Social Reinsurance

A New Approach to Sustainable Community Health Financing

Editors

David M. Dror and Alexander S. Preker
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# Contents

Foreword xiii  
Acknowledgments xv  
Abbreviations and Acronyms xix  

**Introduction**  
- Definition of Community-Based Health Financing 2  
- Objective and Scope of this Volume 3  
- Target Audience 3  
- Background to Research 4  
- Roadmap for Volume 4  
- Conclusions 16  

**PART 1 DEVELOPMENT CHALLENGES IN HEALTH CARE FINANCING** 19  

1. Rich-Poor Differences in Health Care Financing 21  
   *Alexander S. Preker, Jack Langenbrunner, and Melitta Jakab*  
   - Achieving Financial Protection against the Cost of Illness 21  
   - Exclusion of Low-Income Rural Populations and Informal Workers 22  
   - Understanding the Origins of Rich-Poor Differences in Health Care Financing 23  
   - Key Obstacles in Extending Financial Protection through Formal Arrangements 26  

2. The Role of Communities in Combating Social Exclusion 37  
   *David M. Dror, Alexander S. Preker, and Melitta Jakab*  
   - Origins of Social Exclusion from Formal Health Care Financing 37  
   - Role of Communities in Providing Financial Protection against Illness 44  
   - Recent Evidence of Communities’ Role in Combating Social Exclusion 49  
   - Conclusions 51
# PART 2  INSURANCE, MICROINSURANCE, AND REINSURANCE

## 3. Introduction to Insurance and Reinsurance Coverage
*J. François Outreville*
- What Does Reinsurance Do? 59
- What Are the Traditional Reinsurance Methods? 61
- What Is Nontraditional (Financial) Reinsurance? 65
- What Principles Govern a Reinsurance Program? 66
- What Do Community-Based Health Insurance Funds Need? 69
- How Does a Reinsurance Program Work? 71
- Summary 73

## 4. From Microfinance to Micro Health Insurance
*Bernd Balkenhol and Craig Churchill*
- The Evolution of Microfinance 75
- Understanding Microfinance Today 79
- Microfinance Subsidies 87
- Microinsurance as Part of Microfinance 90
- Some Lessons for Microinsurance 93
- Conclusions 100

## 5. Health Insurance and Reinsurance at the Community Level
*David M. Dror*
- Insurance 103
- Reinsurance of Health Insurance for the Informal Sector 108

## 6. To Insure or Not to Insure? Reflections on the Limits of Insurability
*Michel Vaté and David M. Dror*
- The Problem of Insurability 126
- Multiplying Criteria or Dividing the Concept 127
- Actuarial Limits 129
- Economic Limits 132
- Political Limits 140
- A Practical Delimitation of the Scope of Insurance 141
- Conclusions 146
- Annex 6A Dual Theory of Risk and the Safety Coefficient 148

## 7. A Model of Microinsurance and Reinsurance
*Stéphane Bonnevay, David M. Dror, Gérard Duru, and Michel Lamure*
- The Problem 153
- The Principles Underlying the Reinsurance Model 156
- Formulation of the Model 156
- Simulation of the Relationship between Microinsurers and Reinsurer 159
- Simulation Results 160
- Conclusions 173
- Annex 7A A Mathematical Model 174
- Annex 7B Calculating the Reinsurance Premium 178
Annex 7C Calculating the Mean Benefit Expenditure and Its Variance 179
Annex 7D Calculating the Effects of Reinsurance 183

8. Local Consensus and Estimates of Medical Risk 187
   Jean P. Auray and Robert Fonteneau
   Local Consensus at the Community Level 187
   From Consensus to Methodical Estimates 188
   Estimating the Probability p of an Unknown Event 189
   Estimates Based on Consensual Expert Opinions: NGT or Delphi Methods 192
   Estimates Based on Nonconsensual Expert Opinions: “Maximum Likelihood” and Bayesian Methods 195
   Conclusions 197
   Annex 8A 199

9. Insurance and Market Failure at the Microinsurance Level 203
   Axel Weber
   Typical Challenges of Microinsurers 203
   Solutions to Typical Challenges of Microinsurers 210
   Conclusions 217
   Annex 9A Insurance Problem Solving, Selected Countries 218

PART 3 IMPLEMENTATION ISSUES 223

10. Building Capacity and Strengthening Implementation at the Community Level 225
    Sara Bennett and George Gotsadze
    Capacity Concepts 226
    Experience Designing and Implementing Microinsurance 227
    Learning from Experience 233
    Building Capacity for Microinsurance Schemes—The Role of Reinsurance 238
    Conclusions 240

11. Role of Central Governments in Furthering Social Goals through Microinsurance Units 245
    M. Kent Ranson and Sara Bennett
    Conceptual Framework 246
    Potential and Actual Mechanisms for Influencing Microinsurance Schemes 250
    Summary, Discussion, and Conclusions 259
    Annex 11A Five Case Studies 261

