Tax-funded social health insurance: an analysis of revenue sources, Hungary

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Abstract Health financing is a complex health system function, which cannot be analysed accurately without tracking each step of the flow of funds separately. We analysed the revenue mix of the Hungarian health insurance fund from 1994 to 2015 and discuss the policy implications of our findings. We used the System of Health Accounts published in 2000 and the revised version of 2011, which introduced separate classifications for the sources of health expenditure. Based on the 2000 version, health insurance contributions were the main source of public funding in Hungary. According to the 2011 version, nearly 70% of health insurance fund revenues came from government tax transfers in 2015, illustrating the striking difference in how revenues and expenditures are reported using this version. Use of the 2011 version will better inform national policy-making and international comparisons and facilitate documentation and analysis of how countries have adapted their revenue mix to changing macroeconomic circumstances. The finding that Hungary has a predominantly tax-funded social health insurance system suggests that traditional understanding and description of health-financing models are no longer adequate and may limit consideration of potential resource-generation options. Hungary is also a good example of how separating revenue generation and pooling broadens policy options to tackle gaps in social health insurance coverage, although the government did not act on these due to the lack of a consistent health-financing strategy. The findings may be particularly relevant for low- and middle-income countries that are trying to expand social health insurance coverage despite limited formal employment.

Introduction

Health financing is a key health system function. Such financing can be divided into several subfunctions according to the way the money flows in the health system: from households, which are the ultimate source of health revenues, through financial intermediaries, which manage budgets, to health care organizations, which provide services to patients (Fig. 1). Accordingly, revenue generation can be separate from pooling of funds, and pooling from purchasing. Using the case of Hungary, we argue that these distinctions are important for policy-making as they allow a wider range of policy options to be considered to improve health system performance. As a starting point for analysis, financial resources should be tracked using a standard method that makes the documentation of the flow of funds in the health system detailed enough to distinguish the financing subfunctions from each other and allows comparison between countries and over time.

The System of Health Accounts is a joint effort of the World Health Organization (WHO), the statistical office of the European Union, and the Organisation for Economic Co-operation and Development (OECD) to establish a standard framework for tracking resources to describe and analyse health-financing arrangements in member countries. The system classifies health expenditures into well-defined categories of the various health system dimensions, such as financing schemes, providers and services. The first version of the System of Health Accounts, introduced in 2000 by OECD, was followed by a revised version in 2011. One of the most important improvements of the new version is its ability to distinguish the sources of revenue from pooled funds managed by financing agents. The 2000 version classified data on the structure and composition of revenue sources according to financing agent, which meant, for instance, that all the revenues of a social health insurance fund were considered health insurance contributions, even if some came from the central government budget to cover non-contributing groups. The 2011 version introduced two new classifications (Box 1), health-financing schemes and revenues of health-financing schemes, which enable analysis of revenue sources separately from that of pooling and purchasing arrangements for a particular scheme.

The European debt crisis that started in 2009 brought the sustainability of health financing to the forefront of policy debates. In Hungary, the government spoke about the need to balance the budget of the health insurance fund, and internationally it was thought that sustainability could be enhanced by increasing reliance on general taxation. WHO suggested alternative financing sources beside social health insurance contributions and other types of wage-based revenue sources, which increase the cost of labour, to mitigate their implied adverse effects on employment and economic growth. Hungary provides a useful illustration of this alternative financing as successive governments have tried to boost employment by reducing the social insurance contribution rate and compensating for this reduction by increasing tax financing of the health insurance fund.

Until 2017, OECD and WHO published comparable data based on the 2000 version of the System of Health Accounts. These data, however, cannot show changes over time in the composition of financing sources for the health insurance fund because the 2000 version does not disaggre-
gate revenue sources and classifies all expenditures of the health insurance fund as a health insurance source. To reveal the sources of health insurance fund expenditures, we therefore used the approach of the 2011 version. 2

Using the case of Hungary, this paper has two main objectives. First, to analyse the changes in the revenue sources of the health insurance fund using the framework of the 2011 version and demonstrate the importance and feasibility of this type of analysis. Second, to discuss the policy relevance and implications of the findings.

