Prospects for the Evolution of Takaful in the 21st Century

Omar C. Fisher* and Dawood Taylor†

ABSTRACT

Financing or investing beyond the short term involves risk as both return on and of capital are uncertain. This paper explores the viability of takaful as a means to tackle such risks and engage in longer-term financial transactions in an Islamically acceptable manner. Numerous takaful schemes and re-takaful (reinsurance) facilities have appeared in many countries as Islamic alternatives to conventional (re)insurance. The takaful models may be categorized into three groups: non-profit, mudaraba, and wakala. It is stressed that an overriding purpose of takaful is cooperative risk-sharing for community wellbeing and not profit maximization. However, a degree of commercialization is unavoidable, and takaful operators are entitled to a fair profit on their risk capital and undertaking the business exposures. The paper also compares conventional insurance and takaful. It provides the profile and statistics of global insurance industry along with the size and scope of takaful markets worldwide. Projections of future demand in 2011 for takaful (life and non-life) are presented, with particular focus on the Middle East. Finally, the paper also discusses array of challenges that confront takaful operators such as internal and external factors, Muslim client profile, and shari'a issues.

I. INTRODUCTION

According to the World Bank Development Report 2000, the global population is now approaching six billion, of which about 20% consists of Muslims. Pressures from air travel, globalization, trade, and the news media are compounded by instantaneous satellite telecommunications via the Internet to forge an emerging collective consciousness that all peoples are part of one global village. Yet, the same contemporary pressures reveal ethnic diversity as never before, and this revelation serves to empower affinity groups worldwide.

For Muslims, the rapidly growing field of financial services or Islamic banking seeks to address needs of an underserved affinity group. Individuals and businesses in over forty countries with a Muslim majority, and over fifteen countries with Muslim minority communities, share common values. IslamiQ.com reported that at June 2001, the global Islamic banking sector managed $200 billion in ways that conform to Islamic principles, and was growing at an annual rate of 15%. While no definitive data exist, it is believed that this represents 10% to 15% of Muslim-owned fungible assets worldwide. Islamic banking and financial products are attractive to Muslims precisely because of their combination of financial efficacy, religious correctness and spiritual rewards. Every Muslim is held accountable for how s/he manages wealth, invests or borrows funds and cleanses profits by giving a portion of any gains annually to charity (zakat).

II. HOW MUSLIMS SAVE FOR THE FUTURE

Muslims today share similar challenges with non-Muslims as they progress through life phases (see figure 1): how to finance education, marriage, demands of a family and how to save for retirement or an emergency fund to defray expenses that may arise from prolonged illness or tragic misfortune.

* Division Manager, Corporate Business Development and Group Sales, Bank Aljazira, Jeddah, Saudi Arabia.
† Assistant General Manager and Head of Takaful Taawuni, Bank Al Jazira, Jeddah, Saudi Arabia.
Such everyday important needs are normally addressed by conventional life insurance and associated long-term savings instruments that contain elements that are not permissible for practicing Muslims. Islamic scholars declared conventional life insurance unlawful many decades ago, and reconfirmed this verdict several times:

- Verdict of the Supreme Court of Egypt on Dec. 27, 1926
- Unanimous resolution and fatwa by ‘ulama’ in the Muslim League Conference in Cairo in 1965
- Fatwa issued by National Religious Council of Malaysia in 1972
- Unanimous decision by Muslim Scholars in a seminar held in Morocco on May 6, 1972
- Fatwa issued in Judicial Conference held in Mecca in Sha’ban 1398 AH
Among the elements that make life insurance as presently practiced prohibited are:

- Severance of a balanced risk-sharing relationship between policyholders and shareholders
- Presence of prohibited elements:
  - *riba* (excess or interest on loans)
  - *maysir* (wagering, speculation)
  - *gharar* (uncertainty, deception and unclear terms)
- Investment of premiums by insurers into non-*Shari'a*-compliant securities.

For centuries Muslims were under the misconception that insurance programs (especially life insurance) are prohibited because they violate Islamic principles. This has contributed to restricting capital formation and the spectrum of available long-term investment and savings vehicles. Even the advent of Islamic banking in 1972 has not succeeded in redressing these views. In fact, some 80% of Islamic banking assets are managed in short-term instruments such as *murabaha* and virtually risk-free time deposits. The prevailing aversion to investing funds long term is partly due to a lack of familiarity with acceptable risk hedging mechanisms, including *takaful* schemes.