12. Regulatory Environment for Microinsurance and Reinsurance 267
    Frank G. Feeley
    Basic Regulations that May Apply 268
    Additional Regulations that May Apply 272
13. Role of Subsidies in Microinsurance: Closing the “Recovery Gap” 277  
Reinhard Busse  
- Whence the Recovery Gap?  
- Closing the Recovery Gap: A Model  
- Closing the Recovery Gap: Europe’s Experience  
- Do More Subsidies Mean More Equity?  
- Conclusions  

14. Linking Ability and Willingness to Contribute to Microinsurance 293  
Logan Brenzel and William Newbrander  
- The Application of Willingness to Pay to Microinsurance Units  
- The Affordability of Microinsurance Units  
- Willingness to Pay and Reinsurance  
- Conclusions  

15. Creating a Favorable Market Environment for Microinsurance at the Community Level 303  
William Newbrander and Logan Brenzel  
- Link between Market Factors and Development of Microinsurance Units  
- Creating a Favorable Environment for Growth in Microinsurance  
- Protection against Financial Insolvency  
- The Need for Reinsurance for Microinsurers  
- Reinsurance Options for Microinsurance Units  
- Possible Formats for Reinsurance for Microinsurance Units  
- Factors Facilitating Reinsurance for Microinsurers  

16. Minimum Accounting and Statistical Framework 313  
David M. Dror  
- Data Needs  
- Identification of the Benefit Package and Its Cost  
- Establishing the Income Side  
- Balance between Income and Expenditure  
- Other Information Needed to Calculate Variance  
- General Management Information  
- Data Template  
- Conclusions  

PART 4 TOWARD A REINSURANCE PILOT IN THE PHILIPPINES 327  
17. Social Health Insurance in the Philippines: A Review of the Context 329  
Jonathan Flavier, M.D., Elmer S. Soriano, M.D., and Anne Nicolay  
- Health Care Delivery  
- Health Services Financing and Spending
Health Insurance 335
Household Income, Ability to Pay, and Health Expenditures 336
The Community-Based Health Care Organization Market 338
CBHCOs: What Type of Partnership in Health Care Financing and Delivery? 338
Selected Survey Results 340
Risks and Opportunities 346
Conclusions 348

18. Epidemiological Data on Health Risks in the Philippines 353
   Jeannie Haggerty and Tracey Reid
   The Contribution of Epidemiology 353
   First Impressions: Demographics 356
   Profiling Health Needs: The Epidemiological Snapshot 358
   Profiling Future Health Needs: Health Risk Factors 370
   Predicting Health Care Demand at the Local Level 371
   Conclusions 373

19. Attitudes toward Solidarity, Risk, and Insurance in the Rural Philippines 377
   Elmer S. Soriano, M.D., David M. Dror, Erwin Alampay, and Yolanda Bayugo
   A Brief Overview of Philippine Social History 379
   Salient Cultural Traits 380
   Perspectives on Organizational Behavior in Microinsurance Units 381
   Evidence from Philippine Rural Microinsurers 385
   Spiral Evolution of Microinsurers 387
   Sectoral Cultures and Risk 388
   Stakeholder Interest and Risk 388
   Conclusions 390

20. Structuring Demand and Supply in Community Health in Philippine Insurance 395
    Avi Kupferman and Aviva Ron
    Environment Conducive to Microinsurance Development 396
    Demand Issues Linked to the Target Population 401
    Demand Issues Linked to Scheme Design 404
    Supply Factors 406
    Conclusions 408

21. Actuarial Assessment of the ORT Health Plus Scheme in the Philippines 413
    Hiroshi Yamabana
    Coverage 413
    Medical Facilities and Personnel 413
    Benefits 414
    Financing 414
BOXES
1.1 Flow of Funds through the Health System 26
1.2 Different Approaches to Sharing Risks 31
1.3 What To Buy Using Public Funds, in Which Form, How Much to Buy, and How to Pay for It? 33
3.1 The World Reinsurance Market 73
4.1 Why Don’t Commercial Insurers Serve the Low-Income Market? 76
4.2 Charging the Poor High Interest Rates? 79
4.3 The Role of Donors in Expanding Microinsurance 87
4.4 Micro Care: Using a Partner-Agent Model to Deliver Health Insurance 91
4.5 Cambodia: Should Microfinance Institutions Offer Health Insurance? 95
4.6 Lessons for Reinsurance from Microfinance Guarantee Schemes 96
4.7 Integrating Insurance with Other Financial Services 97
8.1 Getting a Confidence Interval When k = 0 192
8.2 NGT or Delphi Methods 195
8.3 Nonconsensual Methods 196
8.4 Beta Distribution 198
9.1 How Do Microinsurers Deal with Classical Insurance Problems? 211
10.1 Georgia: Situational Analyses for Rural Schemes 228
10.2 Rwanda: Monitoring and Evaluation in a Pilot Microinsurance Scheme 235
11.1 Guinea-Bissau: Participant Responsibilities 253
13.1 Calculating a Microinsurer’s Premium or Contribution Rate 278
16.1 Finding the Most Suitable Composition for the Benefit Package 320
17.1 The Value of the Philippine Peso 330
17.2 Need versus Demand for Hospitals 332
17.3 Doctors per Capita—Income Related? 332
17.4 Insuring Prevalent Risks 335
17.5 Group Size Affects Benefit Package 340
17.6 Information: (Almost) as Important as Money 346
22.1 Regulatory Considerations 433

