employed, with the government promising to subsidise half of the insurance expenditure. The public health insurance system achieved universal population coverage in July 1989, having incorporated the urban self-employed who were previously uncovered. Nonetheless, a policy of low contribution and low

benefits with high co-payments has continued since the beginning of the health insurance scheme in order to ensure universal population coverage without much of a government burden [14–17]. On the other hand, the government plays a direct insurance role for the very poor. The Medical Aid Programme is financed by the government as part of the public assistance system.

The increase in the range of benefits covered by the NHI was continuing despite the achievement of universal coverage of the population. Drugs dispensed at pharmacies started to be included in the health insurance coverage in October 1989. The number of days covered by NHI per year was gradually increased from a maximum of 180 days in 1995 to no limit in 2000. In 1996 high-technology services like CT scanning also started to be reimbursable.

3. Reform for the separation between prescribing and dispensing of drugs

3.1. The situation before the reform

The need to promote a professional specialization of doctors and pharmacists had been debated since the inauguration of the 1953 Pharmaceutical Affairs Law. Until the SPD reform in 2000, however, there was no distinct separation between the doctor's role of prescribing and the pharmacist's role of dispensing drugs. It was usual for patients to come out of *doctor's clinic* with drugs dispensed by the doctor. This practice originated from the tradition of oriental medicine that led to the non-separation of roles in East Asian countries. When patients visited doctors, they expected to get some tangible inputs in the treatment process such as drugs or injections. Doctors had long fulfilled that expectation of patients. Doctor's clinics and hospitals incorporated drugs dispensaries, and drugs were provided by doctors' assistants, such as nurses or quasi-nurses, under the doctor's orders.

On the other hand, most Koreans, when they felt ill but did not have serious symptoms, dropped into a *pharmacy*. Pharmacists had been able to dispense many specialty drugs directly over the counter after hearing patients' explanations of their symptoms. Drugs prescribed and sold by pharmacists had been covered by health insurance, as is the case when doctors prescribe them. Nonetheless, pharmacists did not like to

sell drugs under health insurance coverage and patients rarely requested pharmacists for the drugs to be reimbursed by health insurance.

As a result of this phenomenon, there was a large financial interest invested in drugs. There was, therefore, competition between doctors and pharmacists for the sale of these products. Doctors also profited from the sale of medicines since their costs for the purchase of these products were appreciably lower than their reimbursement by the insurer after the sale [18–21]. This was almost certainly a factor influencing their decision to prescribe drugs rather than purely considering the well-being of their patients. It was professed by the government [22] that revenue from the sale of drugs accounted for over 40% of the total income for doctors' clinics of internal medicine, family medicine, dermatology and urology. The balance between expenditure at pharmacies and expenditure at doctors' clinics shifted in favour of doctors' clinics during the 1990s. This suggests that prior to the SPD reform, a greater share of drugs was dispensed directly by doctors than by pharmacists.

3.2. Implementation of the reform

The SPD reform was to separate the function of prescribing drugs from the function of dispensing drugs, attributing the former exclusively to doctors and the latter exclusively to pharmacists [18,23]. The main goals suggested by the Korean government were as follows: to reduce the over-use of drugs, to improve patient rights to information, and to improve the efficiency of the pharmaceutical industry and drug distribution.

According to the Pharmaceutical Affairs Law which was revised in 1994, the SPD reform would be implemented in stages between 1997 and 1999. Although all concerned parties agreed in principle about the benefits of functional separation, there was no consensus as to the actual mechanics by which this would be achieved. The government decided to proceed nonetheless in 1999, the NGO's having reached an agreement with the medical association that the doctors would comply with the terms of the reform. 'Role separation' was not the only subject of the reforms. Mandatory 'institute separation' between medical institutions and pharmacies was also put into effect. This was not part of the original plan by President Kim Dae

Jung's government but the government was obliged to go in this direction due to strong pressure by idealistic NGOs on whom the president had relied heavily [10,24,25].²