Hungarian health system
After the collapse of the communist regime in 1990, Hungary replaced the socialist state health system with a social health insurance scheme. Despite some recent changes, this scheme is still the backbone of the health system: tax and social health insurance contribution revenues are channelled into one national pool, the health insurance fund, which is managed by a single payer, the National Health Insurance Fund Administration. The administration contracts almost exclusively with public (central, or local government-owned) providers, which are paid based on the type of service

Box 1. Revenue categories and health-financing schemes based on the 2011 version of the System of Health Accounts

The health financing schemes of the International Classification for Health Accounts are divided into eight main categories (ICHA-HF):

- HF.1.1 Government financing schemes
- HF.1.2 Compulsory contributory health insurance schemes
- HF.1.3. Compulsory medical savings accounts (CMSA)
- HF.2.1 Voluntary health insurance schemes
- HF.2.2 Non-profit institutions financing schemes
- HF.2.3 Enterprise financing schemes (other than employer-based insurance)
- HF.3 Household out-of-pocket expenditure
- HF.4 Rest of the world financing schemes

The revenues of these health-financing schemes (ICHA-FS) are classified into seven main categories, which are further divided into subcategories:

- FS.1 Transfers from government domestic revenue
- FS.1.1 Internal transfers and grants
- FS.1.2 Transfers by government on behalf of specific groups
- FS.1.3 Subsidies
- FS.1.4 Other transfers from government domestic revenue
- FS.2 Transfers distributed by government from foreign origin
- FS.3 Social insurance contributions
- FS.3.1 Social insurance contributions from employees
- FS.3.2 Social insurance contributions from employers
- FS.3.3 Social insurance contributions from self-employed
- FS.3.4 Other social insurance contributions
- FS.4 Compulsory prepayment (other than FS.3)
- FS.5 Voluntary prepayment
- FS.6 Other domestic revenues not elsewhere classified
- FS.7 Direct foreign transfers

Fig. 1. Subfunctions of the health-financing function and its interconnectedness with other health system functions

Note: Arrows represent the flow of funds.
Source: Adapted from Kutzin, 2010. 1
they supply: there is capitation payment in primary care, outpatient specialist services are paid for by fee-for-service, while acute inpatient care is covered by a Hungarian version of diagnosis-related groups. In a diagnosis-related group system, hospital patients are put into groups by diagnosis and treatment and each group has an assigned point value. A more serious disease with expensive treatment has more points than a simple, less costly case. Hospitals are paid according to the number of diagnosis-related group points and not simply the number of patients treated.8,13 Participation in the social health insurance scheme is compulsory; opting out is not permitted. Employers pay a so-called social tax at a fixed percentage, employees pay a social health insurance contribution (currently 7% of gross wage) and the central government covers non-contributing population groups, e.g. pensioners, minors and students. The public benefit package, which is the health services covered by the social health insurance scheme, is comprehensive (with few exclusions) and population coverage was 94.9% in 2017.8,14

In Hungary, concerns about health-financing policy are mainly about the effect of revenue generation on the labour market, the stability and sustainability of public financing, and the high level of out-of-pocket payments.6,9 Gaps in population and service coverage are less of a policy concern in terms of revenue generation. Therefore, we made the mix of revenue sources, in particular taxes and earmarked payroll revenues, the focus of our analysis because of the potential adverse effects of payroll revenues on employment and the challenges of collection in the informal sector.15,16

Analysis of revenues

We obtained published statistics of the National Health Insurance Fund Administration, the financing agent of the Hungarian social health insurance scheme.17-21 Then, we looked at government acts on reporting the implementation of the budget of the health insurance fund for items that needed clarification or were entirely missing from the yearbooks of the administration. These acts contain a detailed breakdown of the revenues and expenditures of the health insurance fund.22-27 Table 1 presents revenue sources for each budget line based on the published statistics and complemented with data from the acts. We assessed each budget line against the classification of revenues of health-financing schemes defined in the 2011 version of the System of Health Accounts and assigned each to the appropriate revenue category (Table 2). The health accounts manual defines seven main categories of revenues of health-financing schemes (FS.1 to FS.7).2 From our perspective, the most important distinction was between government domestic revenues (FS.1) and health insurance contributions (FS.3) because the other five categories constitute only a small fraction of the revenues of the health insurance fund, and social health insurance contributions are assumed to have an adverse effect on employment. However, we first had to consider special revenue items, which belong to one of the other five groups, or which fall outside the health sector and therefore had to be excluded, before looking at whether the remaining budget lines could be classified as a social health insurance contribution (FS.3) or a tax (FS.1). According to the classification of the 2011 version, there are two important features of health insurance contributions: they are employment-based (paid by employers on behalf of their employees, or by employees, the self-employed or the non-employed on their own behalf) and they secure entitlement to health services.2 Consideration of these features led us to reclassify certain budget lines in the yearbooks of the National Health Insurance Fund Administration. For instance, in the yearbooks, item 8 (contribution for conscripts) was under the revenue category “social health insurance contributions and other contributions”; however, according to the 2011 version, the item is a tax transfer and not a health insurance contribution because it is paid from the government budget, i.e. it is not employment based, the first criterion of health insurance contributions.