Financing or investing beyond the short term involves risk where both the return on capital as well as the return of capital are uncertain. Clearly, insurance is a dominant method by which conventional investors choose to hedge or transfer risk. What options are open to a practicing Muslim to properly address such risks and engage in longer-term financial transactions? To address this question, we must first revisit the origins of cooperative risk-sharing in Islam.

### III. Origins of Takaful

A close examination of the primary sources of guidance for Muslims (the Qur’an and the Sunna), reveal that members of the first Islamic community fourteen centuries ago practiced successful schemes of cooperative risk sharing, even before the advent of *takaful*. Early precursors were developed in response to the risks associated with long-distance trade by caravan or sea, and included *hilf* (confederation), *aqila* (pooling of resources), and *daman al-tarik* (surety), which gradually evolved into a system of community self-help and financial assistance, which the Prophet validated as *takaful*. During the early development of community in Medina (1-20 AH) there were three instances in which the Prophet Muhammad employed an insurance mechanism to solve daily issues. In the first constitution (Medina, 622 CE) there were codified references to social insurance relying upon practices such as *diya* and *aqila* (wergild or blood-money to rescue an accused in accidental killings), *fidya* (ransom of prisoners of war) and cooperative schemes to aid the needy, ill and poor.

Based on such practices found in primary Islamic sources, religious scholars have issued numerous judicial opinions and *fatwas* confirming that *takaful* as cooperative risk sharing is acceptable for Muslims:

- Fatwa issued by the Higher Council of Saudi Arabia in 1397 AH (1976 CE) in favor of Islamic model.
- Fatwa issued by the Fiqh Council of Muslim World League in 1398 AH in favor of Islamic insurance.
- Fatwa issued by the Fiqh Council of the Organization of the Islamic Conference in 1405 AH in favor of insurance under the Islamic model.
- The Grand Counsel of Islamic Scholars in Mecca, Majma‘ Al-Fiqh, approved the *takaful* system in 1985 as the correct alternative to conventional insurance in full compliance with *shari'a*.
- Takaful Act of 1984 authorized by the ‘ulama’ and Government of Malaysia.

### IV. Defining Elements of a Takaful System

There are four elements that must exist to establish a proper framework for a *takaful* system:

- *Niyya*, or utmost sincerity of intention to follow the guidance and adhering to the rule and purposes of *takaful*—cooperative risk-sharing and mutual assistance.
- Integrating *shari'a* conditions like risk-sharing under *ta'awuni* principles, coincidence of ownership, participation in management by policyholders, avoiding *riba* and prohibiting investments, and including *mudaraba* principles or *wakala* for management practices.
- Incorporating moral values and ethics and conducting the business openly in good faith, with honesty, full disclosure, truthfulness and fairness in all dealings.
• No unlawful element that contravenes *sharī'a*, and strict adherence to Islamic rules for commercial contracts, namely:
  ▪ Parties have legal capacity and are mentally fit
  ▪ Insurable interest
  ▪ Principle of indemnity prevails
  ▪ Payment of premium is consideration (offer and acceptance)
  ▪ Mutual consent which includes voluntary purification
  ▪ Specific time period of policy and underlying agreement

The differences between conventional insurance as currently practiced and Islamic cooperative risk-sharing can be summarized in three points:

• *Takaful* is an ethical system with absolute rather than normative values revealed by God that are not subject to periodic reinterpretations
• The main elements of *takaful* are:
  ▪ piety [individual purification];
  ▪ brotherhood [via *ta'awun* or mutual assistance];
  ▪ charity [*tabarru`* or donation];
  ▪ mutual guarantee
  ▪ self-sustaining operations as opposed to profit maximization.
• Cooperative risk-sharing and profit-sharing prevails throughout the primary insurance level as well as in any *re-takaful* arrangements, as opposed to using a brokerage fee-based relationship common in reinsurance.ii

The key motivation for Muslims to utilize the *takaful* system is to perform acts of piety using *tabarru`* and *ta`awun* to promote community wellbeing, while achieving individual purification.