FIGURES
1.1 Spending and Risk-Sharing Arrangements 23
1.2 Determinants of Outcome: Health and Financial Protection 25
1.3 Low-Income Countries Have Weak Capacity to Raise Revenues 28
1.4 Revenue Pooling Equalizes Inequities 30
1.5 Cost-Risk Concentration Curve 32
2.1 Schematic Description: Interaction of Needs, Demand, and Supply 38
2.2 Subsidizing Supply 40
2.3 Subsidizing Demand 40
2.4 Enhancing Overlap 40
17.2 Health Expenditure, by Use of Funds, 1999 334
17.3 Health Expenditure, by Source of Funding, 1999 335
18.1 Philippines: Population Pyramid, 1998 357
19.1 Stages and Alternatives in Development of Consciousness in Microinsurance Units 390
21.1 Income/Expenditure Balance and Reserves 419
22.1 Funding Needs of Social Re
A.1 Screen 1 448
A.2 Screen 2 449
A.3 Screen 3 450
A.4 Screen 4 453
A.5 Screen 5 454
A.6 Screen 6 455
B.1 Window 1 460
B.2 Window 2 460
B.3 Window 3 461
B.4 Window 4 463
B.5 Window 5 463

TABLES
2.1 Conceptual Underpinnings of Community-Financing Schemes 46
3.1 The Functions of Reinsurance 67
3.2 Community Health Insurance and the Four Functions of Reinsurance 69
4.1 Typology of Microfinance Institutions 83
4.2 Performance Indicators for Microfinance Institutions, by Size and Region 84
6.1 “External” Risk Analysis 143
6.2 Public Interventions and Their Effect on Insurable Risks 145
7.1 Reinsurance Results under Two Scenarios 158
7.2 Microinsurers’ Characteristics in the Simulation 165
7.3 Distribution of the Benefit Cost 165
7.4 Premium and Discretionary Budget for Different Microinsurers 168
8A.1 Table of Critical Values $\pi(\alpha, n)$ 199
10.1 Common Design Shortcomings and Their Results 229
10.2 Rwanda: Use of Management Tools and Systems Employed 231
10.3 Ghana: Proposed Indicators for Monitoring Mutual Health Organizations 236
10.4 Objectives and Methods Employed by Three “Typical” Evaluations 237
10.5 Financial Instability and Capacity Constraints 238
11.1 Government Mechanisms in Use 251
17.1 Household Income, 1998 337
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>17.2 Family Out-of-Pocket Health Expenditures, 1994</td>
<td>337</td>
</tr>
<tr>
<td>17.3 Benefit Packages</td>
<td>341</td>
</tr>
<tr>
<td>18.1 Philippines: Key Demographic Trends, 1970–99</td>
<td>358</td>
</tr>
<tr>
<td>18.2 Philippines: Deaths from and Cases of AIDS, 1996</td>
<td>359</td>
</tr>
<tr>
<td>18.3 Philippines: Trend of Five Leading Causes of Mortality, 1975–95</td>
<td>361</td>
</tr>
<tr>
<td>18.4 Philippines: Ten Leading Causes of Morbidity, 1999</td>
<td>365</td>
</tr>
<tr>
<td>18.5 Tarlac Health Maintenance Plan, Philippines: 13 Leading Causes of Morbidity, Outpatients and Inpatients, September to December 1999</td>
<td>367</td>
</tr>
<tr>
<td>18.6 Variables Commonly Used for Regression Modeling of Health Care Demand</td>
<td>372</td>
</tr>
<tr>
<td>19.1 Microinsurers’ Spiral Learning Process</td>
<td>387</td>
</tr>
<tr>
<td>22A.1 Cost Factors Used on Financial Model</td>
<td>441</td>
</tr>
<tr>
<td>22A.2 Salary Schedule for Manila Office</td>
<td>444</td>
</tr>
</tbody>
</table>
CHAPTER 13

Role of Subsidies in Microinsurance: Closing the “Recovery Gap”

Reinhard Busse

No matter how well reinsurance mechanisms deal with insolvency risks associated with randomly fluctuating expenditure, microinsurance units may encounter a recovery gap, a systematic excess of expenditure on benefits over income (Preker, Langenbrunner, and Jakab, chapter 1, this volume). Because the recovery gap is not random, reinsurance cannot solve it. Solutions for this financial problem should therefore be sought outside the context of risk management—through subsidies.