We made the following adjustments to the data in Table 1. First, we excluded revenues for non-health expenditures, including cash benefits, such as sick pay (items 5, 9, 15 and 16 in Table 1), and deducted the cash-benefit parts of those revenue items, which are used for financing both cash benefits and health services at the same time (included in items 1 and 2 in Table 1, and the deficit of the health insurance fund, which is item A in Table 2). These deductions mostly explain why the totals in Table 1 are greater than those in Table 2.

Second, we analysed the revenue sources that did not come from taxes or health insurance contributions. Although these constitute a very small share of overall revenues of the health insurance fund, several items fall into these categories; for instance, user charges (items 18 and 25), other types of insurance (item 19), revenues from abroad (item 23) and revenues from asset management (item 30; Table 1).

Third, some items for taxes and health insurance contributions are misclassified. Most important are taxes on employers that do not match the definition of a social health insurance contribution since payment of these taxes does not provide entitlement to health insurance benefits. These include a hypothecated health-care tax (item 10) and the employer social tax,29 which replaced the employer social health insurance contribution in 2012 (item 1). The government removed the entitlement that came with the employer health insurance contribution to gain more control over allocation of these revenues and the decision on the benefits. Items 27, 28 and 29 are also an earmarked tax, with no entitlements, but these are not employment- or income-related revenues. Other items that required reclassification include the government’s Start Card programme, which aimed to support employment by covering part of the employer’s social health insurance contribution for people entering employment for the first time (item 7), and which was abolished in 2013, and the surplus of the health insurance fund in 2007 (item 26). Both items are also a domestic government revenue. In contrast, the 2011 version defines the transfer from the pension insurance fund to the health insurance fund to cover pensioners (item 21) as a special health insurance contribution revenue (FS.3.4); consequently, it belongs to the social insurance contribution category.31 The transfer from the pension insurance fund was abolished in 1997.32

Fourth, there are unusual revenue items, such as the repayment of National Health Insurance Fund Administration financing by health service providers for invalid payment claims (item 24) and the repayment of pharmaceutical subsidies by producers and distributors (item 22). We deducted these items from both the
Table 1. Revenue sources of the Hungarian health insurance fund, 1995, 2000, 2005, 2008, 2010 and 2015

| Categories and items                                                                 | 1995   | 2000   | 2005   | 2008   | 2010   | 2015   |
|-------------------------------------------------------------------------------------|--------|--------|--------|--------|--------|--------|
| Social health insurance contributions and other contributions                       | 344,717| 653,715| 1,104,335| 1,028,377| 677,734| 1,223,992|
| 1. Employer contribution                                                           | 286,600| 371,560| 678,392 | 411,813| 159,721| 352,166|
| 2. Employee contribution                                                            | 468,677| 81,314 | 227,707 | 447,761| 431,835| 652,182|
| 3. Contribution by special groups (compulsory participation)                       | 1,837  | 946    | 3,793  | 17,085 | 212,322| 29,145 |
| 4. Contribution based on voluntary agreement                                        | –      | 510    | 650    | 226    | 229    | 333    |
| 5. Employer repayment of sick pay                                                   | –      | 13,387 | 23,165 | 24,894 | 18,833 | 19,607 |
| 6. Contribution paid in connection with short-term employment                      | –      | 31     | 707    | 427    | 147    | 200    |
| 7. Compensation by the labour market fund for contribution relief in the Start Card programme and other tax transfers from the labour market fund | –      | –      | –      | 2,499  | 1,473  | –      |
| 8. Contribution for conscripts                                                      | –      | 560    | –      | –      | –      | –      |
| 9. Special contribution to disability pension for members of the armed forces*      | –      | 1,008  | 1,279  | –      | –      | –      |
| 10. Hypothecated health-care tax                                                    | –      | 181,379| 164,408| 118,968| 41,207 | 168,382|
| 11. Late payment and other fines                                                    | 9,413  | 3,020  | 4,234  | 4,703  | 3,058  | 3,995  |
| Central budget contributions                                                       | 14,782 | 70,872 | 66,050 | 35,435 | 617,721| 549,356|
| 12. Tax transfers for abortion*                                                      | –      | 900    | 1,250  | 1,500  | 1,600  | –      |
| 13. Tax transfers for non-contributing groups                                        | 10,400 | 46,572 | 0      | 30,7038| 611,771| 374,224|
| 14. Tax transfers for special health services*                                      | 4,382  | 2,900  | 3,500  | 3,800  | 3,900  | 5,400  |
| 15. Tax transfers for maternity pay                                                 | –      | 20,500 | 61,300 | 42,047 | –      | –      |
| 16. Tax transfers for disability and rehabilitation benefits                         | –      | –      | –      | –      | –      | 155,311|
| 17. Tax transfer for unspecified tasks                                              | 0      | 0      | 0      | 0      | 0      | 30,000 |
| Other revenues                                                                      | 59,044 | 2,635  | 31,266 | 59,015 | 88,273 | 135,121|
| 18. User charges for abortion                                                       | 169    | 334    | 667    | 670    | 605    | 525    |
| 19. Reimbursement of health insurance fund expenditures on accidents and other injuries/damages by the responsible entity (e.g. compulsory third-party liability insurance for motor vehicles) | 1,090  | 840    | 5,442  | 6,441  | 6,176  | 5,696  |
| 20. Other repayments and special revenues                                           | 1,059  | 980    | 1,923  | 1,541  | 1,636  | 1,419  |
| 21. Transfer from the pension insurance fund                                        | 56,726 | –      | –      | –      | –      | –      |
| 22. Repayment of pharmaceutical subsidies by pharmaceutical companies              | –      | –      | 23,077 | 38,799 | 50,936 | 65,272 |
| 23. Reimbursement of health insurance fund expenditures based on international agreements (EU social security coordination and other bilateral agreements) | 0      | 0      | 93     | 270    | 1,146  | 4,248  |
| 24. Repayment of health insurance fund reimbursements by health-care providers      | –      | 481    | 60     | 335    | 294    | 1,036  |