This process of the SPD reform resulted in prolonged strikes by doctors who felt that their financial interests were threatened by the removal of the margins which the sale of medicines had provided. Nation wide strikes were made five times, resulting in paralysis of the entire medical delivery system. To placate the aggrieved physicians, medical fees were increased by 41%. The right to administer injections was returned to doctors in November 2001, partly due to concerns about the inconvenience to patients who were required to obtain their injections elsewhere.³

Following the reform patients were obliged to take prescriptions from doctors to a pharmacist to have them filled and paid the pharmacist directly for the share not covered by insurance. Medicines were divided into two categories, namely "general drugs" and "professional drugs". General drugs can be dispensed by pharmacies without prescription providing the package remains unopened, whereas professional drugs (61.5% of the drugs as of 2000) require a doctor's prescription. Drugs administered by injection were excluded from the mandatory separation policy for the convenience of patients, since their inclusion would have meant that patients would need to make several redundant journeys between the doctor's surgery and the pharmacists in order to obtain treatment. Not all of the professional drugs are among those covered by insurance. For a given prescription, the pharmacist may substitute a branded drug for an equivalent generic

² Since long before Kim's regime, NGOs which were mainly supported by the labour unionists, left-wing scholars, and social movement invokers had gradually expanded their areas of operation while resisting military dictatorship. Under Kim's presidency, NGOs participated extensively in the formation of various policies. The SPD reform was one of them. NGOs showed quite an aptitude for catching public attention and succeeded in focusing it on the undue aspects of the physicians' high income particularly due to the unfair earnings from both selling superfluous drugs within their own clinics and evading taxes. They normally took an extreme posture such as, in the case of the SPD reform, inclusion of injection drugs, institute separation, complete substitutive dispensing by pharmacists, etc.

³ OECD [26] criticized this as quite a reversal from the reform, indicating that over half of the people visiting a doctor received an injection.

drug subject to it having been approved following the requisite bioequivalent tests. Medical institutions were prohibited from employing pharmacists for out-patient care or locating pharmacies on their premises. In addition pharmacies were prohibited from dispensing prescription drugs without a valid doctor's prescription.

4. Estimation of public–private health expenditure in National Health Accounts

4.1. National Health Accounts and public–private health expenditure

An understanding of the financial dimensions of health care systems would contribute to health policy development. For the purpose of health policy analysis, estimates are most useful when they tabulate all health spending. The estimates from the National Health Accounts give decision makers an overall picture of the health sector, showing the division of spending and the roles of different payers. In addition they provide a consistent foundation for modeling reforms and for monitoring the results of modifications in financing and provision.

OECD [11] provided a framework (System of Health Accounts: SHA) for a family of interrelated tables for standard reporting of total health expenditure and its financing in order to enhance their comparability over time and across countries. According to SHA, 'public health expenditure' indicates 'health expenditure financed by general government'. Here, the term 'general government' is used in the same context as 'public sector'. This is the classification using the concept of *financing agents* which refer to the institutions and entities that pay for or purchase health care [11,27,28]. In this sense, public health expenditure signifies 'health expenditure incurred by public funds, which are state, regional and local government bodies and social security schemes'. It does not include "private social insurance", which belongs to 'private' health expenditure despite its importance in terms of social function.

4.2. Data and estimation

The relative mix of public and private sources of financing in terms of both modes of production and

types of medical providers can be made only by combining information from various sources. In this case, data quality is important since poor data, even in a well-designed framework, would lead to very erroneous results. Data on public health expenditure is quite reliable but the biggest problems arise when trying to assess the scale and constitution of private health expenditures. This gap is significant as private expenditure, especially household out of pocket expenditure, is an important source of spending in countries such as Korea. This expenditure is usually underestimated.

