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IS HEALTH MICROINSURANCE SUSTAINABLE? AN ANALYSIS OF FIVE SOUTH ASIAN SCHEMES

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ACRONYMS AND ABBREVIATIONS

ARY	Arogya Raksha Yojana
BDT	Bangladeshi taka
BPL	Below (the) poverty line
CAGR	Compound annual growth rate
CSR	Corporate social responsibility
GK	Gonoshathaya Kendra
HMI	Health microinsurance
ILO	International Labour Organization
INR	Indian rupee
KPI	Key performance indicator
MFI	Microfinance institution
NJWO	Naya Jeevan Welfare Organization
PKR	Pakistani rupee
Rx	Prescription drugs
RSBY	Rashtriya Swasthya Bima Yojana)

TABLE OF CONTENTS

Acknowledgements	1
Acronyms and abbreviations.....	2
Table of contents.....	3
LIST OF FIGURES	4
LIST OF TABLES.....	4
Executive summary	5
Schemes reviewed.....	5
Key observations	5
1. INTRODUCTION.....	7
1.1. How to define health microinsurance	7
1.2. How to define sustainability	7
2. Methodology	9
2.1. Data collection and analysis.....	9
2.2. Data limitations	9
3. Overview of schemes.....	10
3.1. ARY – HDFC-ERGO	12
3.2. Tata AIG – RSBY	13
3.3. Shasthayabima – Gonoshasthaya Kendra.....	14
3.4. Nirapotta – SAJIDA Foundation	15
3.5. Naya Jeevan	17
4. Drivers of sustainability.....	19
4.1. Achieve scale.....	19
4.2. Control claims costs.....	23
4.3. Manage expenses.....	25
4.4. Subsidies and profitability	26
5. Conclusions and recommendations	31
5.1. Sustainability of each analysed scheme	31
5.2. Recommendations.....	32
References.....	35
Additional resources	36
Appendix I: Financial results and key performance indicators (KPIs)	38

LIST OF FIGURES

Figure 1. The spectrum of HMI coverage..... 7
 Figure 2. The spectrum of HMI sustainability 8
 Figure 3. HMI schemes analysed and their place on the product spectrum12
 Figure 4. Growth in insured lives20
 Figure 5. Growth in gross earned premium volume.....21
 Figure 6. Claims ratios24
 Figure 7. Expense ratios25
 Figure 8. Profit ratios27
 Figure 9. Financial results as a percentage of premium28
 Figure 10. Premium, claims and expenses per insured life29
 Figure 11. HMI schemes analysed and their place on the sustainability spectrum31

LIST OF TABLES

Table 1. Overview of HMI schemes analysed.....11
 Table 2. Framework for sustainability.....19
 Table 3. Ten recommendations on how to make HMI work33
 Table A1. HDFC-ERGO (ARY scheme).....39
 Table A2. Tata AIG (participant in RSBY scheme)40
 Table A3. SAJIDA Foundation (Nirapotta scheme)41
 Table A4. Gonoshasthaya Kendra (GK) – Shasthayabima scheme42
 Table A5. Naya Jeevan Health Quest (brokerage) and Naya Jeevan HMI product.....43

LIST OF BOXES

BOX 1. An alternative view of sustainability..... 8
 BOX 2. The impact of religious beliefs on sustainability15
 BOX 3. Product innovations to increase sustainability22
 BOX 4. Adverse selection, underwriting and pent-up demand within HMI schemes.....23

EXECUTIVE SUMMARY

“Can health microinsurance (HMI) schemes achieve sustainability?” As with many seemingly simple questions, there is no simple answer. The answer to this question is of interest to a variety of parties. Insurance providers seek to understand if there is a viable business case for offering an HMI product. Health-care providers and pharmaceutical companies are interested in whether or not HMI can be a means for broadening coverage. Donors and other funding organizations want to know if HMI is a viable investment as a means to improve health-care access, health outcomes and financial protection for the low-income population. Governments consider how to use HMI schemes as a step towards universal health coverage.

It is important to establish what constitutes HMI, as people have differing views on what constitutes “true” health microinsurance. For the purposes of this study, HMI is viewed across a spectrum of products that range from limited coverage hospital cash to comprehensive (inpatient and outpatient) health-care products.

SCHEMES REVIEWED

HMI is not common in many of the world’s regions, but can often be found in South Asia. Five South Asian HMI schemes are analysed for the purpose of determining how HMI schemes can be sustainable. The schemes operate in India, Bangladesh and Pakistan. The schemes are run by a range of types of organization: for-profit insurance companies, not-for-profit organizations and intermediaries. One scheme is an example of a public–private partnership between the government and a private insurer. The schemes use subsidies, include both mandatory and voluntary enrolment, and provide comprehensive as well as limited health benefits.

- Arogya Raksha Yojana (ARY): Underwritten by HDFC-ERGO in India.
- Tata AIG – Rashtriya Swasthya Bima Yojana (Tata AIG – RSBY): Tata AIG is a participating underwriter in this scheme, which is run by the Government of India.
- Shasthayabima: Underwritten by Gonoshasthaya Kendra (GK) in Bangladesh. The GK scheme comes closest to comprehensive benefits, while the other schemes offer more limited benefits.
- Nirapotta: Underwritten by the SAJIDA Foundation in Bangladesh.
- Naya Jeevan: Scheme in Pakistan underwritten by various insurance companies and mediated by Naya Jeevan, which also provides value-added health services.

KEY OBSERVATIONS

The term, “sustainability” is the key focus of this study, and yet there is no universal agreement on how to define it in the context of HMI. From a pure business case perspective, sustainability means that a scheme’s income (premium) meets or exceeds the scheme’s outflow (claims and expenses). In other words, a sustainable scheme is a scheme that breaks even or makes a profit. The question arises as to whether a scheme can be considered sustainable if it receives some form of subsidy. Just as HMI products are viewed along a spectrum, so too this study views sustainability as points along a spectrum of financial arrangements and outcomes.

If sustainability is viewed as unsubsidized financial profitability, none of the HMI schemes in this study is sustainable yet. On the other hand, none of the schemes is unprofitable and hence unsustainable. All five schemes fall between the two ends of the sustainability spectrum.

HMI sustainability is based on four drivers; (1) achieve scale, (2) control claim costs, (3) manage expenses, and (4) use subsidies.

Achieve scale: The ARY and Tata AIG – RSBY schemes have used mobile enrolment technologies to increase scale. The Tata AIG – RSBY scheme has also used a public–private partnership that provides explicit central and state government premium subsidies to achieve tremendous scale in a short time. The Nirapotta product is a mandatory purchase for all of SAJIDA’s microcredit borrowers, which has resulted in relatively large scale for the programme, but this is now constraining future growth, owing to SAJIDA’s limited ability to increase its loan base in a competitive microcredit market.

Assuming the key objective is to provide basic health care to all persons, within that context the Tata AIG – RSBY scheme appears to be the most attractive HMI model. While the ARY scheme has demonstrated profitability, it has achieved limited scale. Small-scale HMI schemes raise concerns that private HMI initiatives may be fracturing the overall risk pool within a given geographic region. It would be advantageous if these smaller private schemes could coordinate with and complement or supplement larger government schemes.

Control claims costs: Controlling the claims ratio was the key issue for the schemes in this study. Schemes underwritten by for-profit insurance companies demonstrated the lowest claim ratios. In terms of controlling claim ratios, all the schemes have some sort of relationship with the providers of health-care services. This is via direct ownership of hospitals/clinics (for example, SAJIDA and GK) or discounted arrangements (for example, HDFC-ERGO with Biocon, Naya Jeevan with a network of empanelled hospitals and its own primary care centre, and Tata AIG with providers that have agreed to RSBY reimbursement rates). As schemes monitored experience, they modified benefits (for example, longer benefit waiting periods, different maternity cover, and limitations on key benefits) in order to lower claim ratios.

Manage expenses: Acquisition and claims settlement costs are driving schemes’ expense ratios. The ARY and Tata AIG – RSBY schemes have managed their enrolment costs by investing in mobile enrolment technology; and ostensibly ARY, Tata AIG – RSBY, and Naya Jeevan have been able to control claims processing costs by creating cashless claim payment systems.

Use subsidies: All the HMI schemes in this study use one or more forms of subsidy. HMI subsidies can take many forms, such as cross-subsidization of losses from external or related entities, cross-subsidization of premiums between classes of insureds, explicit premium subsidies and implicit subsidies. As such, sustainability for all five schemes depends on their use of these subsidies. The future sustainability of HMI schemes appears to require the continued use of subsidies.

All of the schemes in this study have faced various challenges and have implemented changes in order to try to improve sustainability. At some level each HMI scheme follows “best practice” recommendations for sustainability, for example, by designing simple products, offering value-added services, using technology, monitoring scheme performance, engaging in public–private partnerships, designing smart subsidies, driving scale through distribution, and partnering with health-care providers. Other HMI schemes around the world still face many significant challenges. Hopefully the stories in this paper will provide other HMI schemes with insights on how to be sustainable.

1. INTRODUCTION

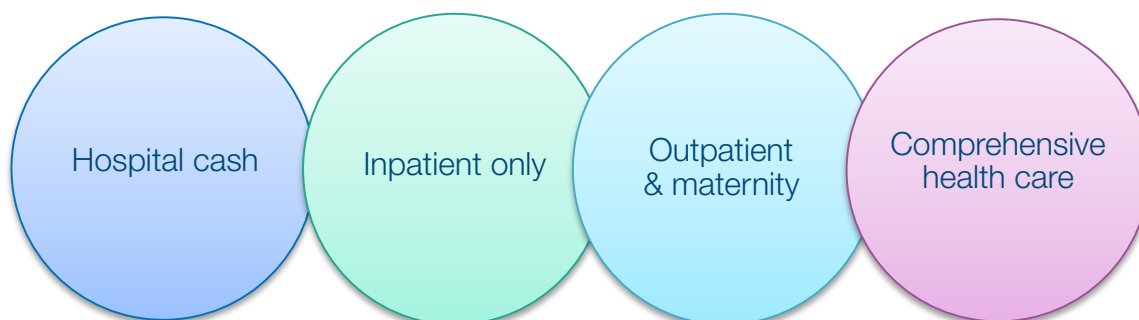
Access to essential health care is a human right and a social and economic necessity (ILO, 2012; United Nations, 1948). Health insurance is the most demanded insurance product worldwide (Holtz et al., 2014). Recent evidence from impact studies shows that health microinsurance (HMI) can offer financial protection and lead to better health by increasing access to health care and improving the use of health-care services (Dalal et al., 2014).

In spite of its proven value, the success of health microinsurance (HMI) is limited, because a key question remains unanswered: “Can HMI schemes achieve sustainability?” As with many seemingly simple questions, there is no simple answer. Still, many parties are interested in the answer. Insurance providers seek to understand if there is a viable business case for offering an HMI product. Health-care providers and pharmaceutical companies are interested in whether or not HMI can be a means for broadening coverage. Donors and other funding organizations want to know if HMI is a viable investment as a means to improve health-care access, health outcomes and financial protection for the low-income population. And governments are considering how to use HMI schemes to achieve their public policy objective of universal health coverage.

1.1. HOW TO DEFINE HEALTH MICROINSURANCE

Before jumping into the topic of sustainability it is important to establish what constitutes HMI. People have differing views on what constitutes “true” HMI. Some believe a product must be comprehensive in nature to be considered HMI, and would not view a product with limited benefits as true health coverage. For the purposes of this study, HMI is viewed across a spectrum of products that range from limited coverage hospital cash products to comprehensive health-care products. Figure 1 displays the four main HMI product categories: (1) hospital cash, (2) inpatient-only, (3) outpatient and maternity, and (4) comprehensive (hospital cash + inpatient + outpatient and maternity) health care.

Figure 1. The spectrum of HMI coverage

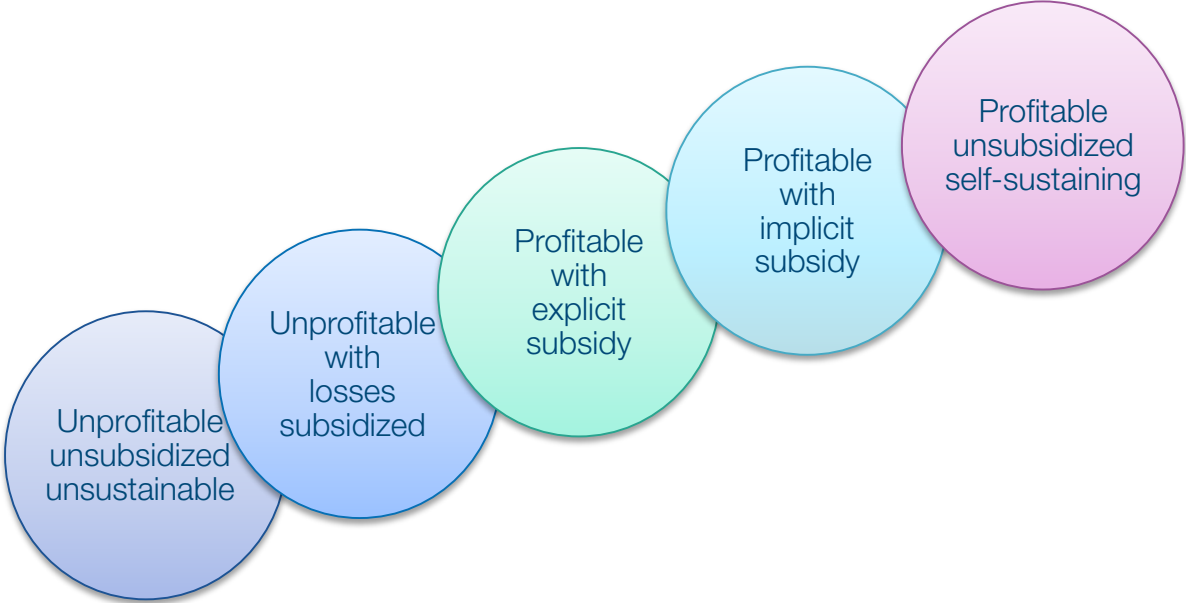


1.2. HOW TO DEFINE SUSTAINABILITY

This term is the key focus of this study, and yet there is no universal agreement on how to define “sustainability” in the context of HMI. From a pure business case perspective, sustainability means that a scheme’s income (premium) meets or exceeds its outflow (claims and expenses). In other words, a sustainable scheme is a scheme that breaks even or makes a profit. The question arises as to whether a scheme can be considered sustainable if its premium is directly subsidized. The question also arises as to whether a scheme can be considered sustainable if it receives indirect subsidies (for example, free advertising and enrolment services, or free health services for its members). Just as HMI products are viewed along a spectrum, so too this study views sustainability as points along a spectrum of financial arrangements and outcomes. Figure 2 displays the five main sustainability categories: (1) unprofitable, unsubsidized and unsustainable, (2) unprofitable with losses subsidized, (3) profitable with explicit

subsidy, (4) profitable with implicit subsidy, and (5) profitable, unsubsidized and self-sustaining.