(continues...)

revenue and expenditure sides of the equation because they distort the actual spending figures by inflating them.

Fifth, the data published by the National Health Insurance Fund Administration do not include tax transfers made by the central government to cover the deficit of the health insurance fund (item A in Table 2). Similarly, we looked at the final expenditures on cash versus in-kind benefits and compared these figures with the total revenues calculated as described before. The balance is presented in Table 2 as item B (cross-subsidy from cash-benefit revenues). In years when total expenditures exceeded total revenues for health, we assumed that revenues for cash benefits were used to cover the difference (positive values of item B); in other years, the cross-subsidy worked the opposite way (negative values of item B).

Finally, we examined the changes in the revenue mix of the health insurance fund (Fig. 2) and the difference between the classifications of the 2000 and 2011 versions (Table 3). Although the tables show only selected years, Fig. 2 provides yearly data from 1994 to 2015.

### Changing mix of revenue sources

Based on the revisions we made using the 2011 version, Fig. 2 shows the changes in the mix of tax and contribution sources in the budget of the health insurance fund. What is apparent is that health insurance contributions are no longer the main source of health insurance revenues. This finding supports our argument that reporting of expenditures according to financing agent only, as done in the 2000 version, gave a misleading picture of the trends in health financing in Hungary. In Table 3, we compare the revenue structure of the entire Hungarian health system for selected years based on the classifications in the 2000 and 2011 versions of the System of Health Accounts. Using the 2000 version, all health expenditures of the National Health Insurance Fund Administration were classified as social security financing, and this accounted for 60.3% (936 518 million Hungarian forints/1 553 519 million Hungarian forints) of the total national health spending in 2003 and 55.7% (1 360 160 million Hungarian forints/2 444 117 million Hungarian forints) in 2015 (Table 3).
### Table 2. Revised revenue sources of the Hungarian health insurance fund for in-kind benefits (health services), 1995, 2000, 2005, 2008, 2010 and 2015