Household out-of-pocket spending can usually be estimated from three sources: firstly, a national household expenditure survey; secondly, a more focused household health care use and expenditure survey; and thirdly, reported provider earnings data. The former two sources are more often used. Provider earnings data may be sourced from tax records or separate administrative surveys, but due to under-reporting of earnings for the purposes of tax returns, this data cannot be considered to be entirely accurate.

In this study, estimation of out-of-pocket expenditure is made not only from "Report on the Household Income and Expenditure Survey" by the National Statistical Office (hereafter, HIE survey) [29], but also from "Health Care Utilization Survey" in the "Health and Nutrition Survey" by the Ministry of Health and Welfare (hereafter, HCU survey) [30]. The HIE survey is a *national household expenditure survey*, and is using the *diary technique*, while the HCU survey is a *health-care-focused household expenditure survey*, and is using the *interview method*.

The sample of the HCU survey is stratified and selected from all over the country to be representative of the whole population. In the 1998 survey, 200 blocks were taken by systematic random sampling from about 220,000 enumeration blocks nationwide. About 70 houses were selected in each block by simple random sampling. Finally, members of 12,189 households were interviewed using structured questionnaires and information on 39,060 individuals was collected. In the 2001 survey, 600 blocks were taken by systematic random sampling from about 246,000 enumeration blocks nationwide. Twenty-two houses were selected in each block by simple random sampling. Finally, members of 12,183 households were interviewed using structured ques-

tionnaires and information on 37,769 individuals was collected.

The HCU survey initially identifies health problems by the use of probing and filtering questions, and then uses follow-up questions to establish such information as the name of the disease, health care providers, number of visits, money paid out of pocket, etc. The data also provides information about health care used in the 2-week period prior to the interview in the case of out-patient care and in the previous 12 months in the case of in-patient care. The expenditure of a health contact constitutes the cost of health care at a particular provider. The costs for diagnosis and/or treatment and care taking are included in this expenditure.

The assumption was made that the information from the HCU survey would be representative of the whole of the Korean population. For this, besides the method of stratified random cluster sampling, various weights were used to obtain nationally representative estimates. The weights are the inverse of the probability of a household in the survey district being sampled multiplied by the response rate of the district.

The estimate from the HIE of each year was used as the total amount of out-of-pocket payment for each year, and distributed into providers according to the relative proportions across providers obtained from the HCU survey. This means that the share of expenditure among different providers in the case of the HIE survey was assumed to be the same as that in the case of the HCU data. The scale and mode of sampling in the HCU survey indicate that this is probably a reasonable assumption. By using the HIE data obtained using the year-round diary record for the total scale of out-of-pocket expenditure, the statistical anomaly caused by, for example, seasonal factors in annualizing short-term survey estimates could be avoided. In addition, the relative proportions of expenditure across providers in the 1998 HCU survey were applied to the 1999 survey in the same manner.

5. Results

5.1. Public–private mix in the total health expenditure

Fig. 1 shows who the financiers of total health expenditure were and in what proportion before and after

the reform. Public health expenditure shared in total health expenditure increased sharply by 8.3% from 46.3% in 1999 to 54.6% in 2001. On the other hand, the share by household's out-of-pocket payment decreased by 8.1% from 45.1% in 1999 to 37.0% in 2001.

More in-depth observation reveals that the increase in public share during the SPD reform was mainly driven by the increase in financing through social security (5.2 trillion won, 58% of the increase in public share), including the government's 'indirect' payment to the providers through subsidizing contributions for "regional" insurees. The share by social security increased by 7.2% from 37.2% in 1999 to 44.4% in 2001,⁴ while the government's 'direct' payment to the providers did not increase so much (from 9.0 to 10.2%). This is closely related to the reduced share of household's out-of-pocket in total health expenditure.

5.2. Public–private mix in the current health expenditure by modes of production

Table 1 shows that 58.4 and 66.4% of current health expenditure on *in-patient services* was financed through public expenditure in 1999 and 2001, respectively, whereas the public expenditure figure for *out-patient services* was 40.5 and 49.1%, respectively. Of the current health expenditure on *drugs*, 34.1 and 54.9% were financed through public expenditure in 1999 and 2001, respectively.