Figure 2. The spectrum of HMI sustainability



Once the five HMI schemes under study have been presented, their product designs will be assigned to a point on the spectrum of HMI coverage. After developing a framework for assessing sustainability, and assessing the five schemes within this framework, we will assign the schemes along the spectrum of HMI sustainability. Ultimately conclusions on how an HMI scheme can achieve sustainability will be presented.

BOX 1. An alternative view of sustainability

The founder of the Bangladeshi HMI scheme Gonoshasthaya Kendra (GK), Dr. Zafrullah Chowdhury, does not believe it is correct to define sustainability only as unsubsidized financial profitability. He believes it is an obligation of governments and companies that benefit from inexpensive labour in developing countries to subsidize HMI schemes. Dr. Chowdhury views “sustainability” as providing the low-income population with the ability to access health care, which leads to use of services, which leads to better health, which leads to more consistent labour productivity, which benefits governments and foreign companies. He believes success in this chain of events can then lead to unsubsidized financial profitability.

Later in this study we will discuss how one Pakistani scheme, Naya Jeevan, is paid for in a manner that parallels Dr. Chowdhury’s comments.

2. METHODOLOGY

When considering potential HMI schemes for inclusion in this study, the following criteria were used:

- **Maturity:** The scheme had to be in operation for more than 3 years. Schemes in existence for shorter periods of time would potentially still be in a start-up mode, with insufficient proof of sustainability.
- **Scale:** The scheme had to be serving more than 25,000 active customers. It was felt that a scheme that had achieved this degree of scale had greater potential to exhibit sustainability. The minimum threshold of clients was difficult to establish and was ultimately based on judgment.
- **Quantitative data:** The scheme had to be able to provide at least 3 years of historical financial results. The financial results would be used to construct key performance indicators (KPIs) that would form the quantitative foundation of the framework for assessing sustainability.

The goal was to observe schemes that represented various points along the HMI coverage and sustainability spectrums. There were several HMI schemes from around the globe that fitted the above criteria, but while many were approached, only a handful remained for final consideration. As will be seen, one scheme selected did not satisfy the minimum scale criteria, but was included because of the unique operating model it brought to the study. Another scheme initially met the scale criteria, but the number of clients fell below the minimum threshold over the course of the time period studied. This scheme was retained, since the reason for the decline in clients provided additional insight.

2.1. DATA COLLECTION AND ANALYSIS

A comprehensive data request was sent to each of the five organizations. The request asked for detailed financial information over a 5-year period: from 2008 to 2012. In addition, the request contained a lengthy qualitative section seeking information on the scheme's organizational structure, plan design, premium structure, target population and market environment.

The schemes' initial responses were reviewed for completeness and accuracy, and then used to construct preliminary historical financial results and KPIs. On-site visits were conducted at four of the schemes (two in India and two in Bangladesh) in order to better understand the quantitative and qualitative data and to conduct deeper discussions on the schemes' views of sustainability. As the study proceeded, additional correspondence and discussions took place with the schemes to better interpret the findings and understand their implications.

The insights from this paper into how HMI schemes can achieve sustainability are intended to have general applicability, but given the broad spectrum of possible HMI coverage and levels of sustainability achieved, the conclusions reached might not be appropriate for all schemes and in all contexts.

2.2. DATA LIMITATIONS

As in any project of this scope there were challenges in obtaining and validating data. Schemes' expenses were the key item lacking detail, with few of the schemes able to split expenses into start-up, acquisition and management expenses. Only four years of historical information were ultimately used for the study (see Appendix I). Owing to data anomalies only three years of financial information were displayed for some of the schemes. Several of the schemes publish financial information on their websites or have been analysed and written about in other papers. The data provided were reviewed for accuracy, and every reasonable effort was made to validate them, but ultimately the author relied on the information provided by the schemes. If the information provided contained errors, it is possible the results and conclusions reached will be in error as well.

3. OVERVIEW OF SCHEMES

HMI is not common in many of the world's regions, but can often be found in South Asian countries. The five South Asian HMI schemes included in this study operate in India, Bangladesh and Pakistan. They are run by a range of types of organization: for-profit insurance companies, not-for-profit organizations and hybrid intermediaries. While most of the schemes are operated by private organizations, one is an example of a public-private partnership. They have subsidized and unsubsidized schemes, include both mandatory and voluntary enrolment, and cover comprehensive as well as limited health benefits. The five schemes are:

- Arogya Raksha Yojana (ARY): Underwritten by HDFC-ERGO in India.
- Tata AIG – Rashtriya Swasthya Bima Yojana (Tata AIG – RSBY): Tata AIG is a participating underwriter in this scheme, which is sponsored by the Government of India.
- Shasthayabima: Underwritten by Gonoshasthaya Kendra (GK) in Bangladesh. The GK scheme comes closest to comprehensive benefits, while the other schemes offer more limited benefits.
- Nirapotta: Underwritten by the SAJIDA Foundation in Bangladesh.
- Naya Jeevan: Scheme in Pakistan underwritten by various insurance companies and mediated by Naya Jeevan, which also provides value-added health services.

Table 1 provides a high-level summary of the key characteristics of each HMI scheme and conveys the diversity of attributes for the schemes in this study.

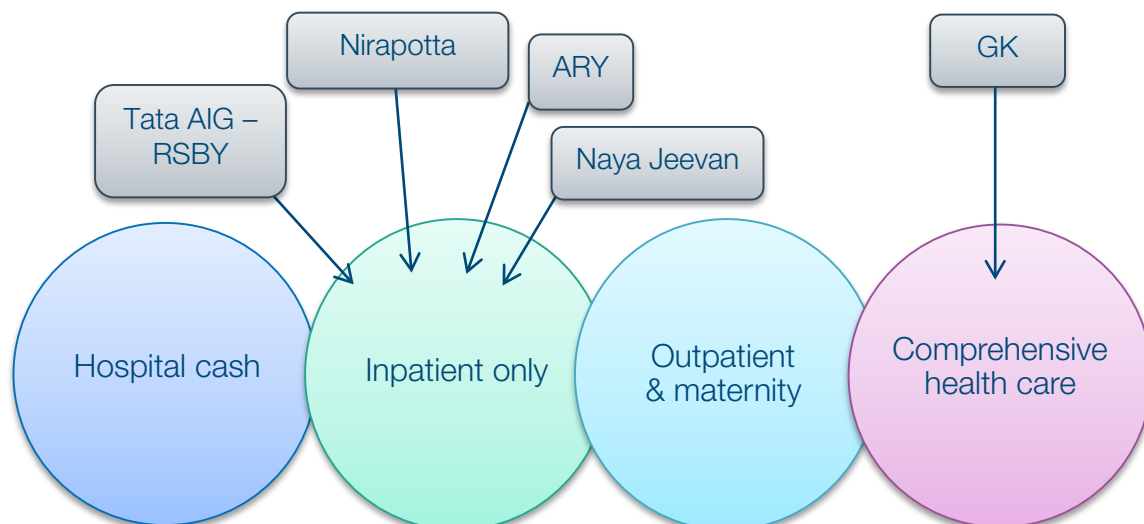
Table 1. Overview of HMI schemes analysed

	ARY	Tata AIG – RSBY	GK Shasthayabima	Nirapotta	Naya Jeevan
Underwriter(s)	HDFC-ERGO	% to Tata AIG	GK	SAJIDA	Various
Year started	2006	2009	1972	2006	2009
2012 Insured lives	3,048	2,200,000	501,572	526,845	7,240
2012 Written premium (US\$)	\$13,941	\$15,670,070	\$42,427	\$394,202	\$161,029
Insurer vs non-profit	Insurer	Insurer	Non-profit	Non-profit	Broker
Public vs private	Private with partner	Public/private	Private	Private	Private
Mandatory vs voluntary	Voluntary	Voluntary	Voluntary	Mandatory	Voluntary
Bundled with other products	No	No	No	Yes	No
Subsidized vs unsubsidized	Implied subsidy	Explicit subsidy	Cross-subsidy	Cross-subsidy	Cross-subsidy
Underwriting	None	None	None	None	None
Premium structure	Option 1 Annual INR 594 per life (US\$ 12.24) Add up to 6 lives at decreasing cost	Subscriber pays INR 30 (US\$ 0.62) for family up to 5 Remainder paid 25% state gov't 75% central Gov't Total varies by location INR 300-740 (US\$ 6.18-15.24)	Annual health cooperative premium varies by 6 social classes & smoker/non-smoker status Rural BDT 10–125 (US\$ 0.14–1.73) Service fees vary by service & 6 social classes Free to BDT 700 (US\$ 9.66)	Coverage for product with 5 components varies by MFI loan duration with Average BDT 300 (US\$ 4.14) Covers primary, spouse, + 3 kids Average additional member BDT 40 (US\$ 0.55)	Basic health plan Annual PKR 1,800 per person (US\$ 20.88) 2 optional riders: 1) Pre-ex coverage free for groups with 200+ lives, for <200 lives PKR 600 (US\$ 6.96) 2) Maternity PKR 600 (USD 6.96) US\$ 2 per person paid for VAS to NJWO
Co-pays or deductibles	None	None	Yes	None	None
Benefits	Surgical 1 major (> INR 12,000) 1 minor (< INR 12,000) Up to Option 1 INR 75,000 or Option 2 INR 100,000 annual max Hospitalization 3 day and INR 300 max. 3 free clinic visits Free medical consults Partner discounted Rx Discounted diagnostic	Hospitalization expenses up to INR 30,000 for family of 5 Transportation charge of INR 100 per visit, up to INR 1,000 max.	Comprehensive health care and medicine	Coverage for product with 5 components: Health, life, loan, education man-made disaster Fixed hospitalization benefit with min. 5 day stay, max. 2 per family per year, max. BDT 3,000 (US\$ 41.40) Free normal delivery Discounted diagnostic x-ray, & Rx	Basic health plan includes room & board with PKR 1,000 to 1,250 limit (US\$ 11.60–14.50) Hospital care up to PKR 50,000 (US\$ 580) with 20 days pre/post-hospitalization Major medical up to PKR 100,000 (US\$ 1,160) Various VAS
Enrolment method	Mobile/partner camp	Mobile/smart card	Paramedics	MFI	Agent
Claims	Cashless	Mostly cashless	N/A	Member pays cash then seeks reimbursement	Cashless
Provider	Network	Network	Own hospitals	Own hospitals	Network

Exchange rates: 1 Indian rupee (INR) = US\$ 0.0206; 1 Bangladeshi taka (BDT) = US\$ 0.0138; 1 Pakistani rupee (PKR) = US\$ 0.0116
VAS = value-added services; Rx = prescription drugs

As discussed in the Introduction, for the purposes of this study, HMI is viewed across a spectrum of products, which range from limited coverage hospital cash products to comprehensive health-care products. Based on the schemes' characteristics, Figure 3 displays in general where each of the five schemes analysed falls along the HMI product spectrum.

Figure 3. HMI schemes analysed and their place on the product spectrum



3.1. ARY – HDFC-ERGO

HDFC-ERGO General Insurance Company Limited is a 74/26 joint venture between HDFC Limited, an Indian housing finance institution, and ERGO International AG, the primary insurance entity of the Munich Re Group. HDFC-ERGO has a strong presence in key rural Indian markets, and launched the ARY HMI scheme in 2006. During 2012, the ARY scheme represented less than 3 per cent of HDFC-ERGO's total written premium.

The ARY scheme is voluntary, with premiums paid by subscribers without any explicit subsidies. The scheme offers inpatient medical treatment and hospitalization cover at empanelled hospitals offering HDFC-ERGO discounted services with maximum day and coverage limits. ARY also offers one major and one minor surgical procedure each year at empanelled hospitals, as well as three free clinic visits, free medical consultations, discounted diagnostic services, and discounted prescription drugs.

In early 2009, HDFC-ERGO approached the Biocon Foundation about partnering with HDFC-ERGO as part of Biocon's corporate social responsibility (CSR) initiative. This partnership has proven to be transformative for the scheme. At no explicit cost to HDFC-ERGO, Biocon runs educational and preventive health camps in each village, and it also markets the ARY scheme to villagers and enrolls them in it. In addition to free enrolment services, Biocon offers ARY members up to three free annual health check-ups at Biocon clinics, free medical consultations, and discounted medicines and diagnostic services. These implicit subsidies allow the ARY scheme to run an extremely low overall expense ratio.

In 2009, HDFC-ERGO and Biocon shared an investment cost of roughly INR 250,000 (US\$ 5,150) in mobile enrolment technology. This technology has improved the efficiency, and reduced the cost, of the enrolment process. The ARY scheme is technically written on a group basis, the group being a village. In addition to Biocon's efforts, enrolment is fostered by word-of-mouth testimonials from people who have used the ARY programme. To achieve a better spread of risk and prevent adverse selection, HDFC-ERGO aims to enrol 30 per cent or more of a village's residents. Enrollees receive an ARY card, which allows them to have claims processed at empanelled hospitals on a cashless basis. These cashless claim payments help reduce ongoing administrative costs and fraud. Claim payments are made by HDFC-ERGO's in-house third-party administrator.