V. PROLIFERATION OF TAKAFUL PROGRAMS

With the verdict by Islamic scholars and discomfort with existing insurance schemes, Muslims, from 1973, began rediscovering *takaful* models to pioneer its implementation. Groundbreaking efforts to introduce *takaful* schemes emerged rapidly all over the world:

• Sudan (1971), General Insurance Co.
• Sudan (1973), National Reinsurance Company of Sudan
• Sudan (1979), The Islamic Insurance Company
• Saudi Arabia (1979), The Islamic Arab Insurance Company
• UAE (1980), The Islamic Arab Insurance Company
• Switzerland (1981), Dar Al Mal Al Islami
• Bahrain (1983), Bahrain Islamic Insurance Company (re-capitalized and renamed Takaful International in 1999)
• Bahamas (1983), Saudi Islamic Takaful and Retakaful Company
• Luxembourg (1983), Islamic Takaful Company
• Sudan (1984), Al Barakah Insurance Company
• Saudi Arabia (1983), Takaful Islamic Insurance Co./Bahrain
• Bahrain (1985), Islamic Insurance and Reinsurance Company
• Malaysia (1984), Syarikat Takaful Malaysia
• Saudi Arabia (1986), National Company for Cooperative Insurance
• Turkey, Uluslarais Sigorta ve Reasurar
• Saudi Arabia (1992), Al Rajhi Islamic Company for Cooperative Insurance
• Brunei (1993), Takaful IBB Berhad
• Brunei (1993), Takaful TAIB Berhad
• Iran, Alborz Insurance Company
• Iran, Beimeh Iran Insurance Company
• Indonesia (1994), PT Syarikat Takaful Indonesia
• Indonesia (1994), Asuransi Takaful Umum

© 2011 The President and Fellows of Harvard College. All rights reserved.
http://ifp.law.harvard.edu/login/contact
Prospects for the Evolution of Takaful in the 21st Century

- Singapore (1995), Syarikat Takaful Singapore
- Malaysia (1993), Malaysia National Insurance Takaful Company
- Qatar (1995), Islamic Insurance Company of Qatar
- U.S. (1997), First Takaful USA‡

Additional recent initiatives include Soar Al-Amane, Senegal (1998), Amana Takaful Ltd., Sri Lanka (1999), the Bangladesh Islamic Insurance Co. (1999), plus three new takaful licenses approved in Kuwait (2000), a takaful ta’awuni (family/life) program sponsored by Bank Al Jazira in Saudi Arabia to be launched in summer 2001 and at least one license under review in Egypt.

VI. RE-TAKAFUL AND REINSURANCE

With progress, primary takaful operators aggregated risks on commercial property (general takaful), and on individuals (life/family takaful), and a need arose for reinsurance, or the sharing of risks with other insurers. However, Islamic insurance companies are required to reinsure their risks on a takaful basis (i.e., risk-sharing and profit/loss-sharing rather than brokerage arrangement). According to the Islamic Banking and Insurance Encyclopedia (IIBII, London 1998) due to the meager reinsurance capacity of re-takaful operators, shari’a advisors granted latitude to cede primary takaful premiums to conventional reinsurers. This allowance is temporary, and lays down the challenge to takaful and re-takaful operators alike to work toward for a swift resolution of these anomalies.

The evolution of primary takaful operators has naturally spawned creation of re-takaful entities:

- Sudan (1979): National Reinsurance
- Sudan (1983): Sheikan Takaful Company
- Bahamas (1983): Saudi Islamic Takaful and Retakaful Company
- Bahrain (1985): Islamic Insurance and Reinsurance Company
- Malaysia (1996): ASEAN Takaful Group which evolved into ASEAN Retakaful International (ARIL) in 1997, Labuan
- Tunisia (1985): Beit Ladat Ettamine Sauodi Takafol, Ltd. (BEST Re)

Collectively, these re-takaful operators write between $35 million to $75 million of premiums annually. Paid-up capital ranges between $80 million to $100 million, and staff about 750 employees. An overview of the reinsurance industry is useful in gaining familiarity with Islamic counterparts. Global reinsurance premiums in 1998 grew 10% to $76 billion. Five OECD nations dominate this sector with 77% of worldwide reinsurance: Germany, 30%; U.S., 23%; Switzerland, 11%; U.K., 7%; Japan, 6%. Overall business was profitable in 1998, with pre-tax profits of $3.9 billion (from $7.0 billion in 1997). The industry loss ratio was 73.6% versus 71% (1997 was the lowest in 10 years).