5.3. The public–private mix in the current health expenditure by types of providers

As shown in Table 2, 51.4 and 58.5% of the current health expenditure in *hospitals* were public expenditure in 1999 and 2001, respectively. In the case of *doctor's clinics*, 56.3 and 66.1% were financed through public expenditure in 1999 and 2001, respectively. Of the current health expenditure at *pharmacies*, 12.3 and 64.3% were financed through public expenditure in 1999 and 2001, respectively.

⁴ Government subsidy to National Health Insurance (for "regional" insurees contributions) in the ratio of the total health expenditure increased by 3.4% from 4.8% (1.17 trillion won) in 1999 to 8.2% (2.63 trillion won) in 2001.

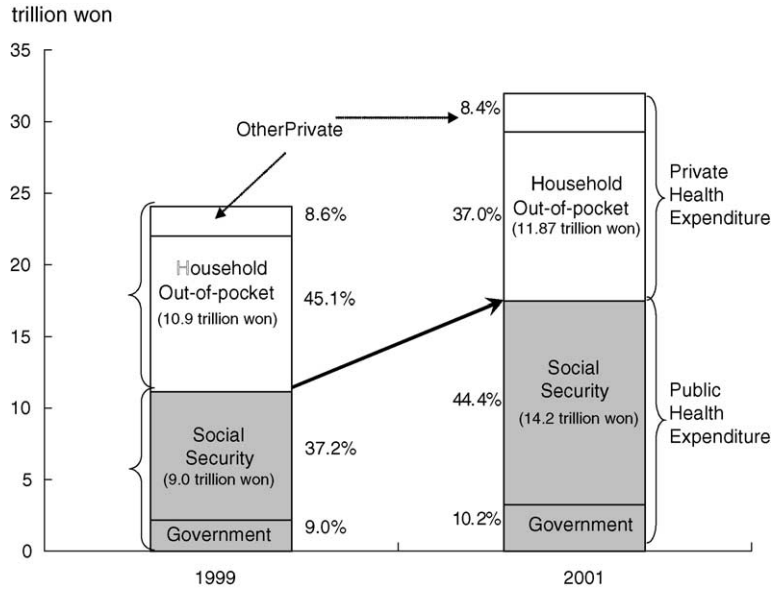


Fig. 1. Financing components of total health expenditure in 1999 and 2001.

6. Discussions and conclusion

6.1. Public-private mix in the total health expenditure

As shown in Section 5.1 of the results, the public health expenditure shared in the total health expenditure increased sharply by 8.3% before and after the reform. Since there is no other particular reason than the SPD reform why such a big change in the public-private mix occurred in between,⁵ these results suggest that the SPD reform has changed the financing structure of total health expenditure so that public coverage of the Korean health care system, mainly of the NHI scheme, is augmented markedly compared to before. How this increase in public share relates to changes in prescription and dispensation will be explained later when discussing the public-private mix in current health expenditure, which is quite similar in financing construction to total health expenditure.

⁵ There were two big reforms to the Korean health care system in 2000. One is the SPD reform and the other is the integration of multiple health insurers into a single payer. The latter is not particularly relevant to the change in the public-private mix, at least in the short run.

Previously, Korea belonged to the lowest public share group across the OECD countries, together with the US and Mexico. Now, after the SPD reform, Korea has moved into the second lowest group, with Switzerland and Greece (Fig. 2). Nevertheless, Korea's public financing share of 54.6% is low by the standards of OECD countries. It is still the fourth lowest share after the United States, Mexico and Greece, and well below the OECD average of 72.4%. The reason for this low share is that patients must personally cover the costs not only of services not covered by the NHI but also a high percentage of the cost of services provided for by the NHI. This may be the main difference from the US system where private financing is derived from widespread private health insurance arrangements.