| Revenue source | Adjustment made | Item | Revenue category | Revenue in million Hungarian forints (% of total revenue) by year |
|----------------|----------------|------|-----------------|---------------------------------------------------------------|
| Social insurance contributions | None | – | FS.3 | 1995: 275 887 (89.3) | 2000: 324 353 (53.4) | 2005: 645 544 (59.4) | 2008: 689 358 (58.5) | 2010: 431 812 (34.8) | 2015: 405 164 (29.5) |
| Employer contribution | | 1 | FS.3.2 | 2000: 181 653 (58.8) | 2005: 263 209 (43.3) | 2008: 478 814 (44.0) | 2010: 382 160 (32.4) | 2015: 119 791 (96.6) | – |
| Employee contribution | | 2 | FS.3.1 | 2000: 29 705 (9.6) | 2005: 57 591 (9.5) | 2008: 160 312 (14.7) | 2010: 298 908 (25.3) | 2015: 287 890 (23.2) | 372 676 (27.1) |
| Contribution by special groups, compulsory participation | None | 3 | FS.3.3 | 2000: 1 837 (0.6) | 2005: 873 (0.1) | 2008: 2 080 (0.2) | 2010: 4 301 (0.4) | 2015: 21 232 (1.7) | 29 145 (2.1) |
| Contribution based on voluntary agreement | None | 4 | FS.3.3 | – | 2000: 510 (0.1) | 2005: 707 (0.1) | 2008: 427 (0.0) | 2010: 147 (0.0) | 2015: 333 (0.0) |
| Contribution paid in connection with short-term employment | None | 6 | FS.3.1 | – | 2000: 31 (0.0) | 2005: 707 (0.1) | 2008: 427 (0.0) | 2010: 147 (0.0) | 2015: 200 (0.0) |
| Late payment and other fines | None | 11 | FS.3.4 | 2000: 5 966 (1.9) | 2005: 2 139 (0.4) | 2008: 2 981 (0.3) | 2010: 7 376 (0.3) | 2015: 2 523 (0.2) | 2 810 (0.2) |
| Transfer from the pension insurance fund | None | 21 | FS.1 | 2000: 56 726 (18.4) | – | – | – | – | – |
| Government domestic revenues | | – | FS.1 | 2000: 28 870 (9.3) | 2005: 277 366 (45.6) | 2008: 433 361 (39.9) | 2010: 468 583 (39.7) | 2015: 801 102 (64.5) | 956 769 (69.6) |
| Employer social tax | None | 1 | FS.1.2 | – | 2000: 56 726 (18.4) | – | – | – | – |
| Compensation by the labour market fund | None | 7 | FS.1.2 | – | 2000: 56 726 (18.4) | – | – | – | – |
| Contribution for conscripts | None | 8 | FS.1.2 | – | 2000: 56 726 (18.4) | – | – | 1 985 (0.2) | 1 215 (0.1) | – |
| Hypothecated health-care tax, lump-sum component | None | 10 | FS.1.2 | – | 2000: 169 152 (27.8) | 2005: 138 091 (12.7) | 2008: 85 890 (7.3) | 2010: 7 040 (0.6) | 2015: 463 698 (34.8) |
| Hypothecated health-care tax, proportional component | None | 10 | FS.1.2 | – | 2000: 169 152 (27.8) | 2005: 138 091 (12.7) | 2008: 85 890 (7.3) | 2010: 7 040 (0.6) | 2015: 166 362 (12.1) |
| Tax transfers for abortion; tax transfers for special health services | None | 12; 14 | FS.1.2 | 2000: 4 382 (1.4) | 2005: 3 800 (0.6) | 2008: 4 750 (0.4) | 2010: 5 300 (0.4) | 2015: 5 500 (0.4) | 5 400 (0.4) |
| Tax transfers for non-contributing groups | None | 13 | FS.1.2 | 2000: 10 400 (3.4) | 2005: 46 572 (7.7) | 0 | 2008: 0 | 2010: 307 038 (26.0) | 611 771 (49.2) | 374 224 (27.2) |
| Tax transfer for unspecified tasks | None | 17 | FS.1.2 | 2000: 0 | 2005: 0 | 0 | 2008: 0 | 2010: 0 | 0 | 0 |

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### Tax-funded social health insurance, Hungary

**Policy & practice**

| Revenue source                                                                 | Adjustment made | Item | Revenue category | Revenue in million Hungarian forints (% of total revenue) by year |
|--------------------------------------------------------------------------------|-----------------|------|------------------|---------------------------------------------------------------|
|                                                                                       |                 |      |                  | 1995 | 2000 | 2005 | 2008 | 2010 | 2015 |
| Mandatory payment of pharmaceutical companies                                       | None            | 22   | FS.1.2           |      |      |      |      |      |      |
| Additional tax transfers from the 2007 surplus of the health insurance fund         | None            | 26   | FS.1.2           |      |      |      |      |      |      |
| Tax on the premium of compulsory third-party liability insurance for motor vehicles | None            | 27   | FS.1.2           |      |      |      |      |      |      |
| Public health product tax on unhealthy food                                          | None            | 28   | FS.1.2           |      |      |      |      |      |      |
| Tobacco industry health tax                                                         | None            | 29   | FS.1.2           |      |      |      |      |      |      |
| Tax transfer to cover the health insurance fund deficit                               | Cash benefits revenue deducted | A    | FS.1.2           | 14088 (4.6) | 45055 (7.4) | 264203 (243) | 0 | 75 663 (6.1) | 21 161 (1.5) |
| Other revenues                                                                      | None            | 20   | NA               | 308 787 (100.0) | 607 770 (1000) | 1 087 181 (100.0) | 1 178 989 (100.0) | 1 242 255 (100.0) | 1 373 816 (1000) |
| User charges for abortion                                                            | None            | 18   | FS.6.1           | 169 (0.1) | 334 (0.1) | 667 (0.1) | 670 (0.1) | 605 (0.0) | 525 (0.0) |
| Reimbursement of health insurance fund expenditures on accidents and other injuries or damages | None            | 19   | FS.6.2           | 1 090 (0.4) | 840 (0.1) | 5 442 (0.5) | 6 441 (0.5) | 6 176 (0.5) | 5 696 (0.4) |
| Reimbursement of health insurance fund expenditures based on international agreements | None            | 23   | FS.7.1           | 0 | 0 | 93 (0.0) | 270 (0.0) | 1 146 (0.1) | 4 248 (0.3) |
| User charges for patient–doctor encounters and hospital stay, e.g. visit fee, hospital daily user charge | None            | 25   | FS.6.1           | 0 | 0 | 0 | 0 | 0 | 0 |