According to the Journal of Commerce (September 19, 1999), “At the beginning of the decade (1990) a reinsurer was considered strong if it had capital and/or surplus of $50 million. Today, capital of 10 times that is considered barely adequate with several companies having many billions.” Examples include Gen RE, $5.5 billion; Employers RE, $4.0 billion; American RE, $2.6 billion; Swiss RE, $1.8 billion. These are massive stock corporations with substantial capital assets and a global reach.

In the fifteen countries with large Muslim populations, there are $24.5 billion in life and non-life insurance premiums written annually, of which 50% are in ASEAN countries. Over the next ten years, assuming certain insurance penetration rates (i.e., per capita usage increases; refer to the section following in this paper) and the local market share of takaful coverage increases to approximately 15%, the gross premiums written could climb to $3.75 billion. If 33% of this were to be ceded to re-takaful operators, then $1.2 billion of re-takaful revenues could result as reinsurance business, which would require a capital base of between $600 million and $1 billion. This compares with the existing (estimated) global capital base for re-takaful companies of less than $100 million (1999).
VII. INSURANCE AND TAKAFUL COMPARED

It is beyond the scope of this paper to present the features of each model and the sharī‘a arguments for or against. However, the key structural issues must be examined and understood to fully appreciate differences between conventional insurance and takaful:

- Sources of and return to capital.
- Organizing principle: relationship among participants and between participants and takaful operator
- Treatment of expenses and liability for claims
- Zakat and charitable features: how to cleanse profits
- Funds management: pooled or combined
- Investment of premiums
- Dissolution: who ends up with any surplus capital
- Regulations, taxation and accounting

Table 1 below highlights the salient differences between takaful companies and conventional insurance (excluding mutual companies that have much in common with takaful companies).

**TABLE 1: COMPARING CONVENTIONAL INSURERS AND TAKAFUL OPERATORS**

<table>
<thead>
<tr>
<th>Conventional Insurers</th>
<th>Takaful Operators</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Sources of laws &amp; regulations are man-made and set by state</td>
<td>▪ Sources of laws are based upon Qur’an and Hadith</td>
</tr>
<tr>
<td>▪ Profit motive: maximizing returns to shareholders</td>
<td>▪ Community well-being, optimizing operations for affordable risk protection</td>
</tr>
<tr>
<td>▪ Profits and/or bonus units to be returned to policyholders as determined post ante by managers and board of insurer</td>
<td>▪ Takaful contract specifies in advance how and when profits/surplus and/or bonus units will be distributed</td>
</tr>
<tr>
<td>▪ Initial capital supplied by shareholders</td>
<td>▪ Initial capital supplied by rabh al-mal (agent) or paid in via premiums from participants</td>
</tr>
<tr>
<td>▪ Separation of policyholder and insurer with differing interests</td>
<td>▪ Coincidence of interests between policyholder and operator as appointed by participants</td>
</tr>
<tr>
<td>▪ Transfer of losses among insurance pools and from policyholders to shareholders</td>
<td>▪ Losses retained within classes of business written and sole obligation of participants</td>
</tr>
<tr>
<td>▪ Right of insurable interest is vested in the nominee absolutely in life insurance</td>
<td>▪ Right of insurable interest is determined by Islamic principles of fara’id (inheritance)</td>
</tr>
<tr>
<td>▪ Insured may elect cost or replacement cost valuation and claim accordingly whether or not they chose to rebuild property</td>
<td>▪ Insured may not “profit” from insurance and entitled to compensation only for repair or rebuild or replacement</td>
</tr>
<tr>
<td>▪ Agents and brokers are typically independent from insurer and paid a fee from the premium charged to policyholders that is not disclosed</td>
<td>▪ Agents are employees of the takaful and any sales commission should be disclosed</td>
</tr>
<tr>
<td>▪ Benefits paid from general insurance account owned by insurer</td>
<td>▪ Benefits paid from contributions (al tabarru) made by participants as mutual indemnification</td>
</tr>
<tr>
<td>▪ Investment of premiums conducted by insurer with no involvement by policyholders</td>
<td>▪ Under principle of mudaraba, takaful contract specifies how premiums will be invested and how results are shared. Under wakala, there is a similar practice plus participant can direct his investments into a range of unitized funds</td>
</tr>
<tr>
<td>▪ Insurer invests premiums consistent with profit-motive with no moral guidelines; hence coexistence of riba and maysir</td>
<td>▪ Takaful invests premiums in accordance with Islamic values and sharī‘a guidelines</td>
</tr>
<tr>
<td>▪ Dissolution: reserves and excess/surplus belong to the shareholders</td>
<td>▪ Dissolution: reserves and excess/surplus must be returned to participants, although consensus opinion prefers donation to charity</td>
</tr>
<tr>
<td>▪ Taxes: subject to local, state and federal taxes</td>
<td>▪ Taxes: subject to local, state and federal taxes (if any) plus obligated to arrange annual tithe (zakat) donations to charity</td>
</tr>
</tbody>
</table>
VIII. HOW A CONVENTIONAL INSURER MAKES MONEY