After the start of the Biocon partnership in 2009, the scheme's covered lives grew dramatically for a period of time, but so too did the claims ratio, which resulted in financial losses. In order to get the claims ratio under control, HDFC-ERGO actually ceased ARY sales for a period of time in 2011 to revise the product. While the scheme had annual premiums of approximately INR 66 (US\$ 1.35) per life in 2009, this

had been increased to INR 156 (US\$ 3.22) by 2012. Originally coverage was allowed for the primary insured plus nine additional family members, but to control adverse selection this has since been limited to the primary insured plus six additional family members (spouse, children or dependent parents). HDFC-ERGO has increased the coverage limits on major and minor surgery, but after discussions with empanelled hospitals they revised costs on common procedures like maternity care, hernia treatment and appendectomy, as well as eliminating coverage for less common diseases. This increase in premiums and change in benefits has brought the claims ratio down to favourable levels, resulting in financial profitability for the scheme, but the number of insured lives has declined substantially.

3.2. TATA AIG – RSBY

In 2009 the Government of India's Ministry of Labour and Employment launched the RSBY HMI scheme, aimed at Indian families identified on the census as being below the poverty line (BPL). This scheme is considered a compelling example of a public-private partnership. It provides hospitalization expenses up to an annual limit of INR 30,000 (US\$ 618) for a family of five. In addition, transportation expenses of up to INR 100 (US\$ 2.06) per visit and INR 1,000 (US\$ 20.60) per year are provided through the scheme. While the RSBY scheme has recently piloted the addition of outpatient benefits, these pilot programmes are not considered in this paper.

The RSBY scheme is voluntary, with a nominal INR 30 (US\$ 0.62) paid annually by a subscriber to cover a family of five. In addition to this, the state governments and central Government combine to explicitly subsidize the subscriber's premiums by paying premiums directly to selected insurers. For most regions in India the state government pays 25 per cent of the premium while the central Government pays 75 per cent. In Jammu, Kashmir and some north-eastern regions the state government pays 10 per cent while the central Government pays 90 per cent.

The central Government sets the hospital reimbursement rates, while insurance carriers submit competitive bids to underwrite a portion of the overall RSBY scheme for a 3-year period.

Enrolment costs for the programme are kept low through mass enrolments that use portable enrolment technology. With substantial explicit premium subsidies and efficient mass enrolment, the RSBY scheme has achieved scale rapidly, with over 35,000,000 active smart cards issued to members of the Indian BPL community. (Note: This number represents the entire RSBY scheme, not just Tata AIG's portion.) Smart cards are issued for identification purposes as well as cashless claim payments at participating hospitals. As with the ARY scheme, these cashless claim payments help reduce ongoing Tata AIG – RSBY administrative costs.

Since the inception of the RSBY programme, data related to it have been retained in a central repository, which facilitates study and analysis. Given its unique public-private partnership structure, as well as its sheer size, much has been written about the scheme. For information on the overall programme, the interested reader should reference Shoree et al. (2014).

Tata AIG General Insurance Company Limited is a 74/26 joint venture between the Tata Group, an Indian conglomerate, and American International Group, Inc. (AIG), a US-based multinational insurance company. In 2009 Tata AIG bid, and was selected, to be one of the underwriters of the RSBY scheme. The total annual premium paid to Tata AIG for a family of five varied by location, and ranged from INR 300 to INR 740 (US\$ 6.18 to 15.24). During 2012, the RSBY scheme represented roughly 4 per cent of Tata AIG's total gross written premium. Over this paper's study period Tata AIG was a 5 to 10 per cent participant in the RSBY scheme. Throughout this paper any reference to the Tata AIG – RSBY scheme is related solely to Tata AIG's participating share; results should not be viewed as representative of other participating carriers, or the RSBY programme as a whole.

Tata AIG noted a couple of key items when discussing its experiences with the RSBY scheme. The first

was their difficulty in enrolling subscribers using outdated BPL lists, as well as contending with people who had moved or could not be located. This difficulty with the BPL lists is corroborated in the findings of Shoree et al. (2014). Secondly, Tata AIG noted concern that with the RSBY scheme having favourable experience in its early years (including Tata AIG's portion, which has experienced gains during each year of the study), insurers may be tempted to submit inappropriately low bids in the future to be awarded participation in the scheme. This could represent a classic insurance-underwriting cycle, where several carriers enjoy profits, competitors lower their prices to enter the market, financial losses ensue, several carriers drop out, and the remaining carriers increase prices to restore profitability. Only time will tell if this will be the case for the Tata AIG – RSBY scheme.

3.3. SHASTHAYABIMA – GONOSHASTHAYA KENDRA

Gonoshasthaya Kendra (GK) is a not-for-profit community-based health organization in Bangladesh. GK operates a voluntary, comprehensive HMI scheme that can trace its roots to the organization's origins in 1972, soon after Bangladesh achieved independence. In addition to Shasthayabima, its HMI scheme, GK offers education, women's empowerment, agriculture, disaster management, seasonal credits and advocacy as part of its broader not-for-profit "direct services". GK also runs several commercial ventures, such as health care (for example, the manufacturing of finished and raw pharmaceutical materials), production of textile goods, a printing press, nutrition and education. These other ventures have been an important factor in the sustainability of GK's HMI programme, as profits from them have subsidized losses on its HMI scheme.

Shasthayabima is unique among the schemes analysed for this paper. It is the only scheme to offer comprehensive coverage including preventive medicine, maternity care, curative services, hospitalization, surgery, diagnostic services and medicines. GK charges annual premiums that vary by location (urban, rural near a city, distant villages and remote river islands), smoker vs non-smoker status, and six socio-economic classes (destitute, ultra-poor, poor, lower middle class, middle class, and rich) (see Box 2). This premium structure mimics structures in more developed health insurance markets, where the premium varies according to the geographic and health-status risk of the client.

Inherent in GK's premium structure are explicit subsidies based on socio-economic status (that is, the wealthier members' premiums subsidize the lower-income members' costs). While this concept is good in theory, GK admits that they have not attained enrolment numbers from the wealthier population as anticipated. Wealthier citizens either self-insure or request more and fancier services than GK can reasonably offer. Currently the destitute and ultra-poor make up a little over 5 per cent of GK's clientele, the poor make up 64 per cent, the middle class make up 30 per cent, and the rich less than 1 per cent. While GK currently insures over 500,000 lives, which is a reasonably large "scale" by HMI standards, they believe this is only a fraction of the possible target population.

GK is the only scheme analysed that uses extensive member cost-sharing to keep premiums low and have some of the cost of services borne by the members that use the services. Cost-sharing varies by service and socio-economic status. Preventive services, childbirth at home with traditional birth attendants and elderly/disabled care are provided without cost-sharing, but curative services, doctor visits and medication require cost-sharing; although the lowest-income populations still receive these services without paying. Members pay for the cost-sharing through a mix of service fees and coinsurance requirements. See Tables 1 to 4 in Chowdhury and Kadir (2012) for detailed premium and cost-sharing structures.

As with Biocon's health camps for the ARY scheme, GK uses "paramedics" as front-line enrollers and primary health-care workers in rural areas. These paramedics are mainly young women trained to cycle into rural villages to handle enrolment along with basic preventive, maternity and curative services. In addition, GK operates its own clinics and hospitals in several areas in order to provide more substantive

health services. Using paramedics and owning clinics and hospitals have allowed GK to better control health-care costs.

GK's presentation of financial information for this study was somewhat different from that of the other schemes. GK does not report "claims paid" per se; rather its financial statement consists of income (revenue) received from premiums or member cost-sharing, minus outgoings, which gives the total of all costs to provide required health-care services to its members. Over the period studied, GK reported a loss in each calendar year. These losses have been subsidized by gains from GK's commercial operations.

BOX 2. The impact of religious beliefs on sustainability

Cultural upbringing and religious beliefs can have an impact on the choices a person makes. GK's founder, Dr Zafrullah Chowdhury, conveyed interesting observations on how religious beliefs have affected the sustainability of GK's HMI scheme. GK's target population in rural Bangladesh is predominantly Muslim, and GK has missed out on some HMI sales (which affects their ability to achieve scale) because of the belief that "Allah will provide". On the other hand, GK has used religious beliefs to help lower infant mortality rates among their HMI members. GK identified the need for better hygiene for traditional birth attendants during their assistance with the birthing process. GK began to explain to the birth attendants that washing their hands before helping with this was akin to washing before their daily prayers. This religious analogy made sense to the attendants, and GK has tracked a lower infant mortality rate since that time (lowering GK's overall HMI claims costs).

3.4. NIRAPOTTA – SAJIDA FOUNDATION

SAJIDA Foundation is a not-for-profit, non-governmental organization and microfinance institution (MFI) based in Bangladesh. It operates a compulsory microinsurance scheme, the only mandatory scheme in this study, called Nirapotta. The Nirapotta product must be purchased by all SAJIDA's microcredit borrowers. The product is a bundle of five distinct benefits:

1. **Health:** A fixed hospitalization benefit, with benefits that vary by health service category. A minimum 5-day continuous stay is required before hospitalization benefits are payable, with a maximum of two claims per hospitalization benefit category per family per year. The health benefit will pay a maximum of 3,000 Bangladeshi takas (BDT) (US\$ 41.40) per benefit per year (total limit of BDT 6,000 / US\$ 82.80). Insured members get free normal birth delivery and cataract operations when done at one of the two SAJIDA-owned hospitals. General physicians are also available for free consultations at SAJIDA hospitals. Insured members also get a 30 per cent discount on diagnostic services, a 10 per cent discount on x-rays and medication, and other services at subsidized rates from SAJIDA hospitals. Health benefits cease at the age of 70.
2. **Life:** A BDT 4,000 (US\$ 55.20) benefit is paid upon the death of the policyholder or spouse.
3. **Loan:** The outstanding SAJIDA MFI loan balance is waived, up to a maximum of BDT 39,000 (US\$ 538.20).
4. **Man-made disaster:** A BDT 10,000 (US\$ 138) benefit will be paid to cover damage or destruction to the policyholder's home, workplace or tools caused by fire.
5. **Education:** While not an insurance benefit, one child per family is eligible for an educational scholarship, up to BDT 500 (US\$ 6.90) per month, provided that the child is age 11 onwards and maintains satisfactory progress.

In addition to the product's insurance benefits, Nirapotta also includes value-added services such as community health workers (known as "SAJIDA Bondhu" – Friends of SAJIDA), legal consultation and referrals and psycho-social counseling. The community health workers promote overall health awareness along with providing basic preventive, diagnostic, curative and referral services. They focus mainly on maternity and child health care. The SAJIDA Bondhu are similar to GK's "paramedics" mentioned above. Conceptually the efforts of these community-based workers should result in lower health claim incidence rates, although this is difficult to quantify and prove.

Premiums for the product are paid up front at the start of the loan term, and vary based on the term of the loan (BDT 150 / US\$ 2.07 for 3–9-month loans, BDT 300 / US\$ \$4.14 for 12-month loans, and BDT 450 / US\$ 6.21 for 18–24-month loans). The base premium covers up to five family members, but extra family members can be added for additional premium. The term of the average loan is 12 months, and coverage ceases at the end of the term. Many borrowers take out a new loan after repaying the previous one, so their Nirapotta coverage continues with little interruption.

Although SAJIDA does have a breakdown of premiums for each benefit, since inception the product has contained and was priced as a package. SAJIDA tracks claim payments by benefit category, and Table A3 in Appendix I displays health claims as a percentage of overall Nirapotta claim payments. The health component of the product has grown to represent almost 50 per cent of total claims paid.

Table A3 also shows that the total claims ratio has increased over the study period, and profits have decreased year by year to the point that the Nirapotta product showed losses in 2011 and 2012. These losses were subsidized by gains from SAJIDA's loan portfolio. Hence this cross-subsidy was coming from profits on the same pool of lives. Given the increase in the total claims ratio and the growth in health claims as a percentage of total claims, in mid-2012 SAJIDA implemented premium increases (from BDT 250 to BDT 300 on 12-month loans) and increased the required minimum continuous hospital stay from 3 to 5 days before hospitalization benefits are payable. In follow-up conversations, SAJIDA noted that these changes accomplished the goal of lowering the claims ratio and increasing profitability.

Nirapotta members must pay cash up front for health-care services and then seek reimbursement from SAJIDA. The efficiency of the programme was improved dramatically when SAJIDA changed their process from requiring members to be reimbursed at a central location to allowing reimbursement at the insured's local branch. According to SAJIDA's management, the technology infrastructure is not yet in place in Bangladesh to allow a pure cashless system.

Making this a mandatory product has allowed SAJIDA to achieve relatively large scale, with over 500,000 lives currently insured. The obstacle to achieving even larger scale is that growth in the Nirapotta product is directly tied to SAJIDA's ability to increase their loan base. Microfinance is a highly competitive business in Bangladesh, and virtually all loans have some level of mandatory extras (insurance benefits, value-added services, and so on). Paying for these mandatory extras is part of the cost a low-income person has to pay to receive the loan. Competition constrains how much can be charged for these extras, with borrowers simply taking their business elsewhere if the cost is too high. Recently SAJIDA has had some actuarial studies done to determine what they should be charging for the total Nirapotta product in order to achieve profitability, but they believe it is not feasible to increase the premiums to the levels needed without adversely impacting the size of their loan portfolio.

Nirapotta members made positive comments about SAJIDA-owned hospitals. Other research has indicated there may be adverse ramifications of bundling HMI products with loans, especially when claims servicing is poor (Banerjee et al., 2014).

3.5. NAYA JEEVAN

Naya Jeevan Health Quest Pvt. Ltd (Naya Jeevan) is a for-profit social enterprise that launched its operations in Karachi, Pakistan, in August 2008. Initially, the entity existed as a non-profit structure under the legal name of Naya Jeevan Welfare Organization, and launched the Naya Jeevan Health Plan in June 2009. After establishing proof-of-concept of the social business model, and in the interests of scaling up its health insurance programme for low-income workers, Naya Jeevan separated legally and financially from the Welfare Organization. It established itself under a new legal name of Naya Jeevan Health Quest in October 2012, and registered itself with the Securities and Exchange Commission Pakistan as a licensed insurance brokerage under Section 102 of Pakistan's Insurance Ordinance 2000. At the time of the separation, historical financial statements were recast and separated between the two organizations. The information in this paper only represents the operations and financial affairs of the broker (intermediary). Naya Jeevan Welfare Organization (NJWO), now an independent but affiliated entity of Naya Jeevan, provides a variety of essential services to Naya Jeevan, including a package of value-added services to its members.