6.2. Public-private mix in the current health expenditure by modes of production

Current health expenditure shows the change of health expenditure more directly than the total health expenditure, particularly in that it is the biggest category where all three dimensions of health expenditure, i.e. functional, financing and provider's aspects, coincide. Furthermore, it is of more value to look more in

Table 1
Change in financing components of the current health expenditure by Modes of Production

	Before the reform (1999) (billion won, %) [current health expenditure (total) = 22554]		After the reform (2001) (billion won, %) [current health expenditure (total) = 30200]	
In-patient care				
Total	6817	100.0%	7117	100.0%
Public finance				
Sub-total	3984	58.4%	4728	66.4%
Government	593	8.7%	807	11.3%
S. Security	3391	49.7%	3921	55.1%
Private finance				
Sub-total	2833	41.6%	2389	33.6%
Private S. Ins.	504	7.4%	673	9.5%
Out-of-pocket	2290	33.6%	1686	23.7%
Others	39	0.6%	30	0.4%
Out-patient care				
Total	8873	100.0%	12935	100.0%
Public finance				
Sub-total	3597	40.5%	6353	49.1%
Government	374	4.2%	641	5.0%
S. Security	3223	36.3%	5712	44.2%
Private finance				
Sub-total	5275	59.5%	6582	50.9%
Private S. Ins.	17	0.2%	38	0.3%
Out-of-pocket	4829	54.4%	5960	46.1%
Others	429	4.8%	585	4.5%
Medical goods (including drugs)				
Total	5445 (4933) ^a	100% (100%)	8356 (7573)	100% (100%)
Public finance				
Sub-total	1686 (1683)	31.0% (34.1%)	4161 (4158)	49.8% (54.9%)
Government	214 (211)	3.9% (4.3%)	397 (394)	4.8% (5.2%)
S. Security	1473 (1473)	27.0% (29.9%)	3764 (3764)	45.0% (49.7%)
Private finance				
Sub-total	3758 (3250)	69.0% (65.9%)	4195 (3416)	50.2% (45.1%)
Private S. Ins.	10 (10)	0.2% (0.2%)	4 (4)	0.1% (0.1%)
Out-of-pocket	3749 (3240)	68.8% (65.7%)	4191 (3412)	50.2% (45.0%)
Public Health & Health Administration				
Total	1537	100.0%	1793	100.0%
Public finance				
Sub-total	1528	99.4%	1784	99.5%
Government	646	42.0%	976	54.4%
S. Security	882	57.4%	808	45.1%
Private finance				
	9	0.6%	8	0.5%

^a Figures in the parenthesis indicate those on drugs in isolation.

Table 2
Change in financing components of the current health expenditure by types of providers

	Before the reform (1999) (billion won, %) [current health expenditure (total) = 22671]		After the Reform (2001) (billion won, %) [current health expenditure (total) = 30200]	
Hospital				
Total	9739	100.0%	9046	100.0%
Public finance				
Sub-total	5010	51.4%	5288	58.5%
Government	861	8.8%	1039	11.5%
S. Security	4149	42.6%	4249	47.0%
Private finance				
Sub-total	4729	48.6%	3758	41.5%
Private S. Ins.	328	3.4%	425	4.7%
Out-of-pocket	4401	45.2%	3333	36.8%
Doctor's clinic				
Total	5664	100.0%	7436	100.0%
Public finance				
Sub-total	3188	56.3%	4917	66.1%
Government	266	4.7%	395	5.3%
S. Security	2923	51.6%	4521	60.8%
Private finance				
Sub-total	2476	43.7%	2519	33.9%
Private S. Ins.	202	3.6%	289	3.9%
Out-of-pocket	2274	40.1%	2231	30.0%
Pharmacy				
Total	1666	100.0%	5832	100.0%
Public finance				
Sub-total	204	12.3%	3753	64.3%
Government	–	0.0%	335	5.7%
S. Security	204	12.3%	3418	58.6%
Private finance (out-of-pocket)	1461	87.7%	2079	35.7%
Others				
Total	5602	100.0%	7886	100.0%
Public finance				
Sub-total	2393	42.7%	3068	38.9%
Government	700	12.5%	1052	13.3%
S. Security	1692	30.2%	2016	25.6%
Private finance				
Sub-total	3209	57.3%	4818	61.1%
Private S. Ins.	1	0.0%	1	0.0%
Out-of-pocket	2732	48.8%	4193	53.2%
Others	476	8.5%	624	7.9%