This chapter draws heavily on Western Europe’s experience with social health insurance.1 It describes reasons for the recovery gap, including uninsurable health expenses, and offers a model for analyzing the role of subsidies financed from taxation, foreign donors, or other sources in filling the gap.2 It examines the role and extent of tax subsidies in West European countries, addressing such questions as whether tax subsidies increase systemic equity and whether they are only a short-term measure or are needed permanently. Two reasons argue for drawing on the West European experience, even though we are discussing seemingly different circumstances of microinsurers in low- and middle-income countries:

• Most health insurance funds started out as a kind of microinsurance.
• Long-term dependence on tax subsidies can best be estimated by studying well-developed systems in countries with a long history of social health insurance.

From this experience come some lessons for low- and middle-income countries embarking on the insurance route.

WHENCE THE RECOVERY GAP?

Where does a recovery gap come from? Both theory and history hold some answers.

In projecting an insurance scheme’s income, five main factors come into play: the contribution rate or per capita premium, the contribution base, the

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declaration rate, the collection rate, and the expenditure. Errors in estimating any of these can result in a deficit.

Microinsurers have two options for calculating an income that meets their needs, either as a per capita premium or, more commonly, as a percentage of the contribution base, the contribution rate. The contribution base is usually work-related income but may also include other income (for example, from investments) or assets.

Box 13.1 presents some simple formulas for calculating the necessary per capita premium and contribution rate. The formulas take into account factors such as the beneficiaries’ honesty in declaring their income (the declaration rate) as well as the microinsurer’s ability to fully collect the premiums or contributions (the collection rate).

**BOX 13.1 CALCULATING A MICROINSURER’S PREMIUM OR CONTRIBUTION RATE**

The basic formula for calculating the premium is:

(1a) Necessary per capita premium = total expenditure – copayments – other income/number of beneficiaries.

Using an easy example of 1,000 currency units (CU) expenditure, CU100 in copayments (assuming no other income), and 100 beneficiaries, this would result in a premium of CU9.

The formula for calculating the contribution rate, given by Cichon and others (1999) is:

(2a) Necessary contribution rate = total expenditure – copayments – other income/contribution base.

Assuming the same expenditure, copayments, and number of beneficiaries, and a contribution base of CU10,000 (an average of CU100 per person), this would result in a contribution rate of 9 percent.

Taking both the declaration rate and the collection rate into account, the formulas are as follows:

(1b) Necessary per capita premium = total expenditure – copayments – other income/number of beneficiaries x collection rate.

Retaining the values of (1a), a collection rate of 90 percent would increase the necessary premium to CU10; one of 80 percent, to CU11.25. (Note: As the premium is independent of the beneficiaries’ income, the declaration rate does not enter the formula.)

(2b) Necessary contribution rate = total expenditure – copayments – other income/contribution base x declaration rate x collection rate.

Retaining the values of (2a), a declaration and collection rate of 90 percent each would increase the necessary contribution rate to 11.1 percent; rates of 80 percent, to around 14.1 percent (that is, by more than half).

*Box continues on the following page.*
Role of Subsidies in Microinsurance: Closing the “Recovery Gap” 279

Rate). The two rates will fluctuate between a maximum of 100 percent (meaning that all income is declared or collected) and a theoretical 0 percent. As can be seen from the formulas in the box, if these factors do not reach 100 percent, premiums or contributions will have to increase—or a deficit will result.

Thus, misjudging the declaration and the collection rate can easily lead to a deficit—if the actual rates are less than 100 percent. Although such deficits constitute a certain type of “recovery gap,” they do not qualify for subsidies to cover them. They should be addressed by tackling the reasons for the shortfalls.

As candidates for generating a real recovery gap, the expenditure and the contribution base deserve close attention.
On the expenditure side, Dror has pointed to several problems (chapter 5, this volume). A recovery gap could reflect:

- Demand-side expectations of increased benefits without any corresponding increase in the premium on the income side
- Supply-induced moral hazard and monopolistic pricing if competition between suppliers is weak or nonexistent
- Pressures from inflation or from a pandemic (for example, HIV-AIDS).

If expenditure is not driven by providers’ unrealistically high income expectations, a recovery gap resulting from the other reasons given should be considered a candidate for subsidies. (A liberal attitude may be justified when assessing whether income expectations are “unrealistic.” After all, highly trained professionals are expected to work in low-income rural areas where the income differential between them and the insured population may, of necessity, be high.) The expenditure side, not further explored here, is a topic all by itself (Dror, chapter 5, this volume).

Regarding the contribution base, a distinction has to be made between a recovery gap that relates to the whole insured population and a gap that is concentrated in certain segments of the insured population. In the first instance, the economic base is too weak in comparison to expenditure (see box 13.1).

The second case, concentration in certain population segments, was not originally a problem in Western Europe because social health insurance was work related. All participants were employed, even though their incomes, number of dependents, and health status might have been different.