Naya Jeevan is unique among the schemes in this study in that it is an insurance intermediary, rather than a financial-risk-bearing organization. It aggregates groups of low-income individuals from the formal and informal sectors into blended risk pools, and then negotiates commercial group health insurance (not specifically HMI) from various insurers. The low-income individuals covered by the Naya Jeevan product come from three main target populations.

1. Informal domestic workers, such as cooks or drivers (accessed via managers and executives of large multinational corporations who subsidize the health care of the informal workers in their households)
2. Low-income employees at small or medium enterprises, such as factory workers or restaurant staff
3. Low-income workers within corporate value chains, such as suppliers, distributors or small retailers.

Another unique attribute of this scheme is that the sponsor of the low-income worker pays most or all the premium for the worker that they employ or have a strategic business relationship with. The sponsor may choose to pass on a portion of the premium cost to their low-income employee through payroll deduction or deduction from informal cash wages. In many respects, Naya Jeevan's funding mechanism is a realization of the conceptual remarks made by GK's Dr. Zafrullah Chowdhury (described in Box 1) concerning how HMI schemes could be viewed as sustainable when funded by employers or individuals who derive economic value from a low-income worker remaining healthy.

Given the purchasing power of the pool, Naya Jeevan is able to negotiate a significantly lower premium than any one group of low-income individuals could achieve on their own. Naya Jeevan's health product is also unique in that the premium level is not directly tied to the means of the low-income person, but rather it is tied to the ability of the well-funded sponsor to pay. As can be seen in the top graph in Figure 10, "HMI annual premium per insured life", Naya Jeevan's premium per life is substantially greater than equivalent figure for the other schemes in this study.

The Naya Jeevan health product provides members with cashless services at over 260 high-quality, private hospitals across Pakistan. The basic health plan covers all day procedures (for example, colonoscopy) and all hospitalizations, including room and board, with a room limit of Pakistani rupees (PKR) 1,000 per day to 1,250 per day (US\$ 11.60 per day to 14.50 per day). Outpatient coverage associated with a hospitalization (for example, pre-operative consultations, medication, imaging/lab tests,

post-surgical rehabilitation, and so on) are covered for up to 30 days pre/post-hospitalization with an additional limit per person per year of PKR 50,000 (US\$ \$580). The product also has an additional major medical care limit per person per year of PKR 100,000 (US\$ 1160) yielding a cumulative annual coverage limit of PKR 150,000 per person per year for hospitalizations for major medical events (for example, heart attacks, strokes or major trauma). If a group has 200 or more beneficiaries, pre-existing conditions are also covered without a surcharge. For smaller groups, pre-existing conditions can be covered by purchasing an optional rider for PKR 600 (US\$ 6.96) per person per year. Maternity care can also be covered by purchasing an optional rider that costs PKR 600 (US\$ 6.96) per person per year. The maternity care rider has annual coverage limits between PKR 10,000 per year and PKR 35,000 per year (US\$ 116 per year and 406 per year) that can vary by type of delivery, normal vs C-section or multiple births, and is also subject to a 10-month waiting period after enrolment.

In addition to Naya Jeevan's insurance benefits, members also receive extensive value-added services that cost US\$ 2 per person per year. The services include²⁵ intensive, on-site claims orientation and training workshops, a 24/7 "family doctor" tele-health line, targeted preventive health education sessions, and an initial health risk assessment of insured beneficiaries, with anonymized, workforce group "risk profile" reports provided to employers.

From a financial perspective, Naya Jeevan negotiates the premium with insurers to insure the group sponsors it represents, and then collects value-added service fees from these sponsors for non-insurance health services (for example, preventive health care, telemedicine, etc.). What the sponsors typically pay is still less than what they would pay if they went directly to insurers. Naya Jeevan's premium "margin", displayed as "Other income" in Appendix I – Table A5, is roughly 15 to 20 per cent of total premium collected. In addition, the insurers pay Naya Jeevan a 10 per cent brokerage commission from their earned premium. The premium margins generated from sponsor contributions and the broker commission fees constitute Naya Jeevan's operating revenue, from which it must pay NJWO for value-added services and cover its own operating expenses.

Naya Jeevan experienced financial losses each year of the study period, but the scheme also experienced strong compound annual growth, which helped offset brokerage operating expenses, and allowed the financial losses to decrease year by year. These historic losses have been subsidized by grants from donor organizations.

Achieving scale is Naya Jeevan's key objective in its bid to become more sustainable. As such, the insurance intermediary continues to seek alternative distribution channels, niche markets, and sponsoring organizations with larger numbers of potential beneficiaries. Naya Jeevan is also seeking equity partners to help finance its growth.

Given that Naya Jeevan's participating insurers were not direct contributors to this study, a complete picture of financial results from the insurers' perspectives cannot be provided. The aggregate insured claims ratio for the scheme is displayed in Appendix I – Table A5. As can be seen, the claims ratio has increased dramatically from 50 per cent in 2010 to 96 per cent in 2012, although the claims ratio has been reported by Naya Jeevan to decline again to 71 per cent in 2013. Participating insurance underwriters have increased their premiums, which has put pressure on Naya Jeevan to incorporate less margin into the premium ultimately paid by the sponsors.¹

¹ For more information, see Naya Jeevan Learning Journey (2014), Holtz and Merry (2014) and Kazi et al. (2014).

4. DRIVERS OF SUSTAINABILITY

This study uses the framework presented by Angove and Tande (2011) and Angove and Dalal (2014) for assessing microinsurance profitability. As shown in Figure 2, profitability is one component to be considered along the HMI sustainability spectrum. The other element is the use of subsidies; each of the schemes uses a form of explicit or implicit subsidy. This study starts with the previous papers' three main drivers of profitability but also adds the assessment of an HMI scheme's use of subsidies. Therefore the framework used to assess HMI sustainability is based on four drivers: (1) achieve scale, (2) control claims costs, (3) manage expenses, and (4) use subsidies.

Table 2. Framework for sustainability (adapted from Angove and Dalal, 2014)

Drivers	Achieve scale (new customers and renewals)	Control claims costs	Manage expenses	Use subsidies
Strategies	<ul style="list-style-type: none"> Partner with existing groups, including governments Design appropriate products (and allow them to evolve) Price products appropriately Balance sales, servicing and retention Use effective enrolment processes efficiently 	<ul style="list-style-type: none"> Price for the risk Manage adverse selection and claims fraud Manage claims volatility and co-variant risk 	<ul style="list-style-type: none"> Efficiently use existing infrastructure, distribution systems and resources Invest in simple processes and efficient technology 	<ul style="list-style-type: none"> Cross-subsidize losses with profits from affiliated commercial activities of the HMI provider Cross-subsidize premiums between classes of insureds Provide explicit premium subsidies from a government or donor Use implicit subsidies from a partner
KPI*	<ul style="list-style-type: none"> Covered lives/policy volumes Premium volumes Retention ratio 	<ul style="list-style-type: none"> Claims ratio (including claims expenses) 	<ul style="list-style-type: none"> Acquisition expense ratio Administration cost ratio 	<ul style="list-style-type: none"> Profit ratio is a by-product of favourable KPIs for the first three framework measures combined

*The KPIs have been calculated from the detailed financial information for each scheme found in Appendix I.

4.1. ACHIEVE SCALE

"Achieving scale is a significant success factor for microinsurance schemes, as low premiums with high costs require substantial volumes to make an initiative sustainable" (Thom et al., 2014, p. v). Strategies for achieving scale involve forming partnerships, designing appropriate products, requiring mandatory participation, pricing the products appropriately, and balancing new business sales with customer retention.

Covered lives and premium volumes and the compound annual growth rate (CAGR) are KPIs of scale. Figures 4 and 5 present the growth in each scheme's insured lives and gross earned premium volume over time. Given the material size differences between the HMI schemes, each scheme has been displayed with its own graph in order to avoid any distortion in trends caused by scaling all plans to one graph. Strategies behind or causes of the observed trends are discussed after Figure 5.

Figure 4. Growth in insured lives

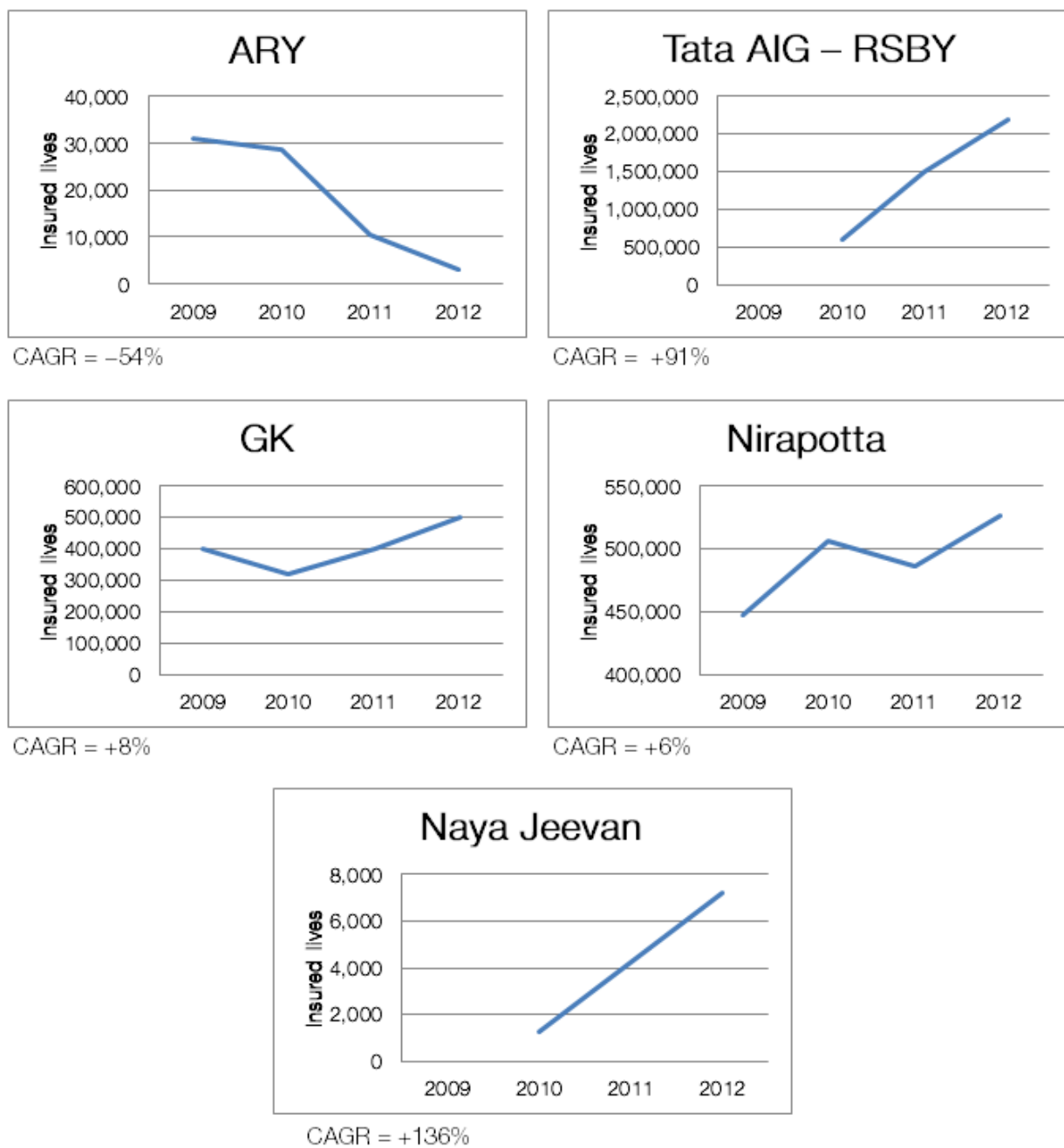
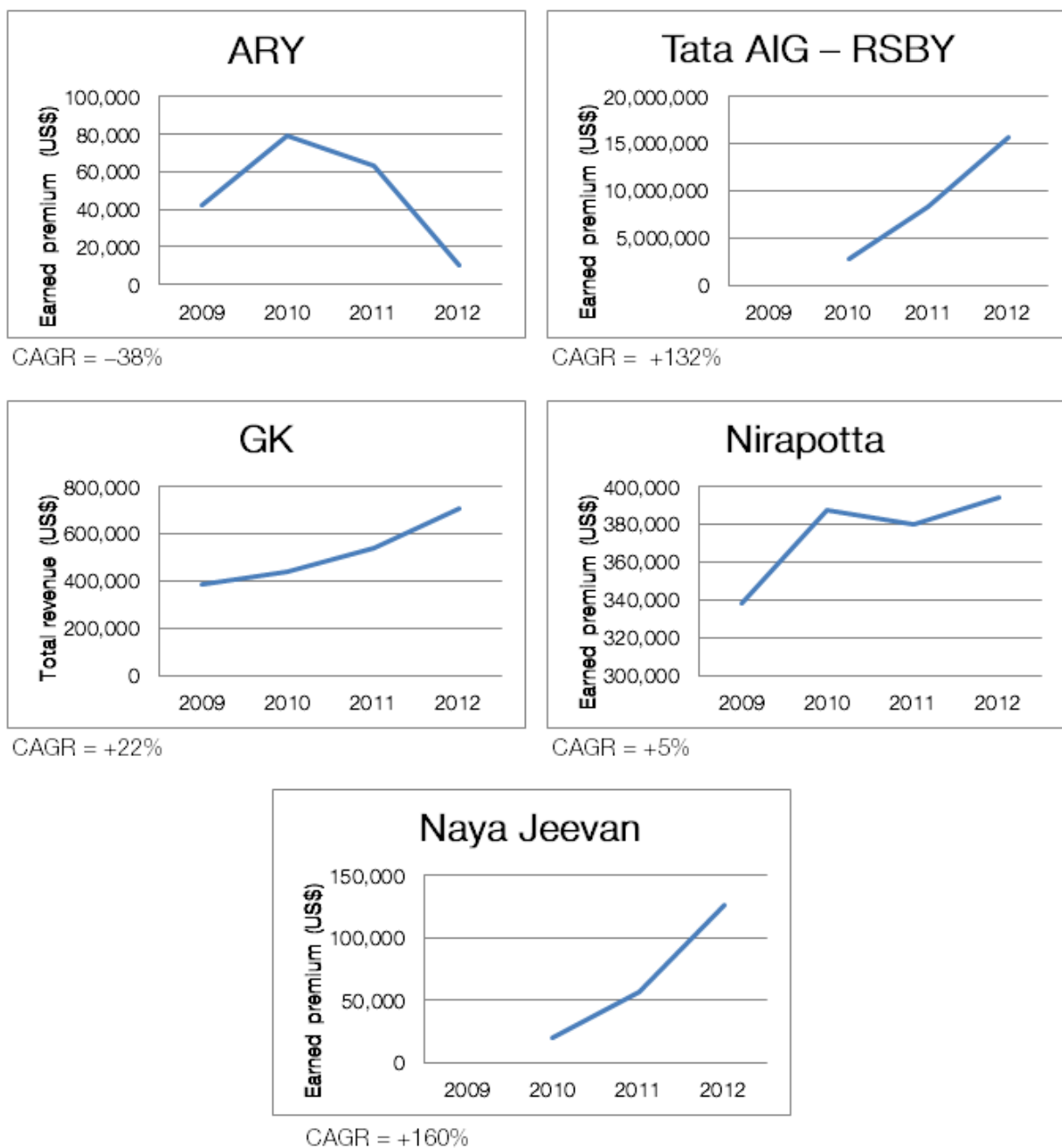