There are five ways a conventional risk-sharing/insurance operation makes money and profits:

• Bearing risk: accepting risk exposures on behalf of or alongside policyholder and keeping the result from premium revenues less underwriting losses (claims) less operating expenses (i.e., surplus).
• Managing a spread: surplus/profit comes from the difference between the cost of funds and the uses of funds.
• Processing information: processing transactions, administering financial products and programs for a fee.
• Aggregating money: funds under management are long-term without accepting investment risk. If the magnitude of funds magnifies so do the management fees and/or the performance fees as a share of positive returns.
• Distribution: selling financial services at a mark-up or brokerage fee.

IX. HOW A TAKAFUL OPERATOR MAKES MONEY

Given the above principles, what are the allowable ways that takaful operators can make money as compared with conventional insurers? In contrast to the conventional insurers, takaful operators do not directly bear risk, which is borne uniquely by the participants (policyholders). Takaful operators charge a fee for their management services on behalf of the participants and will make profits by managing their expenses within the fee structure, and by aggregating money under management subject to a funds management fee.

X. THREE TAKAFUL MODELS

As a matter of faith, Muslims believe that there is unity in diversity. One expression of this is that no single “best” model exists for takaful. Shari’ah scholars worldwide concur on fundamental components that characterize a takaful scheme, yet in their legal opinions (fatwas) operational differences are tolerated that do not contradict essential religious tenets. As such, takaful models may be separated into three categories:

• Non-Profit Model. Includes social-governmental owned enterprises and programs operated on a non-profit basis (such as Al Sheikan Takaful Company, Sudan), which utilize a contribution that is 100% tabarru from participants who willingly give to the less fortunate members of their community.
• The Mudaraba Model. Whereby cooperative risk-sharing occurs among participants, the takaful operator also shares in any operating surplus as a reward for its careful underwriting on behalf of participants. Examples of this model include Takaful Malaysia (STM-Malaysia), Takaful Nasional (Malaysia) and Takaful International (Bahrain).
• The Wakala Model. Whereby cooperative risk-sharing occurs among Participants, the takaful operator earns a fee for services [as a wakil or agent] and does not participate or a share in any underwriting results as these belong 100% to participants as surplus. Under the wakala model, the operator may also charge a funds management fee.

It must be reemphasized that the overriding purpose of takaful is cooperative risk-sharing for community wellbeing, not profit maximization. Of course, there is an understanding that for spreading takaful programs widely there must be a degree of “commercialization” using sales and marketing techniques. The necessity for operators is to develop and promulgate takaful programs to give Muslims alternatives to conventional insurance. It demands that these operators are rewarded for their efforts and business risk exposures, but profits per se are not the end goal.

XI. ONGOING DEBATE BETWEEN THE MU’ADARABA AND WAKALA TAKAFUL MODELS

Until recently, dominant companies pursuing application of takaful in various classes of risks have successfully employed the mudaraba model. As explained by Takaful Malaysia the ‘mudarib (takaful operator) accepts payment of (a) the takaful installments or takaful contributions (premium) termed as ra’s al-mal from investors or providers of capital and (b) investment funds from takaful participants acting as sahib al-mal. The contract specifies how the profit (surplus) from the takaful operations managed by the takaful operator will be shared, in accordance with the principle of mudaraba, between the participants as the providers of capital and the

© 2011 The President and Fellows of Harvard College. All rights reserved. http://ifp.law.harvard.edu/login/contact
takaful operator as the entrepreneur. The sharing of such profit (surplus) may be in a ratio of 5:5, 6:4, 7:3, etc. as mutually agreed between the contracting parties.\textsuperscript{10} Generally, these risk-sharing arrangements allow takaful operator to share in the underwriting results from operations as well as the favorable performance returns on invested premiums. Proponents of the mudaraba model mention that this provides an incentive for the operator to perform careful underwriting, so as to manage claims judiciously and to limit selling expenses so as to increase its return on management/shareholder capital and efforts.