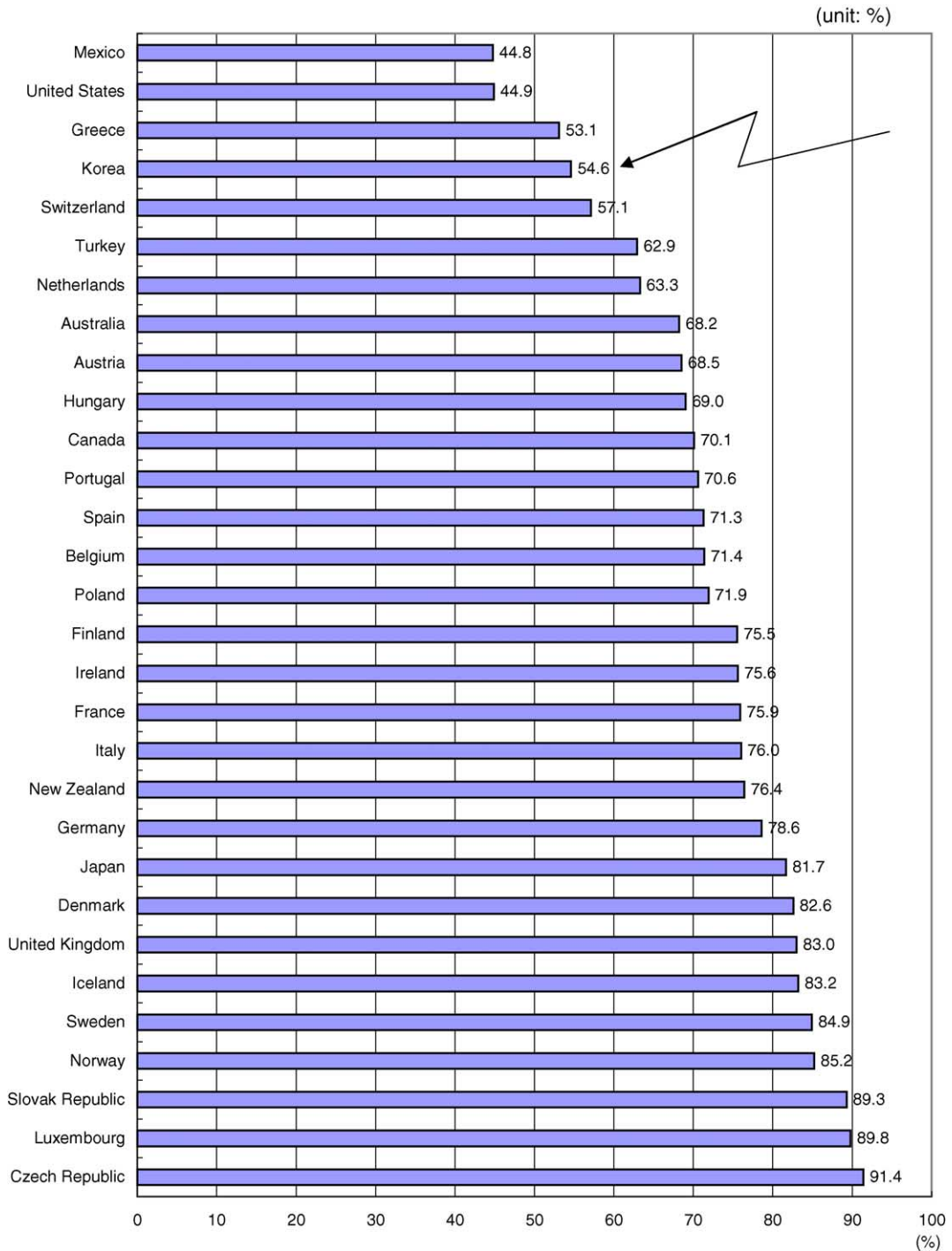


Fig. 2. Public funding share in OECD countries, 2001. *Source:* OECD Health Data File 2004 (except both Netherlands from Health Data File 2003 and Korea from the estimation in this study). *Note:* Figures in 2001 (except Turkey of 2000 figure).

depth into the current health expenditure in terms of both modes of production and types of provider.

As shown in Section 5.2 of the results, the public share in both *in-patient* and *out-patient* expenditure increased by 8.0 and 8.6%, respectively, during the period of the SPD reform. Public share increase in *out-patient* expenditure, though it is the case in *in-patient* expenditure as well, relates to the sharp increase in the doctor's consultation fee, which was allowed in order to compensate the margin lost by the prohibition of the sale of drugs. The margin from drugs was previously not covered by public finance or NHI, whereas the increase in the doctors' consultation fee has been covered by NHI. In addition to this price increase, there was an increase in the number of out-patient consultations since the prescription of drugs is preceded by a doctor's consultation. Although the SPD reform has no direct effect on in-patient care, fees for in-patient care were inflated in order to compensate for the loss of revenue which it caused.

Nonetheless, public share in *in-patient* expenditure of 66.4% is still low by the standards of OECD countries. Across 13 OECD countries participating in the 'SHA implementation project', public funds are the dominant source in financing in-patient care, contributing 82% of total in-patient expenditure and leaving the private sector to fund the remaining 18% [12]. Out-of-pocket payments typically fund around 10% of in-patient costs in many countries, while they amount to a quarter of in-patient expenditure in Korea. Korea's lower public share in out-patient expenditure (49.1%) compared to in-patient expenditure is congruous with the tendency across OECD countries in which the role of public finance is normally less significant in out-patient financing than in in-patient financing. The countries participating in the 'OECD SHA implementation project' reported public funds financing 55% of medical goods expenditure on average [12].