Figure 5. Growth in gross earned premium volume



A scheme’s retention ratio – that is, how many customers stay with the scheme over time – is another KPI for achieving scale. Unfortunately the data provided by the schemes in this study did not allow for a calculation of retention ratios. An example of the difficulty in calculating this metric comes from HMI schemes tied to MFI loans. The HMI coverage typically ends when the loan is repaid, with the loan repayment period being a relatively short period of time. While the low-income person often reapplies for a new loan, this is considered “new” HMI coverage from the scheme’s standpoint, and does not lend itself to the calculation of a correct retention ratio. Creating and maintaining a historical HMI client database would be one method of overcoming this KPI reporting deficiency.

4.1.1. KPI OBSERVATIONS AND TRENDS

For the most part the graphs and trends are consistent for each scheme, whether looking at the scheme’s growth in insured lives or in earned premium volumes. The one exception is the growth in ARY’s premium from 2009 to 2010, which is the beginning of a decline in insured lives for the scheme.

While the ARY scheme has many positive sustainability attributes, it is exhibiting *negative* growth, with a trend away from any meaningful scale. The increase in premiums per life coupled with changes in plan design helped the scheme return to financial profitability, but at the expense of achieving scale.

The Tata AIG – RSBY scheme has achieved the largest scale of any scheme in this study by a wide margin, and is exhibiting a significant CAGR. The extreme scale of this programme is driven by the explicit central/state government premium subsidies, and the public–private partnership model with competition between multiple underwriters and service providers, as well as a very large target population. Of all of the schemes in this study, and for the reasons stated, the Tata AIG – RSBY stands the best chance at continued sustainable growth and scale. As mentioned previously, outdated BPL lists are the main obstacle to even greater growth.

The GK scheme is the oldest HMI scheme in this study. It has achieved relatively large scale, and continues to show a modest CAGR. Given the scheme’s unique premium charging structure and cost-sharing features, GK’s graph in Figure 5 contains the scheme’s total revenue, not just earned premium. The scheme has the potential for even greater scale if it increases its penetration of the low-income population in urban areas, expands geographically by opening new hospitals, considers empanelling other health-care providers, or is able to secure a contract to provide HMI to a large trade organization such as a garment factory. Any material increase in scale would have to be weighed against the scheme’s ability to make a financial profit. If larger scale translates into larger losses, it is unclear if GK’s commercial ventures have the ability to subsidize even greater HMI losses.

The other Bangladeshi scheme, run by SAJIDA, is similar in size, and has experienced similar growth rates to the GK scheme recently. However, unlike the GK product, Nirapotta is a mandatory purchase tied to a loan, and the growth rate is constrained by SAJIDA’s ability to increase its loan base. As discussed in Box 3, SAJIDA is actively pursuing growth through other channels, including voluntary product offerings not tied to a loan.

BOX 3. Product innovations to increase sustainability

Given the constraints associated with the Nirapotta product being a mandatory purchase with SAJIDA’s microfinance loans, SAJIDA is exploring several new product innovations in order to enable their HMI business to grow. Options being explored include a non-mandatory packaged product for microenterprise (small business) loan borrowers, a packaged product to include health and education for people who have savings accounts with SAJIDA, and a voluntary HMI product for previously non-insured people who have used SAJIDA’s hospitals.

Given the start-up nature of its product, Naya Jeevan has exhibited dramatic growth over the last few years. This large growth rate still only translates into a modest number of covered lives and total earned premium. Continued strong growth and achieving even greater scale are keys to Naya Jeevan becoming sustainable. As mentioned above, the insurance intermediary continues to seek alternative distribution channels, niche markets and sponsoring organizations with larger numbers of potential insureds. Naya Jeevan is also seeking equity investors to help finance its growth.

4.2. CONTROL CLAIMS COSTS

Controlling claims costs is key to the long-term viability of any insurance product. At a basic level, claims costs are based on the frequency of a claim occurring and the claim amount to be paid. For a simple product like life insurance, the claims cost is the probability of a person dying multiplied by the death benefit to be paid. The components of HMI claims costs are not as simple.

The frequency of a HMI claim is more than just the probability of a person becoming sick or injured; it also depends on a doctor's request or authorization for services as well as the length of stay in a hospital if admitted. HMI benefits – that is, the claim amounts to be paid – can be structured as a fixed indemnity amount or based on actual expenses incurred. Member cost-sharing features, such as deductibles and co-payment, can be used to restrict service use and claim payouts. Benefit limits such as a maximum payout or maximum length of hospital stay can be imposed to control costs. Certain frequently used or high-cost benefits, such as outpatient care and maternity services, may be excluded altogether from a policy. HMI claims costs can also be controlled through negotiated service provider discounts or through direct control/ownership of the provider supply chain.

Adverse selection, when a person selects against an insurance company by purchasing an insurance product in order to receive payment for known or perceived higher claim risks, is a very real risk that affects claims costs within health insurance (Box 4).

BOX 4. Adverse selection, underwriting and pent-up demand within HMI schemes

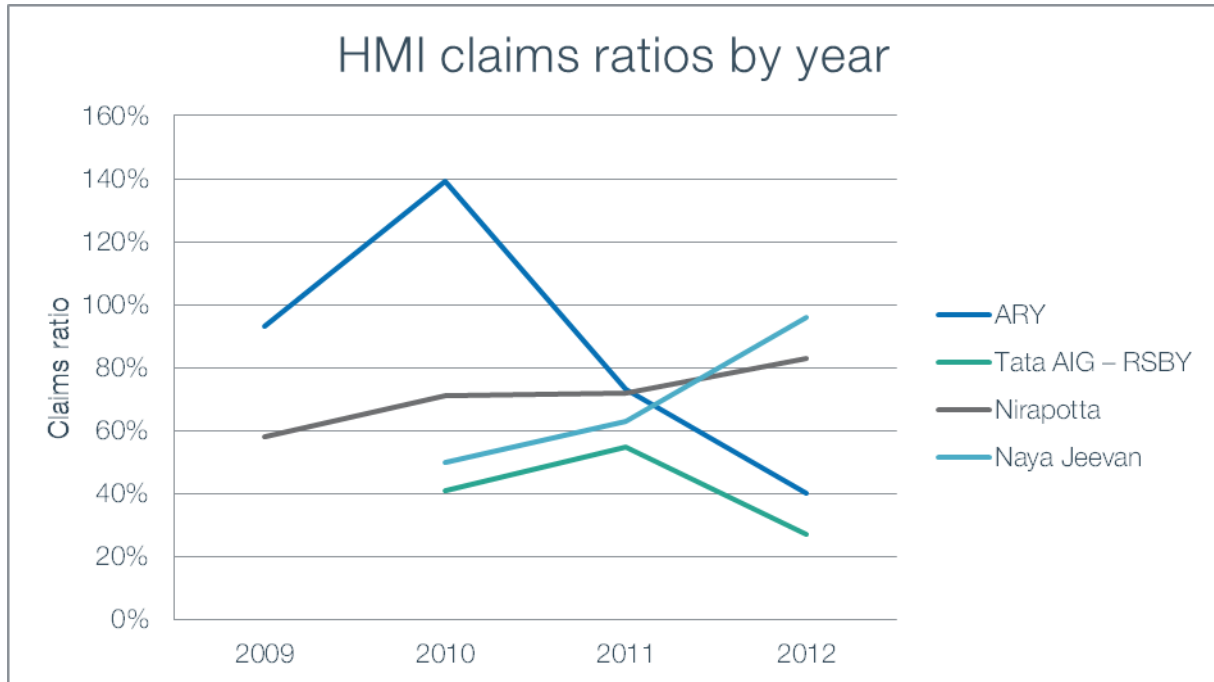
In some markets, if not prohibited by regulation, health insurers will attempt to control adverse selection risk and the overall premium charged by underwriting the applicant's health status and only accepting healthier lives. This process can often limit coverage options for the people who need health insurance the most. None of the HMI schemes in this study underwrite individual applicants. This lack of underwriting reduces HMI acquisition costs and helps achieve scale through a larger pool of covered lives, but these positive sustainability attributes are offset to some degree by including higher claim cost individuals (negative sustainability attributes) in the overall HMI scheme.

A related topic is possible adverse selection from pent-up demand for health-care services from HMI scheme members who were previously uninsured or under-insured. This pent-up demand can lead to increased claims costs via higher service use and higher cost of services since health problems may have worsened while people were uninsured because of the lack of timely health-care interventions.

While it is beyond the scope of this paper to quantify the impact of adverse selection on the HMI schemes analysed, adverse selection is a real risk that impacts overall HMI sustainability.

As defined in Appendix I, claims ratio is a scheme's incurred claims divided by its earned premiums. A scheme's historic claims ratio is the best aggregate-level KPI for assessing the control of claims costs. Each scheme's historic claims ratio, except for that of GK, is presented in Figure 6 below. As mentioned earlier, GK does not report "claims paid" per se; rather its financial statement consists of income (revenue) received from premiums or member cost-sharing, minus outgoings, which is the total of all costs of providing required health-care services to its members.

Figure 6. Claims ratios



4.2.1. KPI OBSERVATIONS AND TRENDS

A straight average of all schemes' claims ratios from 2010 to 2012 yields an average claims ratio of around 68 per cent. In many insurance markets this would be viewed as a reasonable claims ratio, with over two-thirds of each dollar of premium being returned to the benefit of the customer.

All of the schemes in this study either own providers and hospitals or partner with them in order to control service use and costs.

Naya Jeevan's claims ratio increased each year of the study. As a result, the programme's participating insurers have increased the premiums charged to Naya Jeevan, which has put pressure on Naya Jeevan to lower the margin added to the premium ultimately paid by the sponsors. Controlling the claims ratio will be key to the long-term viability of this scheme. Naya Jeevan reported that its claims ratio for 2013 had declined from 96 per cent to 71 per cent.

The health component of the Nirapotta product has grown to represent almost 50 per cent of total claims paid. The total claims ratio increased over the study period, and profits decreased year by year to the point where the Nirapotta product showed losses in 2011 and 2012. These losses were subsidized by profits from SAJIDA's loan portfolio. Given the increase in the total claims ratio and the growth in health claims as a percentage of total claims, in mid-2012 SAJIDA implemented premium increases as well as increasing the required minimum days of continuous hospital stay before hospitalization benefits were payable. In follow-up conversations, SAJIDA noted that these changes had resulted in a lower claims ratio and increased profitability.

Through experience monitoring, HDFC-ERGO recognized that the ARY scheme's claims ratio was increasing from 2009 to 2010. The company ceased selling the product for a while in order to increase the premiums and change the plan's benefit design. These changes reduced the claims ratio to favourable levels, resulting in financial profitability for the scheme, but to the detriment of the number of insured lives covered.

Tata AIG's claims ratio for the Tata AIG - RSBY product is the lowest of any of the claims ratios in the study. According to Shoree et al. (2014), many insurance companies participating in the RSBY scheme

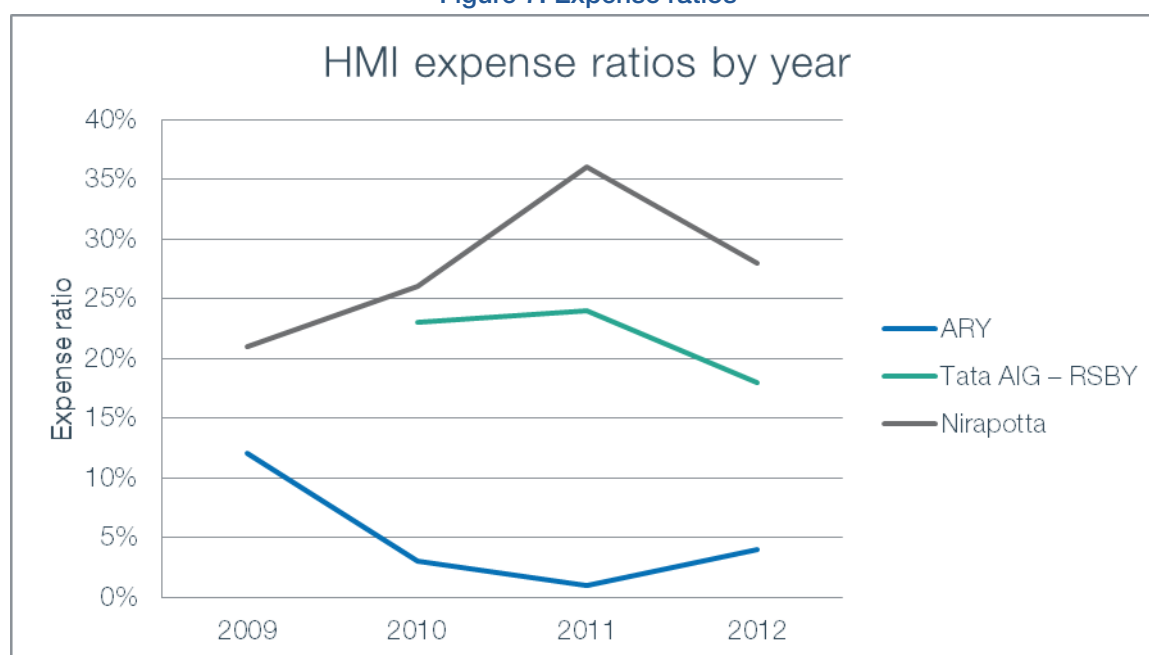
have experienced claims ratios higher (sometimes much higher) than Tata AIG. It is unclear why Tata AIG has experienced such favourable claims ratios compared to other insurers participating in the scheme. It is possible this might be explained by low enrolment penetration or lack of programme maturity in the districts where Tata AIG underwrites the RSBY scheme. As noted by Tata AIG, this favourable claims ratio may tempt other insurers to submit unsustainably low bids in the future in order to gain market share and win the right to participate in the scheme. Only time will tell if this is the case.