However, some Islamic scholars have noted\textsuperscript{1} that the conditions for the mudaraba in commercial transactions render it inappropriate for application to mutual risk-sharing or cooperative insurance. Objections to application of mudaraba model to insurance focus on three areas:

- Profit is defined as returns after recovery of invested capital. In insurance, however, no profit occurs: the surplus results by not fully exhausting original premiums (capital), rather than by generating excess capital.
- In mudaraba, the initial capital provider (rabb al-mal) is liable for all losses from the commercial transaction or business but only up to their respective share capital contribution. This contrasts to insurance, where by mutual assessment capital providers (participants) are obligated to unlimited losses from claims. Such losses in a takaful model are usually covered by a qard hasan (free loan) from participants of the takaful pool.
- The mudarib (agent/operator) in a family takaful is not free to invest funds as in a typical commercial mudaraba arrangement. Regulatory authorities determine the degree of freedom that the takaful operator has in investing the contributions. In Malaysia there is a pooled investment fund strategy. In Saudi Arabia, regulations allow for separation of risk protection and investment funds where participants can choose in the latter case how to invest premiums into a range of unitized funds.
- Premium contributions cannot be simultaneously both a premium contribution and a tabarru’ (donation) as the participant may claim returns on these funds. A rebate such as a no claims bonus and a portion of the pool may benefit him in case of need. A donation must be a gift (hiba) freely given, with no intent for self-gain.
- The takaful pool should bear all expenses related to risk protection and reinsurance while the operator should be responsible for all expenses pertaining to managing operations and investment of premium funds in its capacity as mudarib.\textsuperscript{21} In some mudaraba models, marketing expenses and selling commissions are not strictly company/operator expenses (i.e., not salaried employees) and are yet charged to the participant’s takaful pool.

By contrast the wakala model:

- Consists of contribution (ishhirak) by participants (musharikun) that includes payment of fees and charges and a portion for donation (tabarru’) to a community takaful fund. All risks are borne by the takaful fund and the annual operating results (surplus/loss) belong solely to the participants. The takaful operator (wakil) does not share in either the risk or the surplus.
- All installment contributions flow into an Individual Investment Reserve Account (IIRA) where a specified portion is “dripped” out monthly as a donation (tabarru’) into the takaful pool for mutual benefit of all other participants.
- Participants agree to pay specified direct expenses (such as re-takaful costs, medical expenses, legal fees, etc.) and to pay the takaful operator a set fee (wakala fees) to manage the operations on their behalf. If the takaful operator is to generate a profit from its efforts, he must manage the operations (including salaries, overhead, selling commissions, sales and marketing expenses, etc.) entirely within the disclosed wakala fees.
- Since there is no other benefit to the takaful operator other than the declared wakala fees, the wakala model demands that all other charges/costs to the program are provided to the participants at the lowest possible costs that can be negotiated by the operator on their behalf.
- The wakala model can be viewed as more transparent as fees are clearly related to operator’s operational costs. This differs from the mudaraba model where the division of profits is clearly disclosed, but operator’s expenses to the participant’s pool or various loadings may not quite so obvious.

It must be noted that in 2000 AAOIFI (Bahrain) issued accounting regulations as guidance for takaful operators in which the mudaraba practices were preferred for investment aspects of takaful while wakala practices were preferred for risk-sharing aspects. However, the wakala model is yet to be implemented and proven
commercially viable. In 2001, Bank Al Jazira, a premier private Islamic bank in Saudi Arabia, introduced the first *takaful ta’awuni* program in the Middle East based upon the *wakala* model. Nevertheless, whatever *takaful model* is adopted, it is clearly filling a void where the scope and magnitude of business opportunity is enormous for both general (non-life) and family (life) *takaful*.