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| Revenue source | Revenue category | Item | Adjustment made | Revenue in million Hungarian forints (% of total revenue) by year |
|----------------|------------------|------|----------------|---------------------------------------------------------------|
| Repayment of pharmaceutical subsidies by pharmaceutical companies | Repayment of health insurance fund | NA | None | 22 10.925 (NA) 12.671 (NA) 0.972 (NA) 2.598 (NA) 3.379 (NA) |
| Repayment of health insurance fund | Repayment of health insurance fund | NA | None | 24 3.507 (NA) 8.435 (NA) 1.355 (NA) 1.206 (NA) 1.533 (NA) |
| Repayment of health insurance fund | Repayment of health insurance fund | NA | None | 24 48 (NA) 48 (NA) 48 (NA) 48 (NA) 48 (NA) |

Notes: Dashes indicate that the revenue item had not yet been introduced or had been discontinued in that year. One million Hungarian forints are equivalent to 3700 United States dollars (2018 currency rate). The data are derived from the authors’ analysis based on Box 1, Table 1 and the Hungarian National Assembly acts, and using A system of health accounts 2011.

Conversely, the classification of revenues of health-financing schemes used in the 2011 version breaks down social security financing into different revenue categories (FS.1–FS.7) and subcategories, of which only four (FS.3.1–FS.3.4) are considered social health insurance contributions. In 2015, social health insurance contributions accounted for only 16.4% (400 933 million Hungarian forints/2 444 117 million Hungarian forints) of the total resources of the whole health system (Table 3) and 29.5% (405 164 million Hungarian forints/1 373 816 million Hungarian forints) of the total revenues of the health insurance fund (Table 2). The rest of the health insurance fund revenues are mainly government domestic revenues (69.6%; 956 769 million Hungarian forints/1 373 816 million Hungarian forints; FS.1.2) and miscellaneous sources (0.9%; 11 883 million Hungarian forints/1 373 816 million Hungarian forints; FS.6 and FS.7; Table 2).

Fig. 2 also shows that health insurance contributions fell sharply from 1995 to 1999 and then again from 2008 to 2010 when taxes became the main source of social health insurance revenues. In 2009, the share of tax revenues in the health insurance fund budget exceeded 50% (587 362 million Hungarian forints/1 333 039 million Hungarian forints) for the first time and reached over two thirds of the total revenues in 2015. Most of these changes can be explained if we follow the changes in health insurance contribution rates (Fig. 3). Over the years, the employer contribution rate has decreased substantially, from 19.5% in 1994 to 2% in 2011. The policy to reduce the employer contribution aimed to formalize the informal labour market and increase employment; policy-makers hoped that the lower health insurance contribution rates would encourage job creation and employment-generating investments in Hungary. The lost revenue to the health insurance fund has been partly compensated by the increase in the employee contribution rate for health services, from 3% in 2003 to 7% in 2007. Nevertheless, additional tax transfers from the central government budget were needed to fill the gap. Fig. 3 also shows that in 2012, the employer health insurance contribution decreased to 0%. This was not a further step to decrease the burden on employers. As mentioned earlier, the employer social insurance contribution was replaced by...
an earmarked social tax in 2012 at the same overall rate (27%) as in 2011. The overall rate includes contributions to pensions and unemployment benefits, not just social health insurance contributions. The employer social tax has no dedicated, fixed percentage part for health insurance and the actual revenue allocated from this source to the health insurance fund changes from one year to another.

We also looked at whether the increased share of central government tax financing influenced population coverage and the level of out-of-pocket payments. Fig. 4 shows that there was no improvement in either measure of coverage.

Discussion

The finding that Hungary has a hybrid tax-funded social health insurance system suggests that the traditional models to describe health-financing systems, such as the tax-based Beveridge-type national health system or the contribution-based Bismarck-type social health insurance system, are not adequate for exploring policy options to improve performance. Indeed, it was the growing recognition that mixed models are common, with evidence of countries channelling general budget revenues to a purchasing agency rather than directly to the supply side,22 that led to the separate classification of revenue sources and financing schemes in the 2011 version of the System of Health Accounts. To accurately document and analyse how countries have adapted their revenue mix to changing macroeconomic circumstances will require international reporting of health expenditures according to the two classifications in the 2011 version: revenues of health-financing schemes and health-financing schemes.