4.3. MANAGE EXPENSES

Expenses can be broadly categorized as start-up, acquisition or management expenses. Furthermore they can be defined as “variable”, that is, varying in direct proportion to the amount of business sold, or “fixed” and independent of the amount of business sold. The management of fixed expenses is typically one of the key drivers of an HMI scheme’s sustainability. Unless a scheme achieves scale quickly, it will often struggle to earn sufficient premium to cover fixed expenses. Multi-line insurance companies or non-profit organizations with other commercial operations may choose to spread HMI fixed expenses across non-HMI operations, which may be more profitable.

Few of the schemes analysed in this paper were able to provide anything more than aggregate-level expense information. Expense ratio KPIs, that is, expenses divided by earned premium, are presented in Figure 7 below, but because of the lack of segmentation it was possible only to make high-level quantitative observations. Given the unique structure of the GK and Naya Jeevan schemes, we have not included expense information for these two schemes below.

Figure 7. Expense ratios



4.3.1. KPI OBSERVATIONS AND TRENDS

The expense ratios vary dramatically between schemes, and even over time within each scheme.

The ARY and Tata AIG – RSBY schemes both have lower expense ratios than SAJIDA’s Nirapotta scheme. Both ARY and Tata AIG – RSBY use technology to make cashless claim settlements as opposed to the Nirapotta scheme, which still settles claims by paying cash. Nirapotta members must pay cash up front for health-care services and then seek cash reimbursement from SAJIDA. The efficiency of the Nirapotta programme was improved dramatically in 2012, when SAJIDA changed their process from providing reimbursement at a central location to allowing reimbursements to be paid at the insured’s local MFI branch. This expense saving is reflected in Nirapotta’s decreasing expense ratio from 2011 to 2012.

The ARY scheme has a materially lower expense ratio than the other two schemes shown in Figure 7. This is driven by the implicit subsidy that the scheme receives from its partnership with the Biocon Foundation and the free enrolment services, health clinics and other discounted items that Biocon provides at no cost. Biocon did not participate directly in this research, and HDFC-ERGO was unable to quantify the implied dollar value of this generous CSR subsidy from Biocon.

In addition to the implied subsidy that the ARY scheme receives from the Biocon Foundation, it also enjoys low enrolment costs. In 2009, HDFC-ERGO and Biocon shared an approximate INR 250,000 (US\$ 5,150) investment cost in mobile enrolment technology. This technology has improved the efficiency, and reduced the cost, of the enrolment process. HDFC-ERGO's outlay for this investment can be seen in the higher 2009 expense ratio for the ARY scheme.

4.4. SUBSIDIES AND PROFITABILITY

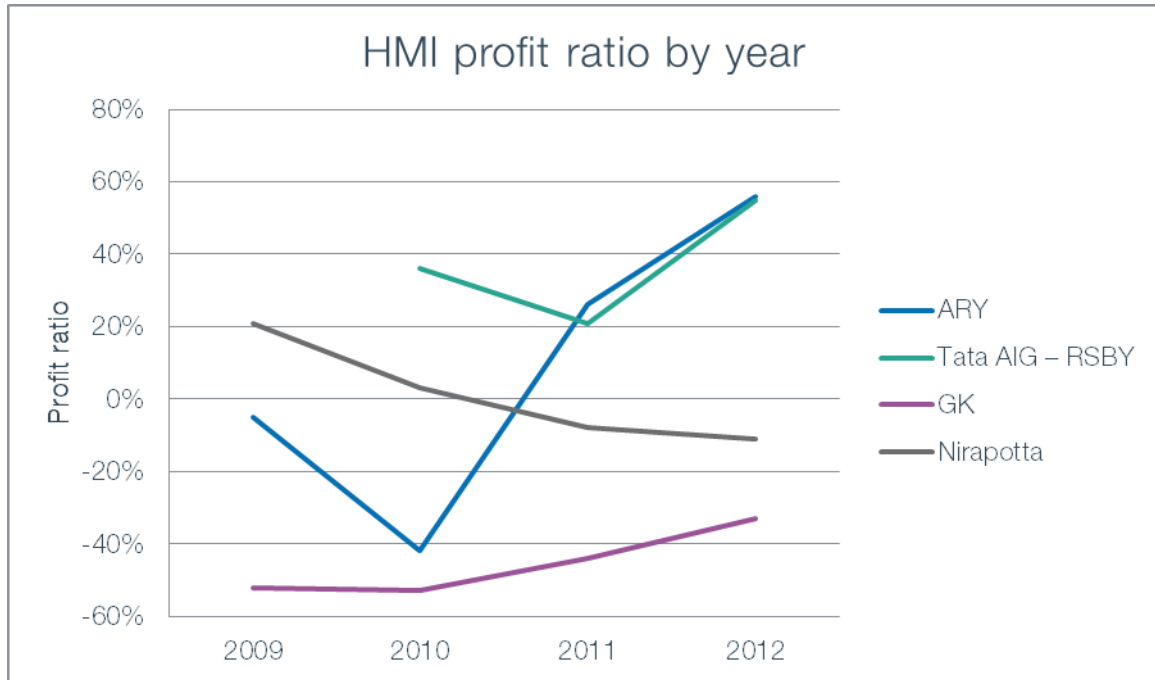
Many governments and donors are using subsidies for insurance to promote access to good-quality health care. HMI subsidies can take many forms, such as:

- cross-subsidization of losses: profits from affiliated commercial activities of the HMI provider directly subsidizing losses from the HMI scheme
- cross-subsidization of premiums between classes of insured: the wealthy insured subsidizing the premiums of the lower-income insured
- explicit premium subsidies: a government or donor organization paying for some, or all, of the insured's HMI premium
- implicit subsidies: an unrelated organization partnering with the HMI provider in order to reduce or eliminate the HMI provider's expenses for services such as enrolment support, discounted prescription drugs, and so on.

As noted in Section 3, all the HMI schemes in this study use one or more of these forms of subsidies. For this study, profit is not an explicit framework measure for sustainability (see Table 2), but financial profitability is typically a by-product of favourable KPIs for the first three framework measures combined – achieving scale, controlling claims costs and managing expenses. As shown in Figure 2, “The spectrum of HMI sustainability”, profit cannot be viewed in a vacuum without considering different subsidies that might be available to a scheme. While the use of subsidies is our fourth framework measure, unfortunately there are no general KPIs to assess the impact of these various subsidies.

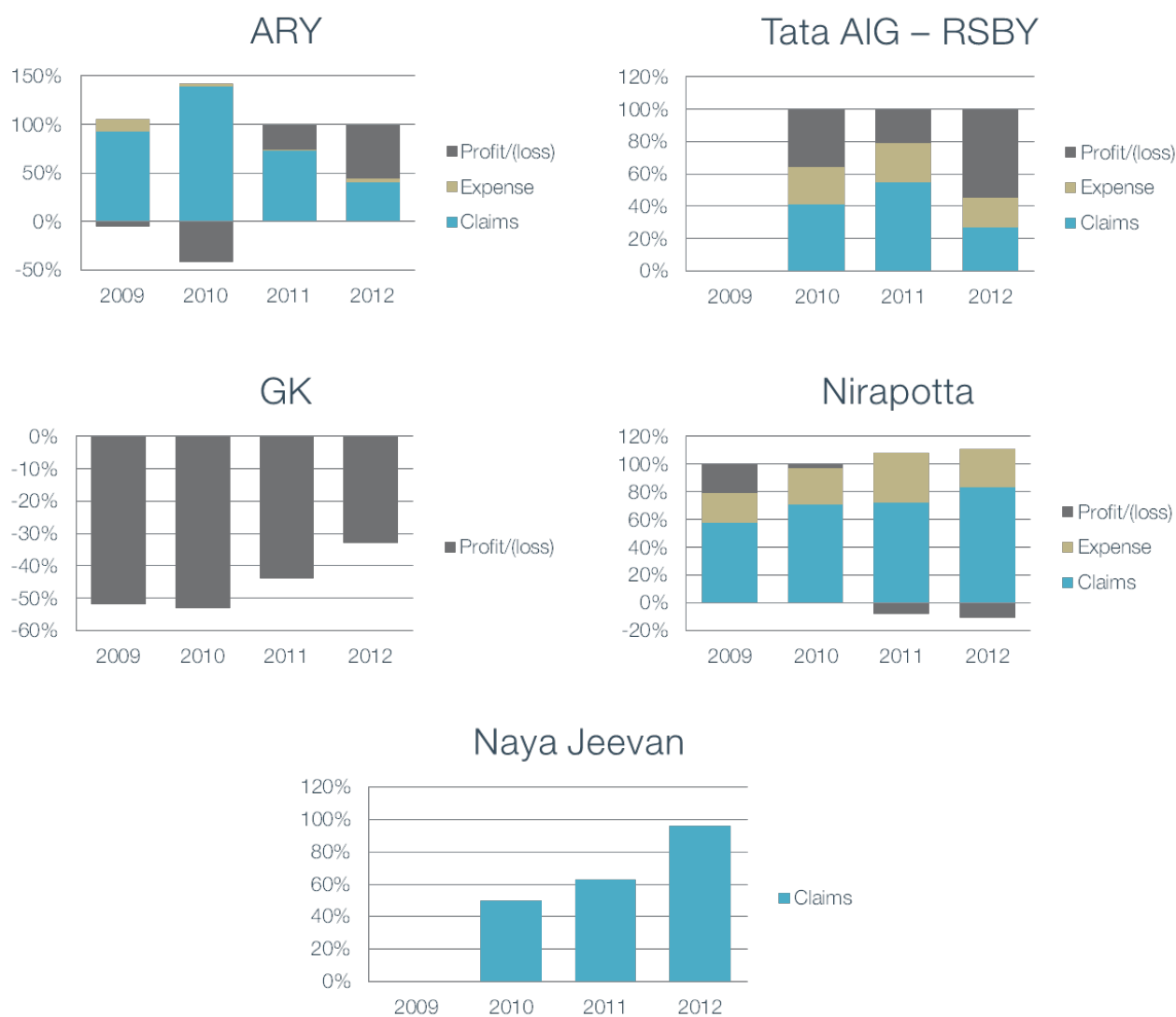
Profit ratio KPIs – that is, 100 per cent minus the claims ratio minus the expense ratio – are presented for each scheme in Figure 8. Given that it was not possible to determine the aggregate profitability for the carriers that participate in the Naya Jeevan scheme, that scheme is excluded from the graph.

Figure 8. Profit ratios



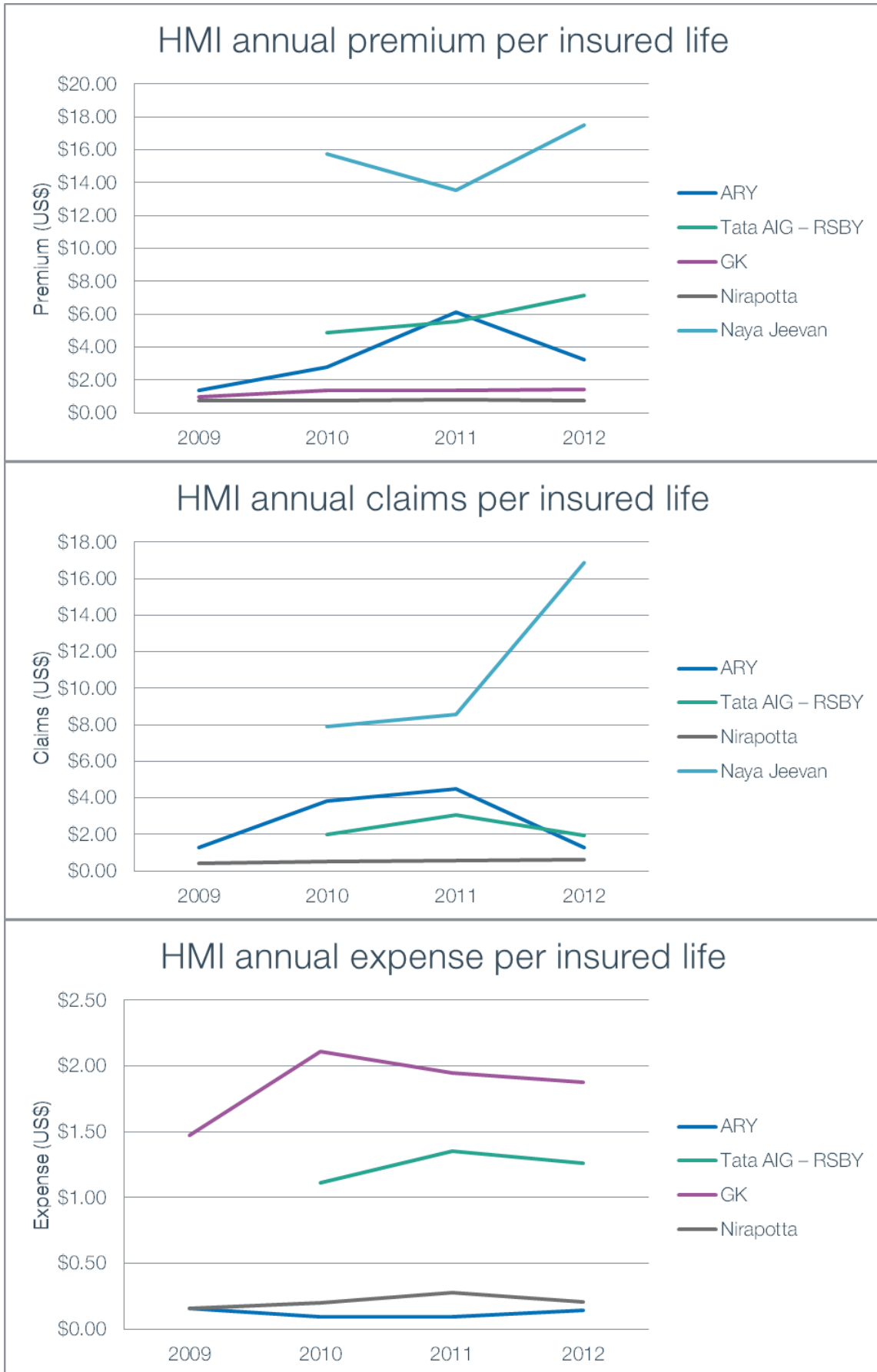
Financial results as a percentage of premium are graphically displayed for each scheme in Figure 9. Given GK's unique financial reporting basis, only profits as a percentage of premium are shown for the scheme. The claims as a percentage of premium shown for Naya Jeevan represent the composite claims for all carriers that participated in that scheme.