The public financing share in *drugs* expenditure increased to such an extent as to surpass the public share in *out-patient* expenditure. Certain changes help explain this increase. Firstly, many drugs previously not covered were incorporated into the NHI scheme. In other words, the trend shifted from self-medication to formal medication under the auspices of the NHI system. Whereas patients used to purchase medication at the pharmacy with the aid of the pharmacist and without being reimbursed for drugs covered by insurance,

this was legally prohibited with the advent of the SPD reform. Secondly, newly regulated pharmacists fees are reimbursable under the NHI scheme.

The countries participating in the 'OECD SHA implementation project' reported public funds financing 54% of medical goods expenditure on average [12]. Korea became a member of this majority group after the SPD reform. On the other hand, in most OECD countries in the 'OECD SHA implementation project', the role of private financing is more significant in the context of financing medical goods than that of paying for in/out-patient care. After the reform Korea became an unusual case in that the public share in medical goods in 2001 was higher than that in out-patient care. An increase of public financing of drug use would be desirable to the extent that a substantial proportion of health expenditure is employed for this purpose. It is problematic, however, in terms of prioritization of benefit packages that the services covered by NHI are low cost instead of high cost.

6.3. The public–private mix in the current health expenditure by types of providers

As shown in Section 5.3 of the results, the public financing share in current health expenditure increased with all health care providers during the period of the SPD reform, especially in the case of pharmacies where it more than quintupled. The increase in public share of expenditure at both *hospitals* and *doctor's clinics* can be explained in a similar way to the increase in the case of *in-patient* and *out-patient* expenditure, even though the exact mechanism of the flow of money differs since most hospitals in Korea make a larger share of their revenue from their large departments of out-patient care while doctor's clinics make a minor but important amount of their revenue from their in-patient departments.