Gradually, coverage was expanded to nonworking population segments throughout Western Europe, achieving population-wide coverage only in Switzerland (1996), Belgium (1998), and France (2000). Since 1968, introduced under the Exceptional Medical Expenses Act, the Netherlands’ universal Algemene Wet Bijzondere Ziekenkosten (Exceptional Medical Expenses) has covered long-term care and population-wide prevention programs, mainly “uninsurable” services.

The creation of social health insurance schemes covering most or all of the population put pressure on planners to find ways of including everyone without creating a recovery gap. Contributing members were not always willing to see their contributions used to cover noncontributing members’ health costs. A deficit resulting from adding insurance coverage for indigents is a prime candidate for subsidies. Subsidies can avoid overburdening the contributing population (leading to decreasing acceptability of the whole scheme) and the exclusion of individuals who cannot (fully) contribute to financing.

The four factors addressed so far—declaration rate, collection rate, expenditure, and contribution base—all relate to the inability to raise contributions for various reasons. Another reason for a gap between health insurance fund income and expenditure is an “unwillingness” to set a high enough contribution rate to cover spending. Who among the decisionmakers is unwilling? Although health...
insurance funds in most West European social health insurance countries are “self-governing,” the government or legislature exerts the decisive influence in setting contributions. In France, by law, contribution rates are negotiated between the government and representatives of employees, employers, and the social security organizations, but the government makes the final decision. In the Netherlands, the Board for Health Care Insurance (College voor zorgverzekeringen, CvZ) runs the central funds required under AWBZ and the Sickness Funds Act (ZFW) and recommends the next year’s contribution rates to the Ministry of Health. The Ministry of Health then sets the rates.

Only Germany and Luxembourg have delegated power to decide upon contribution rates to self-governing bodies—Luxembourg, to the Union of Sickness Funds, and Germany, to the individual funds. However, their decisions are subject to governmental approval. For regionally operated funds in Germany, “the government” is the statutory health insurance unit within the Länder ministry responsible for health. An independent agency, the Federal Insurance Office, is charged with the supervision of countrywide health insurance funds. The health insurance funds are legally obliged to calculate a contribution rate that is neither too high nor too low to cover all expenditure and to keep reserves at the required level (Social Code Book V, Article 220). The government may refuse approval if the rate does not meet this requirement, but it can also act if a health insurance fund does not suggest a rate change when it should. Similarly, under supervision of the Federal Office for Social Insurance, Swiss insurers are allowed to set their own community-based premiums.

 Needless to say, neither the unwillingness to set an appropriate contribution rate nor regulations preventing microinsurers from doing so—although leading to a recovery gap—justify subsidies. The deficit should be addressed instead by changing the regulatory framework or the supervision of the fund’s decisions.

**CLOSING THE RECOVERY GAP: A MODEL**

At first glance, closing the recovery gap through tax subsidies is a straightforward affair. But a closer look reveals many possibilities, each with a different rationale and potentially different implications (figure 13.1).

Subsidies can be paid into the system in three ways: to individuals (Si in figure 13.1), to the social or community-financed microinsurance unit (Sf), or to providers (Sp).

**Paying Subsidies to Individuals**

The first option is paying subsidies directly to the needy, usually defined in terms of low income but sometimes including individuals in poor health (Si). The subsidy, in extreme cases amounting to the entire contribution, enables individuals to acquire health insurance coverage they could not otherwise afford.
This kind of subsidy can be targeted directly to needy individuals. However, direct subsidies also have disadvantages: having to define limits for entitlement, verify that applicants fulfill these limits, and ascertain that recipients of a subsidy use it for the intended purpose—here, to buy health insurance. Thus, a fairly extensive monitoring mechanism is needed—which may be available in Switzerland but not in every country introducing health insurance.
Paying Subsidies into Funds or Microinsurance Units

Paying contributions for the needy directly into the social health insurance fund or microinsurance units (Sf1) may therefore be more appropriate. Many Central and East European countries have chosen this option. In this case, the subsidies must cover 100 percent of the contributions for the needy or the same problems arise as with subsidies to individuals.

This option, too, has disadvantages. People who do not have to contribute might feel less ownership in the insurance fund. People outside the subsidized group might feel unfairly treated if their incomes are only slightly higher. A second set of concerns is related to the ability (and willingness) of the subsidy payer (whether finance ministry or outside donor) to pay the amount needed as long as it is needed.

Many of these disadvantages are circumvented if the subsidies are paid into the pooled financial resources of the social health insurance or microinsurer (Sf2) instead of to individuals. Every individual must join the scheme if such a subsidy is to close the recovery gap for the entire covered population (and not just forestall contribution increases for people who can afford insurance). This means that the contribution amount should not be set so high as to prevent the poor from joining, as could happen under a per capita premium (instead of an income-dependent contribution). If the contribution is income differentiated,
paying a subsidy into the financial pool—or to reinsurance—is a flexible possibility for closing the recovery gap.