Figure 9. Financial results as a percentage of premium



Annual premiums, claims and expenses per insured life are displayed for each scheme in Figure 10. For the reasons already mentioned, claims per life cannot be shown for GK, and expenses per life cannot be shown for Naya Jeevan.

Figure 10. Premium, claims and expenses per insured life



4.4.1. KPI OBSERVATIONS AND TRENDS

The profit ratios vary dramatically between schemes, and even over time within each scheme (Figure 8). The Tata AIG – RSBY scheme is the only scheme that experienced positive profit ratios in each year of the study; all other schemes experienced 1 year or more of negative profit ratios. As mentioned above, Tata AIG – RSBY’s increasingly competitive environment may not allow similar profit margins in the future.

As mentioned above, HDFC-ERGO ceased selling the ARY product for a while in order to increase the premiums and change the product’s benefit design. Also, HDFC-ERGO and its partner, Biocon Foundation, invested in mobile enrolment technology in 2009 to help lower ongoing enrolment costs. It is clear that these changes quickly moved the plan from a negative profit ratio to instant and rapidly increasing positive profit ratios, though to the detriment of the number of insured lives covered.

GK reported a loss in each calendar year. These losses have been cross-subsidized by gains from GK’s commercial ventures (hospitals, Rx (prescription drug) material manufacturing, nutrition, education, and so on).

Nirapotta’s total claims ratio has increased over the study period, and profits have decreased year by year, to the point that the Nirapotta product showed losses in 2011 and 2012. These losses were subsidized by gains from SAJIDA’s MFI loan portfolio. SAJIDA has implemented premium increases and plan design changes, and in our follow-up conversations with SAJIDA, it noted that these changes did accomplish the goal of lowering the claims ratio and increasing profitability.

As can be seen in the top graph in Figure 10, “HMI annual premium per insured life”, Naya Jeevan’s premium per life is substantially higher than those of the other schemes in this study. Naya Jeevan’s health product is unique in that the premium level is not tied to the means of the low-income person, but rather it is tied to the ability of the well-funded sponsor to pay. This higher premium translates into health benefits somewhere between traditional HMI and a conventional commercial medical product. Naya Jeevan’s higher claims per life can be seen in the middle graph in Figure 10.

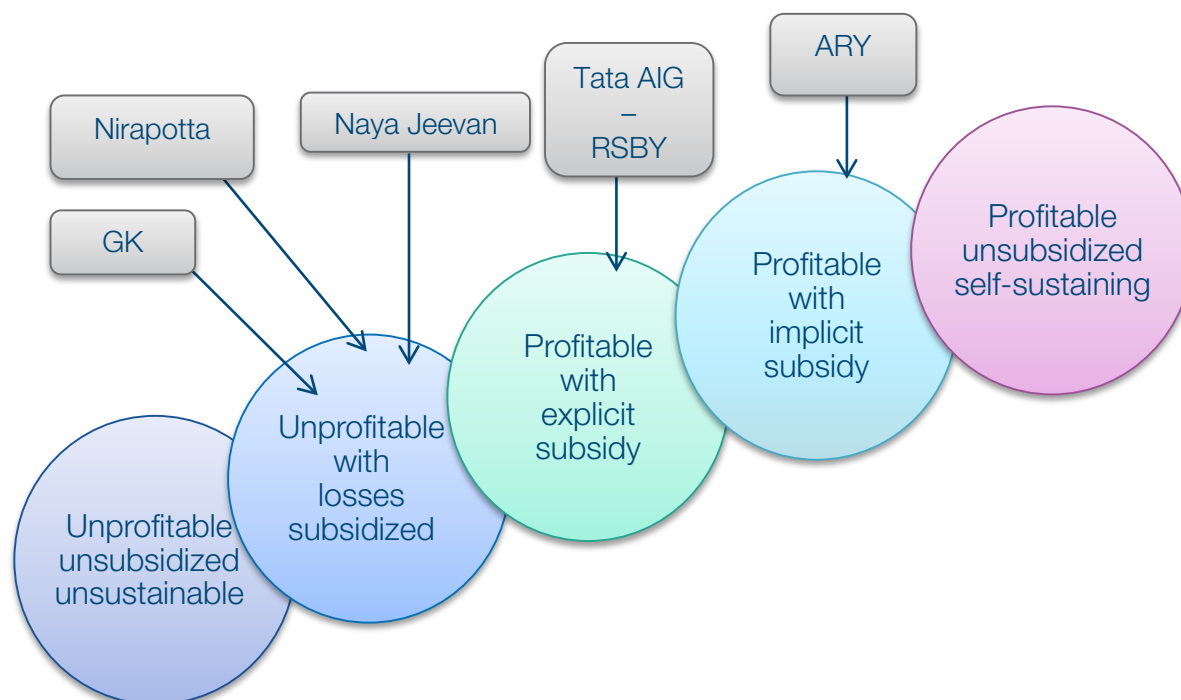
The top graph in Figure 10 shows that the two Bangladeshi schemes, GK and Nirapotta, have annual premiums of less than US\$ 2 per life. The two Indian schemes, ARY and Tata AIG – RSBY, have annual premiums only slightly higher than the Bangladeshi schemes (the Naya Jeevan scheme is an outlier for the reasons discussed above). The 2010 to 2012 average annual HMI premium across the four Bangladeshi and Indian schemes is only slightly more than US\$ 3 per insured life per year. While worldwide definitions of poverty vary, typically a household earning on average somewhere between US\$ 1 to 3 per day would be considered “poor”. For the four Bangladeshi and Indian schemes, this translates into the average HMI annual premium costing less than 1 per cent of an average low-income household’s annual income. In spite of this low premium to income ratio, the HMI take-up rate for these schemes often remains very low as a percentage of the overall target population.

As can be seen in the bottom graph in Figure 10, “HMI annual expense per insured life”, GK’s expense per life is materially higher than that of the other schemes. This high operating cost per life translates into the negative profit ratio that GK has experienced.

5. CONCLUSIONS AND RECOMMENDATIONS

This paper has introduced the spectrum of HMI coverage available, assigned each of the study's five HMI schemes to a point on the spectrum, discussed the spectrum of HMI sustainability, and built a framework for assessing sustainability. Figure 11 assigns each of this study's five HMI schemes to a point on the sustainability spectrum.

Figure 11. HMI schemes analysed and their place on the sustainability spectrum



5.1. SUSTAINABILITY OF EACH ANALYSED SCHEME

Below is an assessment of each HMI scheme's sustainability relative to the framework measures presented in Section 4.

ARY: Based on timely experience monitoring, the scheme took corrective action by increasing premium rates and changing scheme benefits to control the programme's claims costs. Claims costs are also controlled through the use of a network of empanelled service providers with whom discounted fees have been negotiated. In addition to investing in mobile enrolment technology to bring down ongoing enrolment costs, and using technology to have a cashless claims payment process, the scheme also has a very low overall expense ratio, owing to its partnership with the Biocon Foundation. This partnership results in implicit subsidies via free enrolment services, health clinics and discounted items such as prescription drugs. While the low claims costs and expense ratios have translated into a strong profit ratio, this has been at the expense of insured lives. What began as moderate scale for the scheme has quickly declined to a very low number of insured lives. To be truly relevant and sustainable, the scheme needs once again to increase its enrolment base and achieve greater scale.

Tata AIG – RSBY: This scheme scores well on all of the sustainability framework measures. Through a public-private partnership and use of explicit central and state government premium subsidies the scheme has achieved tremendous scale in a short amount of time. Tata AIG has experienced low claims ratios, although it is unclear why its experience has been so favourable compared to other companies participating in the RSBY scheme. To achieve even greater scale the scheme will need more accurate BPL lists to identify potential enrollees. It also remains to be seen if competitive pressures will result in unsustainable low bids by other insurers. This could result in reduced profit margins for participating

carriers. Despite these obstacles, this scheme likely has the best chance at long-term sustainability.

GK: While this scheme provides the most comprehensive benefits of any in this study, and uses cost-sharing features (for example, service fees and coinsurance) and premium structures based on the applicant's geographic location, socio-economic level and lifestyle choices (for example, the use of tobacco), it did not experience a profit in any year of the study. Unless GK's other commercial ventures can continue to subsidize the HMI scheme's losses, GK will need to initiate some combination of premium and cost-sharing increases, plan design changes and reductions in its ongoing operating expenses to turn a financial profit and ensure long-term sustainability. The scheme has achieved relatively large scale, and could achieve even greater scale if it was able to increase its penetration of the low-income population in urban areas, expand geographically by opening new hospitals, consider empanelling other health-care providers, or secure a contract to provide HMI to a large trade organization.

Nirapotta: SAJIDA's Nirapotta product has achieved relatively large scale, but future growth is constrained because SAJIDA's ability to increase its loan base in a competitive MFI credit market is limited. While SAJIDA has its own hospitals, and therefore, possibly, greater control of service use and cost (although insured members are not limited to using SAJIDA hospitals for care), the claims ratio has increased over time to the point where the scheme experienced losses during 2011 and 2012. These losses have been subsidized by gains from SAJIDA's loan portfolio; hence this cross-subsidy was coming from profits on the same pool of lives. SAJIDA has implemented premium increases and plan design changes, and in follow-up conversations, it noted that these changes did accomplish the goal of lowering the claims ratio and increasing profitability. Because of the competitive MFI loan environment in Bangladesh, SAJIDA believes that it cannot continue to increase Nirapotta's premiums to the levels needed without adversely affecting its loan portfolio. While the scheme has made some recent changes to the claims reimbursement process to bring down its expense ratio, it still has the highest expense ratio of any scheme in this study, because appropriate technology is not available to allow a pure cashless system. SAJIDA continues to seek innovative new products and distribution channels in an effort to increase the sustainability of its HMI offerings.

Naya Jeevan: Naya Jeevan is an insurance intermediary. It experienced financial losses in each year of the study period, but it also experienced strong compound annual growth that helped offset brokerage operating expenses and allowed the financial losses to decrease year by year. These historic losses have been subsidized by grants from donor organizations. Achieving scale is Naya Jeevan's key objective in its bid to become more sustainable. It continues to seek alternative distribution channels, niche markets and sponsoring organizations with large numbers of potential insured. Naya Jeevan is also seeking equity investors to help finance its growth to achieve the scale necessary for profitability and sustainability.

The Naya Jeevan health product uses technology by providing members with cashless, card-based services at a nationwide network of empanelled hospitals, diagnostic laboratories, outpatient clinics and imaging centres. While this should help control claims costs, the claims ratio increased dramatically between 2010 and 2012 although it is reported to have declined in 2013. The participating insurers have increased the premiums charged to underwrite the insured benefits covered by the programme, which has put pressure on Naya Jeevan to either increase its market price or accept a lower margin from the health plan fees it collects from the sponsors. In addition to Naya Jeevan's insurance benefits, members receive extensive value-added services, including access to cashless, discounted outpatient care, annual medical check-ups/health risk assessments and 24/7 access to "family doctors" via a telehealth line.

5.2. RECOMMENDATIONS

It is interesting to note that many of the schemes follow one or more of the top ten recommendations made by Holtz et al. (2014) (see Table 3).

Assuming the key objective is to provide basic health care to all persons, the Tata AIG – RSBY scheme appears to be the most attractive HMI model. While the ARY scheme has demonstrated profitability, it has shrinking scale. Small-scale HMI schemes raise concerns that private HMI initiatives may be fracturing the overall risk pool within a given geographic region. It would be advantageous if these smaller private schemes could coordinate with and complement or supplement larger government schemes.

While Koven et al. (2013) found that high distribution and administrative costs were the most severe hurdles to HMI sustainability, controlling claims ratios was the key issue for the schemes in this study. Schemes underwritten by for-profit insurance companies demonstrated the lowest claims ratios. All of the schemes either own providers and hospitals or partner with them in order to control service use and costs.

Subsidies take many forms, and all of the schemes have relied on subsidies to varying degrees to achieve sustainability. The future sustainability of HMI schemes appears to require the continued use of subsidies.

The schemes have faced various challenges and have implemented changes in order to try to increase sustainability. Other HMI schemes around the world still face many significant challenges. Hopefully the stories in this paper will provide other HMI schemes with insights on how to be sustainable.