The five-fold increase in public share of expenditure at pharmacies reflects the fact that drugs previously not covered by insurance are covered now, as mentioned in the section on Modes of Production, but it is noteworthy that prescribed drugs are currently purchased mainly at pharmacies as a result of the reform. The shifting of the dispensing function from doctors to pharmacists produced a shifting of costs within the NHI accounts from "hospitals or doctor's clinics" to "pharmacies".

As shown in Table 2, the big increase in *expenditure at pharmacies* (from 1.7 trillion won in 1999 to 5.8 trillion won in 2001) can be attributed mostly to the big increase in financing from social security scheme (from 0.2 trillion won in 1999 to 3.4 trillion won in 2001). Nonetheless, private financing has consistently increased over the period of the reform (from 1.5 trillion won in 1999 to 2.1 trillion won in 2001). It can be inferred from this that *expenditure at pharmacies* was not subject to a “crowding out” effect. *Expenditure at pharmacies* was simply increased by public money, rather than public money replacing private money.

Despite its increase, the public financing share of 58.5% in Korea’s hospitals is still quite low, compared with other OECD countries in the ‘SHA implementation project’, where public funds play the major financing role in hospital’s expenditure, and considered to reflect the private-oriented characteristics of Korean health care delivery. In general the private sector takes on a greater share of the financing of ambulatory health care providers than for hospitals.

The main findings in this study can be summarized as follows:

- (i) The public share increase over the period of the SPD reform has been prominent in the case of *expenditure on drugs*, from 34.1% in 1999 to 54.9% in 2001. This result suggests that the SPD reform has absorbed much of the previously uncovered drugs into the National Health Insurance coverage. Korea has become part of the group of average OECD countries in which public funds finance more than half of medical goods expenditure. However, a higher public share in medical goods than in out-patient care would raise an issue in terms of prioritization of benefit packages.
- (ii) The public share increase over the period of the SPD reform has been dramatic particularly in the case of *expenditure at pharmacies*, from 12.3% in 1999 to 64.3% in 2001. This reflects not only the fact that drugs previously not covered by NHI are covered now but also the fact that prescribed drugs are currently purchased mainly at pharmacies instead of hospitals or doctors’ clinics as a result of the reform. While the big increase in *expenditure at pharmacies* can be attributed mostly to the big increase in the financing from the NHI, the scale of private financing as well has consistently in-

creased over the period of the reform. It can be inferred from this that *expenditure at pharmacies* was not subject to a “crowding out” effect.

- (iii) The SPD reform has augmented the public financing share in total health expenditure from 46.3% in 1999 to 54.6% in 2001. This is mainly due to the public share increase in *expenditure on drugs*, but public share increase in both *in-patient* and *out-patient* expenditure at the time of the SPD reform as well contributed in part to the public financing share in total health expenditure. Previously, Korea belonged to the lowest public share group among the OECD countries, together with the US and Mexico. Now, after the SPD reform, Korea has moved into the second lowest group, with Switzerland and Greece. Nevertheless, Korea’s public financing share is still low by the standard of OECD countries.

Any reform results in both positive and negative outcomes. Negative effects, according to Kim et al. [10], include increased total cost of the health care system, resulting in a great deficit in NHI, causing great inconvenience to patients, worsening access to medical care, and an increased market share for multinational drug producers. The positive outcomes of the reform include: avenues for the professional specialization of doctors and pharmacists have been opened, and the potential for more informed consumption of drugs has been created.

From the perspective of the public–private mix, the SPD reform has had a positive overall effect on the Korean health care system in that it has augmented public funding. However, the relatively higher public share in drugs has revealed the problem in terms of prioritization of the NHI coverage. The aim should henceforth be to improve coverage in terms of severe care cases.

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