Sometimes a subsidy payment to the purchasing fund (Sf3) is appropriate, for example, if income and risk differences between funds or microinsurers are insufficiently offset through the pooling mechanism. Examples include funds/microinsurance for only the self-employed when most other insured individuals split the contribution with a third party (usually their employer). Without a subsidy, the self-employed would have to pay much more than wage earners. Sf3 may also be relevant in case of large regional differences in per capita income that are not mediated via the pooling mechanism (for example, to maintain compliance with the system in high-income areas). Sf3 would then subsidize regionally organized purchasers located in low-income areas. Again, the choice is between subsidizing service provision or purchase. In either case, geographic targeting may be easier for most countries than targeting based on individual income or risk profiles.

**Paying Subsidies to Providers**

Providers are the third group of subsidy recipients. These subsidies can serve many purposes:

1. General, unspecified uses, including debt coverage (Sp1)
2. Specific, but not service-related, uses, often for investments (Sp2)
3. Reimbursement for services outside the benefit package such as public health measures (Sp3)
4. Reimbursement for services provided to uninsured persons such as the needy (Sp4)

Options 1 and 4 point toward deficits in the system while 2 and 3 can be effectively integrated into the overall financing. Sp1 subsidies decrease the chances of bringing providers into a system where they agree with the funds on volume and reimbursement levels that do not endanger systemic sustainability. Sp4 subsidies sound an alarm that other subsidies in the system are not targeted in a way that ensures the poor the same entitlements as everybody else. They will be better served by Si- or Sf1-type subsidies. Sp4 might also cost the subsidy payer more than would the other types because no insurance contributions are paid for those individuals, and the full reimbursement cost falls on the subsidy payer (with the possible exception of out-of-pocket user fees).

Sp2 subsidies enable providers to offer facilities in remote areas, where microinsurers are often based. Without subsidies, the investment costs might prove too high for a prospective investor to locate in areas lacking the “guaranteed” purchasing power promised by wealthier urban areas. Additionally, Sp2 subsidies help hold down reimbursements, thereby alleviating one potential source of a
recovery gap. Sp3 subsidies provide an option for restricting the social health insurance/microinsurance benefit package to insurable services, that is, excluding the uninsurable services that should be promoted as a matter of public health (for example, immunizations).

**CLOSING THE RECOVERY GAP: EUROPE’S EXPERIENCE**

West European countries have taken different approaches to dealing with recovery gaps.

**The Netherlands**

As the first universal social health insurance scheme, the Dutch AWBZ is a good place to start. Before AWBZ, much of the care it now covers was funded from general revenue. The new insurance scheme saved the government a good deal of money, and part of those savings was recycled into the AWBZ Fund as a structural subsidy. Over the years, this government subsidy has changed many times, as benefits have been added or removed from the ambit of the Act. The AWBZ Fund therefore consists of both contributions (C) and government subsidy (Sf2) in figure 13.1.

At first, the health insurance scheme for the elderly and the voluntary health insurance scheme were partially funded by the government. On April 1, 1986, both funds were taken over by the General Fund for the sickness fund scheme. When the Medical Insurance (Access) Act and the Act governing the Joint Funding of Elderly Sickness Fund Patients went into force on the above date, the ZFW was amended to the effect that the government would pay an annual grant into the pooled fund (Sf2) toward the cost of financing sickness funds scheme for all. The grant amount, determined annually, has fluctuated widely as benefits and population groups have been included or excluded from the two schemes (figure 13.2).

**France**

France, with its state-fixed social insurance contributions, provides an example of a different type of recovery gap. The social security system ran a deficit throughout the 1990s, and health care was the main source. Political unwillingness to adjust the contribution rate to need was based on the notion that social contributions were increasing labor costs, thereby dampening employment. In an effort to address these structural problems leading to financial difficulties, Prime Minister Alain Juppé, in December 1995, presented a plan to reform social security financing.

Widening the contribution of the General Social Levy Tax was a main proposal. This tax, levied on all types of income (savings, subsidies, pensions, stocks), was set at 1.1 percent in 1991. Initially allocated to the family allowances branch, revenue generated by this tax was earmarked for health in 1996. Additionally,
employee payroll contributions for health were largely replaced by an increase in the earmarked health tax, starting in 1998. The payroll contribution rate decreased from 5.5 percent to 0.75 percent, and the earmarked health tax increased from 3.4 percent to 7.5 percent—thereby reducing the overall contribution/tax rate from 8.9 percent to 8.25 percent but widening the contribution/tax base. The employer contribution was maintained.

A social debt-reducing fund (Caisse d’Amortissement de la dette sociale) was also created. It manages a new income tax, the Social Debt Tax (Remboursement de la dette sociale), to pay off the social security system’s deficit (Lancry and Sandier 1999, pp. 443–70). Since 1996, this new 13-year tax, set at 0.5 percent of total income, has been levied on everyone but recipients of government social assistance and disability pensions.