The case of Hungary also illustrates that mixing features of revenue sources of the classic Bismarck and Beveridge models into a hybrid tax-funded social health insurance system might be one way to sustain health system performance in a fast-changing social and economic environment.33–35 Proposals for increasing the share of general tax revenues in health financing are based on the argument that taxes are a more stable funding source, are less affected by fluctuations in economic cycles, and spread the tax burden over a wider population base. These features of tax financing are important for sustainability in higher-income countries with ageing populations because the relative size of the working-age population is shrinking. Thus, relying solely on wage-based contributions would require raising rates, with harmful consequences for employment and economic competitiveness.36–38 These considerations are also relevant to lower-income countries with large informal economies which have, or are considering, social health insurance because the revenues that can be generated from wage-linked contributions are limited and thus they must depend on government budgets to expand coverage.37 In each case, sustained progress towards universal health coverage (UHC) in social health insurance systems would not be possible without additional tax financing. While progress towards UHC is best served where health systems rely predominantly on public revenue sources, factors such as economic growth, tax policy and labour market considerations mainly determine the mix of such sources.37 These factors are outside the influence of the health sector and are distinct from health-policy choices regarding pooling and purchasing arrangements. Hungary provides an example of moving away from traditional contribution-dominated revenue sources to a greater reliance on general taxation. The country is now at the point where revenues from taxes to fund the social health
### Table 3. Comparison of the mix of revenue sources of the Hungarian health system according to the frameworks of the 2000 and 2011 versions of the System of Health Accounts, 2003, 2005, 2007 and 2009–2015

| Indicator name in SHA version & 1, 2 | Revenue in million Hungarian forints (% of total revenue) by year |
|--------------------------------------|---------------------------------------------------------------|
|                                      | 2003 (total revenue 1 553 519) | 2005 (total revenue 1 804 098) | 2007 (total revenue 1 854 429) | 2009 (total revenue 1 915 388) | 2010 (total revenue 2 047 250) | 2011 (total revenue 2 135 031) | 2012 (total revenue 2 148 834) | 2013 (total revenue 2 195 782) | 2014 (total revenue 2 311 636) | 2015 (total revenue 2 444 117) |
|                                       | 159379 (10.3) | 158290 (8.8) | 181969 (9.8) | 181661 (9.5) | 167169 (8.2) | 171748 (8.0) | 185708 (8.6) | 194572 (8.9) | 223245 (9.7) | 274000 (11.2) |
| Government tax transfers               | 586 855 (37.8) | 597 287 (33.1) | 606 006 (32.7) | 766 266 (40.0) | 949 327 (46.4) | 981 775 (46.0) | 1 002 668 (46.7) | 995 821 (45.4) | 1 071 040 (46.3) | 1 223 557 (50.1) |
| Voluntary contribution                 | 9 553 (0.6) | 20 344 (1.1) | 39 123 (2.1) | 53 324 (2.8) | 57 820 (2.8) | 57 073 (2.7) | 59 034 (2.7) | 60 070 (2.7) | 59 162 (2.6) | 56 257 (2.3) |
| Out-of-pocket payments                 | 409 433 (26.4) | 464 816 (25.8) | 486 996 (26.3) | 502 494 (26.2) | 561 273 (27.4) | 602 428 (28.2) | 631 149 (29.4) | 622 733 (28.4) | 655 085 (28.3) | 705 799 (28.9) |
| Other                                 | 38636 (2.5) | 43625 (2.4) | 50550 (2.7) | 50 676 (2.6) | 54 326 (2.7) | 55 209 (2.6) | 50 446 (2.4) | 49 521 (2.3) | 46 326 (2.0) | 47 901 (2.0) |

FS: Classification of revenues of health financing schemes; NPISH: non-profit institutions serving households; SHA: System of Health Accounts.

Note: Percentages do not always add up to 100% because of rounding errors.
Fig. 3. Changes in the social health insurance contribution rates of the Hungarian social health insurance system and the hypothecated health care tax, 1994–2015

Source: National Tax and Customs Administration and Hungarian National Assembly.

Fig. 4. Changes in the share of out-of-pocket payments of the total expenditures for health of the Hungarian health system, 1994–2016, and the percentage of the population covered by the social health insurance scheme, 2009–2016

Notes: Entitlement data have only been available since 2009. Before 2007, entitlement to health services was not checked by the health service providers, so everybody who had a social insurance identification number could access care without restriction. The system to check entitlement was introduced in 2007, but during the first two years of operation, the entitlement database needed to be cleared of administrative errors. Out-of-pocket payments include user charges in the social health insurance system and payments for private health services and goods, which are not covered by the social health insurance system. It is not possible to separate the two and therefore the out-of-pocket data presented here are for the whole Hungarian health system.