Table 3. Ten recommendations on how to make HMI work

Recommendations	Examples from schemes
1. Design simple products	Tata AIG – RSBY: Straightforward hospitalization and transportation benefits with easy-to-understand limitations
2. Offer value-added services	Naya Jeevan: Value-added services include a 24/7 “family doctor” tele-health line, preventive health education sessions and an initial health risk assessment of beneficiaries
3. Bundle HMI with savings	SAJIDA: Piloting a packaged product to include health and education for people who have savings accounts with SAJIDA
4. Create a positive experience for clients	SAJIDA: Decentralized claims process to improve value to clients and reduce costs
5. Use technology	ARY and Tata AIG – RSBY: Use of mobile technology for enrolment to increase scale and reduce acquisition costs
6. Monitor scheme performance	SAJIDA and ARY: Modified benefits (e.g. longer benefit waiting periods, different maternity cover and limitations on key benefits) in order to lower claim ratios.
7. Engage in public-private partnerships	Tata AIG – RSBY: Achieved tremendous scale and shows the most likely chance of long-term sustainability
8. Design smart subsidies	All schemes use some form of subsidies ranging from cross-subsidization from external or related entities (SAJIDA, Naya Jeevan), cross-subsidization of premiums between classes of insureds (GK), explicit premium subsidies (Tata AIG – RSBY), and implicit subsidies (ARY)
9. Drive scale through distribution	Tata AIG – RSBY: Partnership with public sector. Use of mobile technology for enrolment
10. Partner with health-care providers	All schemes have partnerships with health-care providers. SAJIDA and GK: Direct ownership of hospitals/clinics; HDFC-ERGO: discounted arrangements with Biocon; Naya Jeevan: network of empanelled hospitals and own primary care centre; Tata AIG: network of providers

5.2.1. AREAS FOR FURTHER EXPLORATION

Figure 1, “The spectrum of HMI coverage”, displays a circle for outpatient and maternity HMI products. There has been interest in this product and some carriers have piloted products in the HMI market (for

example, RSBY). None of the schemes in this study provided or focused on these services during the study period, although Naya Jeevan has since introduced both cashless outpatient services and a maternity health plan. If this type of HMI product becomes more prevalent, it could be an area for further exploration and study.

Controlling claims costs is a key driver of HMI sustainability. It would be useful to have further research into how HMI schemes measure and control claims costs and service use as well as preventing fraud at their hospitals and providers. An additional topic related to controlling claims costs would be a cost-benefit analysis of offering preventive services.

Another area for further study would be the use of mobile phones as an alternative distribution channel, payment mechanism, and provider of health interventions for HMI products. USAID's Health Finance and Governance Project produced a paper in November 2013 entitled *Mobile money for health*, which provides a good foundation for further research into this area.

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Wipf, J.; Garand, D. 2010. Performance indicators for microinsurance: A handbook for microinsurance practitioners, 2nd edition (Luxembourg, ADA asbl).

ADDITIONAL RESOURCES

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HDFC-ERGO

<http://www.hdfcergo.com/>

<http://www.arogyarakshayojana.org/plan.html>

<http://www.bioconfoundation.org/bfound-aboutus.asp>

Naya Jeevan

<http://njfk.org/>

SAJIDA

<http://sajidafoundation.org/>

Case Brief 3: Mary Yang and Alice Merry, [SAJIDA Foundation](#) (Geneva, ILO, 2013).

Tata AIG – RSBY

<http://tataaiginsurance.in/about-us/tata-aig/index.html>

<http://rsby.gov.in/>

Impact Insurance Facility

<http://www.impactinsurance.org>

Microinsurance Paper No. 6: Sheila Leatherman, Lisa Jones Christensen and Jeanna Holtz, [Innovations and barriers in health microinsurance](#) (2010).

Microinsurance Paper No. 13: Pascale Le Roy and Jeanna Holtz, [Third party payment mechanisms in health microinsurance](#) (2011).

Microinsurance Paper No. 19: John Pott and Jeanna Holtz, [Value-added services in health microinsurance](#) (2013).

Microinsurance Paper No. 23: Meredith Kimball, Caroline Phily, Amanda Folsom, Gina Lagomarsino and Jeanna Holtz, [Leveraging health microinsurance to promote universal health coverage](#) (2013).

Microinsurance Paper No. 29: Ruth Vargas Hill, Gissele Gajate-Garrido, Caroline Phily and Aparna Dalal, [Using subsidies for inclusive insurance: Lessons from agriculture and health](#) (2014).

Microinsurance Learning and Knowledge (MILK)

<http://www.microinsurancecentre.org/milk-project.html>

<http://www.microinsurancecentre.org/milk-project/client-value.html> (Client value)

Microinsurance Network (MiN)

<http://www.microinsurancenetwork.org/>

Taara Chandani and Denis Garand: *Lessons learned and good practices in health microinsurance: A guide for practitioners* (Luxembourg, 2013).

Milliman

<http://www.milliman.com/Solutions/Services/Microinsurance/>

Oxfam

<http://www.oxfam.org/en/policy/universal-health-coverage>

APPENDIX I: FINANCIAL RESULTS AND KEY PERFORMANCE INDICATORS (KPIs)

The schemes analysed in this study were able to provide historic financial information at varying levels of detail. The information was the basis of the observations in this report. The tables that follow contain historic financial results and KPIs for each scheme. Significantly more information was requested than what is summarized below. Expenses were the key item lacking detail, with few of the schemes able to split expenses into start-up, acquisition and management expenses. All data were reported in local currency on a gross basis (that is, before reinsurance ceded). For comparative purposes all values in the tables have been converted to US dollars (US\$). The notes section after each table documents the assumed conversion rate along with other relevant facts about the data.

Unless noted below each scheme's table, the definitions for earned premium, incurred claims and the KPIs were:

1. Earned premium = (Written premium) – (Change in unearned premium reserves)
2. Incurred claims = (Paid claims) + (Change in claim reserves)
3. Claims ratio = (Incurred claims) ÷ (Earned premium)
4. Expenses ratio = (expenses) ÷ (Earned premium)
5. Profit ratio = 1 – (Claims ratio) – (Expense ratio)
6. Premium per life = (Earned premium) ÷ (Insured lives)
7. Claims per life = (Incurred claims) ÷ (Insured lives)
8. Expenses per life = (Expenses) ÷ (Insured lives)

For a more thorough discussion of KPIs, see Wipf and Garand (2010).

Table A1. HDFC-ERGO (ARY scheme)

	Financial results (US\$)			
	2009	2010	2011	2012
Earned premium	41,864	79,354	63,284	9,820
Other income	0	0	0	0
Total revenue	41,864	79,354	63,284	9,820
Incurred claims	39,106	110,053	46,301	3,966
Expenses	4,837	2,615	912	438
Profit/loss	-2,079	-33,314	16,071	5,416
Insured lives	31,073	28,633	10,297	3,048

	Key performance indicators			
	2009	2010	2011	2012
Claims ratio (%)	93%	139%	73%	40%
Expense ratio (%)	12%	3%	1%	4%
Profit ratio (%)	-5%	-42%	26%	56%
Premium per life (US\$)	1.35	2.77	6.15	3.22
Claims per life (US\$)	1.26	3.84	4.50	1.30
Expense per life (US\$)	0.16	0.09	0.09	0.14

Notes

Each year represents 1 July (Year) to 30 June (Year+1).

Local currency in INR converted to US\$ at average conversion rate of 0.0206.

Data are on a gross basis; there is no reinsurance ceded.

Underlying data contained 2009 start-up costs, but all other expenses were combined.

Table A2. Tata AIG (participant in RSBY scheme)

	Financial results (US\$)			
	2009	2010	2011	2012
Earned premium		2,914,364	8,357,399	15,670,070
Other income		0	0	0
Total revenue		2,914,364	8,357,399	15,670,070
Incurred claims		1,198,096	4,571,078	4,267,414
Expenses		665,957	2,019,851	2,769,114
Profit/loss		1,050,311	1,766,470	8,633,542
Insured lives		600,000	1,500,000	2,200,000

	Key performance indicators			
	2009	2010	2011	2012
Claims ratio (%)		41%	55%	27%
Expense ratio (%)		23%	24%	18%
Profit ratio (%)		36%	21%	55%
Premium per life (US\$)		4.86	5.57	7.12
Claims per life (US\$)		2.00	3.05	1.94
Expense per life (US\$)		1.11	1.35	1.26

Notes

Data represent TATA-AIG's \approx 10% share in the RSBY scheme.

Each year represents 1 January (Year) to 31 December (Year).

Local currency in INR converted to US\$ at average conversion rate of 0.0206.

Data are on a gross basis, although mandatory reinsurance was ceded.

Underlying data only contained written premium (assumed earned = written).

Underlying data only contained overall expenses.

Table A3. SAJIDA Foundation (Nirapotta scheme)

	Financial results (US\$)			
	2009	2010	2011	2012
Earned premium	338,587	387,774	380,028	394,202
Other income	15,623	3,345	4,497	2,517
Total revenue	354,210	391,119	384,525	396,719
Incurred claims	194,724	275,723	274,056	328,538
Expenses	70,456	99,080	137,077	109,430
Profit/loss	89,030	16,316	-26,608	-41,249
Insured lives	447,730	506,320	486,045	526,845

Health incurred claims	73,992	120,505	127,568	159,961
Total incurred claims	194,724	275,723	274,056	328,538
Health % of total	38%	44%	47%	49%

	Key performance indicators			
	2009	2010	2011	2012
Claims ratio (%)	58%	71%	72%	83%
Expense ratio (%)	21%	26%	36%	28%
Profit ratio (%)	21%	3%	-8%	-11%
Premium per life (US\$)	0.76	0.77	0.78	0.75
Health claims per life (US\$)	0.17	0.24	0.26	0.30
Total claims per life (US\$)	0.43	0.54	0.56	0.62
Expense per life (US\$)	0.16	0.20	0.28	0.21

Notes

Data in the top chart represent the entire Nirapotta product, not just the health component.

Each year represents 1 July (Year-1) to 30 June (Year).

Local currency in BDT converted to US\$ at average conversion rate of 0.0138.

Data are on a gross basis; there is no reinsurance ceded.

Underlying data only contained written premium (assumed earned = written).

Underlying data only contained paid claims (assumed incurred = paid).

Underlying data only contained overall expenses.

Table A4. Gonoshasthaya Kendra (GK) – Shasthayabima scheme

	Financial results (US\$)			
	2009	2010	2011	2012
Earned premium	21,795	20,379	25,475	42,427
Other income	367,299	423,510	516,837	665,731
Total revenue	389,094	443,889	542,312	708,158
Incurred claims	N/A	N/A	N/A	N/A
Expenses	590,533	680,444	781,112	943,436
Profit/loss	-201,439	-236,555	-238,800	-235,278
Insured lives	402,596	322,651	399,645	501,572

	Key performance indicators			
	2009	2010	2011	2012
Claims ratio	N/A	N/A	N/A	N/A
Expense ratio	N/A	N/A	N/A	N/A
Profit ratio (%)	-52%	-53%	-44%	-33%
Premium per life (US\$)	0.05	0.06	0.06	0.08
Other income per life (US\$)	0.91	1.31	1.29	1.33
Claims per life (US\$)	N/A	N/A	N/A	N/A
Expense per life (US\$)	1.47	2.11	1.95	1.88

Notes

Each year represents 1 January (Year) to 31 December (Year).

Local currency in BDT converted to USD at average conversion rate of 0.0138.

Data is on a gross basis, there is no reinsurance ceded.

Underlying data only contained written premium (assumed earned = written).

Other Income includes cooperative fees and co-pays.

Underlying data contained start-up, administrative, operating, and other expenses.

Profit ratio = (Profit/loss) ÷ (Total revenue)

GK Socio-economic prem class	No. of families	%
Destitute	1,029	1.1%
Ultra poor	4,118	4.3%
Poor	60,661	63.9%
Middle class	28,606	30.1%
Rich	522	0.5%
	94,936	100.0%

Table A5. Naya Jeevan Health Quest (brokerage) and Naya Jeevan HMI product

Naya Jeevan brokerage financial results (US\$)				
	2009	2010	2011	2012
Other income		3,383	12,481	34,186
Brokerage commissions		2,043	5,744	12,684
Total income		5,426	18,225	46,870
Expenses – VAS from NJWO		2,594	8,486	14,480
Expenses – Other		116,424	85,122	88,638
Total expense		119,018	93,608	103,118
Brokerage profit/loss		-113,592	-75,383	-56,248

Naya Jeevan HMI product (US\$)				
	2009	2010	2011	2012
Underwriter earned premium		20,427	57,443	126,843
Incurred claims		10,238	36,360	122,382
Claims ratio (%)		50%	63%	96%
Brokerage commission ratio (%)		10.0%	10.0%	10.0%
Sponsoring/client organizations		48	108	97
Insured lives		1,297	4,243	7,240
Premium per life		15.75	13.54	17.52
Claims per life		7.89	8.57	16.90

Notes

Each year represents 1 January (Year) to 31 December (Year).

Local currency in PKR converted to US\$ at average conversion rate of 0.0116.

Underlying data only contained overall expenses.

Underlying data only contained written premium (assumed earned = written).

Naya Jeevan retains a portion of collected premium, with the remainder paid to the product underwriters.

Total premium charged the consumer = (Other income) + (Underwriter earned premium)

Brokerage commission ratio = (Brokerage commissions) ÷ (Underwriter earned premium)

Underlying data only contained paid claims (assumed incurred = paid).

VAS purchased from NJWO based on US\$ 2 per person per year.

Naya Jeevan HMI product underwritten by Allianz EFU Health Insurance Limited, IGI Insurance, AsiaCare Health & Life Insurance, Pak-Qatar Takaful, and Saudi Pak Insurance. Underwriter shares vary by year.

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Housed at the International Labour Organization, the Impact Insurance Facility enables the insurance industry, governments, and their partners to realise the potential of insurance for social and economic development. The Facility was launched in 2008 with generous support from the Bill & Melinda Gates Foundation, and has received subsequent funding from several donors, including the Z Zurich Re Foundation, the World Bank Group, USAID and AusAID.



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