Now France has three different sources of social security financing: social contributions (C), the earmarked health tax (E1), and the social debt-payment tax (E2) in figure 13.1. E2 is a mechanism through which social health insurance financing (originally contribution based) has been made partly tax based. Future debate will revolve around the collective choice between proportional taxes, notably the earmarked health tax, and progressive taxes such as the income tax (Bouget 1998).

**Switzerland**

While the Netherlands fills the financial risk pool with tax money and France has shifted a good part of its financing from contributions to earmarked taxes, Switzerland takes yet another approach. Instead of paying subsidies into the social health insurance system, Switzerland gives them directly to individuals, on a means-tested basis, to enable them to purchase health insurance (Si in figure 13.1). Before the introduction of the current system of compulsory insurance in 1996, health insurance funds received subsidies amounting to about 30 percent of their expenditure (Sf3). Premiums for persons in poor health nonetheless became so costly that such people could no longer acquire any health insurance, especially in high-expenditure cantons. The new act made health insurance compulsory, introduced community rating by canton, and cut off direct subsidies to the health insurance funds. Subsidies to individuals are calculated in different ways from canton to canton but can include a full premium subsidy, depending on the insurance policy chosen (Minder, Schoenholzer, and Amiet 2000).

**How Much Subsidization from Taxes?**

In all these experiences, some degree of tax subsidization is present, but just how much is hard to tell. International statistics are often fuzzy on sources of health care funding, for example, whether expenditure through taxation includes tax-financed payments to social health insurance (Sf in figure 13.1) or whether these are included as social health insurance expenditures.
Austria and Switzerland, for example, finance a large part of hospital care directly through taxation—and have therefore relatively low figures for the social health insurance expenditure share. In the Netherlands and other countries, hospital care is financed exclusively by the health insurance funds, which receive substantial subsidies from general taxation. Tax subsidies paid into the joint health insurance funds’ pool (Sf2) are also substantial in Belgium and Luxembourg. In Belgium, about 60 percent of all subsidies are paid into the social health insurance scheme’s pooled finances (Sf2), and the rest goes directly to providers, mainly to cover investments (Sp2). In Austria and Germany, the social health insurance schemes receive no tax subsidies—with the small but noteworthy exception of the farmers’ funds in both countries (Sf3). Besides the special taxes mentioned earlier, France also uses direct tax subsidies to funds with low-income/high-need members, such as the farmers’ fund.

To estimate the degree to which countries rely on wage-based social health insurance contributions, two factors have to be combined: the percentage of social health insurance income from contributions (C/C + E1 + Sf) (figure 13.1; data for Western Europe, table 13.1) and the percentage of overall health expenditure covered through social health insurance (C + E1 + Sf/C + E + P + T).

Based on that calculation, Germany and the Netherlands are the only countries in Western Europe that cover more than 60 percent of all health care expenditure from wage-related contributions. Until 1997, France was the country that relied most heavily on wage-related contributions but, since its shift to a wider contribution base, that share has dropped below 60 percent. Austria and Luxembourg finance a little less than 50 percent, and Belgium less than 40 percent, of total health care expenditure from wage-related contributions. In some respects, Belgium is closer to a “mixed” system of funding, as taxes accounted for 38 percent and social security contributions for 36 percent in 1994 (Crainich and Closon 1999, pp. 219–66).

### TABLE 13.1 Tax Financing in West European Social Health Insurance Systems, 1999–2000

<table>
<thead>
<tr>
<th></th>
<th>Austria</th>
<th>Belgium</th>
<th>France</th>
<th>Germany</th>
<th>Luxembourg</th>
<th>Netherlands</th>
<th>Switzerland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extent of taxes for social health insurance, fund, that is, 0.5% of total fund income</td>
<td>Generally no (except 23%)</td>
<td>Yes, 35–40%</td>
<td>Yes (up to 8%); generally no plus special taxes (up to 34%)</td>
<td>Generally no (except 52%) for farmers’ funds, that is, &lt; 1% of total</td>
<td>Yes, max. 40% for AWBZ &lt; 1%, ZFW 25%</td>
<td>Only indirect subsidies (that is, to insureds, not to funds)</td>
<td></td>
</tr>
<tr>
<td>a. Supplement of 250 percent on pensioners’ contributions, 10 percent on other contributions.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>b. On car insurance, alcoholic drinks, and pharmaceutical marketing.</td>
<td></td>
<td></td>
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</tbody>
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Source: Author’s calculations, based on various sources.
Central and Eastern Europe

To include Central and East European countries in the comparison, both direct, wage-related contributions and the overall social health insurance contributions to total health expenditure have to be considered. For example, in both the Czech Republic and Slovak Republic, the state pays contributions for all nonwage earners (SF1 in figure 13.1). This group encompasses more than 50 percent of the population, including not only pensioners and the unemployed but also nonwage-earning spouses and children, persons covered as dependents in Western Europe (Busse 2000; Hlavacka and Skackova 2000). Wage-related contributions cover around 65 percent of total health care expenditure—as much as or slightly more than in Germany or the Netherlands and more than one-and-a-half times as much as in Belgium. This apparent contradiction results from the state’s low contributions, a major source of those countries’ financial difficulties.