Source: Hungarian Central Statistical Office and World Health Organization.
insurance system well exceed revenues from health insurance contributions. We argue that for an optimal combination of revenue sources, which provides long-term sustainability and greater potential for progress towards UHC, all options available need to be considered, which contrasts with the simplistic choice between Beveridge or Bismarck models. The theoretical basis for this potential paradigm shift lies in the functional analysis and deconstruction of health systems.38–41

The Hungarian case has other implications. The increasing reliance on tax revenues created the opportunity to tackle gaps in population coverage by changing the basis of entitlement, and to increase financial protection by decreasing out-of-pocket payments. However, this did not happen. The finding that increasing government transfers does not necessarily lead to coverage expansion highlights the importance of governance. In terms of revenues, the Hungarian government focused on decreasing the presumed adverse effect of health insurance contributions on the labour market and failed to recognize the broadening health policy options that came with tax financing. In this respect, the case of Hungary is an example of missed opportunity because of the lack of a consistent and transparent health-financing strategy based on policy objectives shared and agreed between the health and financial decision-makers.

The example of Hungary shows that an accurate analysis of health expenditure data that provides a detailed description of the revenue sources for public expenditure on health is essential for sound, evidence-based policy-making. Without analysing the health financing system accurately, we would fail to see that Hungary has moved towards a tax-funded social health insurance model. Furthermore, not tracking revenue sources accurately might have been one of the reasons why the government did not recognize the broadening policy options to tackle coverage gaps. Once adopted for international reporting by all countries, the 2011 version of the System of Health Accounts will facilitate improved international comparison of revenue sources for health.

**Acknowledgements**

We thank Szilárd Páll from the Hungarian Central Statistical Office.

**Competing interests:** None declared.

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**Policy & practice**

**Tax-funded social health insurance, Hungary**

**Szabolcs Szügetti et al.**

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**Abstract**

The Hungarian case has other implications. The increasing reliance on tax revenues created the opportunity to tackle gaps in population coverage by changing the basis of entitlement, and to increase financial protection by decreasing out-of-pocket payments. However, this did not happen. The finding that increasing government transfers does not necessarily lead to coverage expansion highlights the importance of governance. In terms of revenues, the Hungarian government focused on decreasing the presumed adverse effect of health insurance contributions on the labour market and failed to recognize the broadening health policy options that came with tax financing. In this respect, the case of Hungary is an example of missed opportunity because of the lack of a consistent and transparent health-financing strategy based on policy objectives shared and agreed between the health and financial decision-makers.

The example of Hungary shows that an accurate analysis of health expenditure data that provides a detailed description of the revenue sources for public expenditure on health is essential for sound, evidence-based policy-making.
Résumé
Assurance maladie sociale financée par l’impôt: analyse des sources de recettes – Hongrie
Le financement de la santé est une fonction complexe du système de santé, qui ne peut pas être précisément analysée sans étudier séparément chaque étape du flux de fonds. Dans cet article, nous analysons le mix de recettes du fonds d’assurance maladie hongrois de 1994 à 2015 et nous évoquons les implications de nos constatations sur la définition des politiques. Nous avons utilisé le Système des Comptes de la Santé publié en 2000 ainsi que sa version révisée de 2011, qui a introduit des classifications différentes pour les sources des dépenses de santé. En se fondant sur la version de 2000, ce sont les cotisations d’assurance maladie qui ont constitué la principale source de financement public en Hongrie. Mais d’après la version de 2011, près de 70% des recettes constitutives des fonds de l’assurance maladie sont provenues de transferts fiscaux gouvernementaux en 2015, ce qui illustre la différence flagrante dans la manière d’enregistrer les recettes et les dépenses proposée par cette version révisée. L’utilisation de la version de 2011 permettra de mieux informer le processus d’élaboration des politiques nationales, de faciliter les comparaisons internationales ainsi que de mieux documenter et analyser la manière dont les pays adaptent leur mix de recettes face à l’évolution des circonstances macroéconomiques. Le fait que le système d’assurance maladie sociale de Hongrie s’avère principalement financé par l’impôt montre que la compréhension et la description habituelles des modèles de financement de la santé ne sont plus adaptées et que cela peut même entraîner la considération d’autres options envisageables pour générer des recettes. La Hongrie est également un bon exemple illustrant comment le fait de séparer la génération des recettes et la mise en commun des fonds élargit les options politiques pour réduire les déficiences dans la couverture de l’assurance maladie sociale, même si le gouvernement n’a pas agi sur ce point, faute de stratégie de financement de la santé cohérente en la matière. Ces constatations peuvent être particulièrement utiles pour les pays à revenu faible et intermédiaire qui essayent d’étendre la couverture de leur assurance maladie sociale malgré un niveau d’emploi limité dans le secteur formel.
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