DO MORE SUBSIDIES MEAN MORE EQUITY?

When evaluating equity in health care financing, an analogy can be made to taxation systems. In a *progressive* tax system, the proportion of income paid in taxes rises as income rises. In a *regressive* system, the proportion falls as income rises. And so it is with health care—the proportion of income paid for health care rises as income rises in progressive funding and falls in a regressive system.

In Western Europe, social health insurance is slightly less progressive than general taxation, but much more progressive than private financing arrangements (Wagstaff and others 1999; van Doorslaer, Wagstaff, and Rutten 1993). In poorer countries, with very different taxation systems and revenue-collection performance, these findings may not be applicable. In either setting, however, private out-of-pocket spending is the most regressive form of health care financing.

Differences in tax loads within tax-financed systems depend on the mix between (progressive) income taxes and (regressive) indirect taxes as well as their completeness of collection. Equity differences among social health insurance countries depend on the extent of the tax-financing component and its progressivity, the proportion of private direct payments, and differences in social insurance contributions. In West European social health insurance countries, there is no direct correlation between the extent of tax subsidies and “financing fairness,” as measured in the *World Health Report* 2000 (WHO 2000). Belgium and Luxembourg, with high subsidies, rank almost equal with Austria and Germany. This finding suggests that it is not the extent of tax subsidies that makes health care financing more or less equitable but the exact design and mix within different categories of funding.

Equity differences in social insurance contributions depend on the extent to which contributions are income-based (instead of per capita premiums); the relative tax burdens of rich and poor (through income ceilings or no-claim bonuses); the extent of contribution pooling and adjustment for differing risks;
and the extent to which benefits are fully covered or require cost sharing (Normand and Busse 2002). When considering these points, special attention has to be given to the inclusion or exclusion of dependents—equity decreases if per capita premiums are charged for dependents as well as members (as in the Netherlands). Conversely, the inclusion of dependents might increase inequity if there is a ceiling on contributory income—a “millionaire” with a nonworking spouse pays only once, while a middle-class, double-income couple pays twice.

CONCLUSIONS

The European experience suggests several important lessons for countries embarking on the insurance route. First, no matter how skillfully the social health insurance or community-financed health system is designed, no matter how long it has been in operation, and no matter how rich the country is, some sort of subsidization will always be needed to complement the main system of finance. Subsidies are the only way of ensuring adequate population coverage, stimulating delivery in otherwise underserved areas, or encouraging the delivery of certain, often public health–related, services. In Europe, the extent of subsidization varies from modest amounts to 50 percent of total finance.

Second, there is no single, perfect way to put subsidies into the health finance system. Based on a country’s needs, administrative capacity, banking system, and political priorities, subsidies can be given directly to individuals to acquire health insurance, paid into a financial pool (through mechanisms including reinsurance), or given to providers to cover investments or uninsurable services. In reality, a balanced mixture between these options has to be found, and adjustments may be necessary if the desired prooor effect is not achieved (as in Switzerland).

Third, subsidies do not guarantee social fairness or improved access for the poor. How the money for subsidies is raised and how it is spent are both important. Depending on the means used, fund raising or spending can worsen the situation of the poor if the subsidy system is not carefully designed.

NOTES

1. Using the social health insurance definition in the System of National Accounts, microinsurance also falls into this category if “the programme is operated on behalf of a group and restricted to group members” (SNA 1993, annex IV, para. 4.111). As long as they are not “imposed and controlled by government units” (SNA 1993, annex IV, para. 4.130) as in Western Europe, they would, however, be classified as “private social insurance.”

2. The model incorporates elements from other health financing frameworks (OECD 1992; Kutzin 2001).

3. For the largest group of indigents, the pensioners, contributions vary from country to country in Western Europe, both in the amounts paid and in the agency responsible for paying them. In most cases, pensioners pay the same rate on their pension.
as employees pay on their income (or, in Switzerland, the same per capita premium). This amount may be split between the pensioner and the statutory pension fund (substituting for the employer, as in Germany and Luxembourg) or it may be placed entirely on the pensioner (as in the Netherlands). The contribution rate may, however, also be lower or higher. In Belgium, pensioners pay only the employee’s part of 3.55 percent. In Austria, pensioners pay more, with a contribution rate of more than 11 percent. Because pensioners themselves pay only as much as working members on average (3.75 percent), two-thirds of the contribution falls on the pension funds (European Commission 1999). These arrangements are feasible only if a fund has enough nonpensioner members to cover additional expenditures. A fund with only pensioners—or a microinsurer with only indigent members—would not be viable.

REFERENCES