**XII. The Global Insurance Industry: A Profile**

Worldwide insurance industry premiums written in 1999 were $2,324 billion, an increase of 7.3% over the prior year. Of this total, $0.9 billion (40%) was generated as non-life premiums (an increase of 1.2%), while $1.0 billion (60%) was written as life premiums (an increase of 7%). Industrialized and OECD countries account for 91% of these premiums, as compared with their 15% population and 75% of global GDP. On average 7.5% of GDP is expended worldwide on insurance. With a population of 260 million, the Middle East and Central Asia represent 4.4% of the world’s population and wrote over $3.5 billion in life business (0.3% of global) and $7.9 billion of non-life business (0.9% of global). In comparison, North America, with its slightly higher population, wrote $425 billion (or 30% of global) life premiums and $447 billion (or 49% of global) non-life premiums, whereas Japan (126 million population) wrote $392 billion (or 28% of global) life and $102 billion (or 11% of global) non-life premiums.
Insurance acceptance, called penetration rates, are measured as an average percentage of per capita expenditures. In 1999, industrialized nations had penetration rates of 8.8% of Net Domestic Product, or $2,285. Switzerland was the highest overall at $4,643 per capita, with 5% penetration rate ($1,729) in life per capita premiums. Japan’s 10% penetration rate ($3,103) for life per capita is the highest in the world.

Specific levels of premiums written per capita (penetration rates) are shown below for selected countries in Middle East, North Africa and Asia that have significant Muslim communities.

**Figure 3: Per Capita Insurance: Non-Life and Life, 1999 ($)**
It is clear that the traditional cultural perspective on risk and risk protection throughout the Central Asia, Pacific and Middle East regions has curtailed the development of an insurance industry and limited the penetration, especially for life insurance, as a percentage of per capita income. The highest rates of penetration exists in mature markets of Asia-Pacific, 1.72% ($62 per year) for non-life and 2.16% ($78 per yr) for life in Malaysia and 1.03% ($271) for non-life and 3.15% ($828) for life in Singapore, respectively. By contrast, the lowest penetration rates are in Saudi Arabia with 0.55% ($37) for non-life and 0.01% ($0.60) for life and in Kuwait with 0.50% ($77) for non-life and 0.11% ($16) for life, respectively.

XIV. THE EMERGENCE OF THE TAKAFUL INDUSTRY

There are currently some thirty registered companies in the takaful industry worldwide writing cover directly, another ten Islamic windows through which takaful is brokered\(^a\) and seven companies performing re-takaful. A broad estimate of the size of the takaful market worldwide is as follows:

**TABLE 2: WORLD TAKAFUL PREMIUMS, 2000 (EST.)**

<table>
<thead>
<tr>
<th>Region</th>
<th>Total Takaful Premiums (mill.)</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaysia</td>
<td>143</td>
<td>27</td>
</tr>
<tr>
<td>Other Asia-Pacific</td>
<td>50</td>
<td>9</td>
</tr>
<tr>
<td>Europe, U.S.</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Arab Countries</td>
<td>340</td>
<td>63</td>
</tr>
<tr>
<td>TOTAL</td>
<td>539</td>
<td>100</td>
</tr>
</tbody>
</table>

\(^a\) Investing in the development of the takaful industry.
**TABLE 3: MIDDLE-EAST/NORTH AFRICA TAKAFUL PREMIUMS, 2000 (EST.)**

<table>
<thead>
<tr>
<th>Country</th>
<th>Non-Life</th>
<th>Takaful Life</th>
<th>Life</th>
<th>Total Takaful (Smil)</th>
<th>Total Mkt</th>
<th>% Takaful</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bahrain</td>
<td>5.0</td>
<td>129.0</td>
<td>-</td>
<td>5.0</td>
<td>134.0</td>
<td>3.7</td>
</tr>
<tr>
<td>Jordan</td>
<td>6.6</td>
<td>131.0</td>
<td>0.3</td>
<td>4.0</td>
<td>6.9</td>
<td>4.9</td>
</tr>
<tr>
<td>Qatar</td>
<td>6.0</td>
<td>147.0</td>
<td>-</td>
<td>-</td>
<td>6.0</td>
<td>3.9</td>
</tr>
<tr>
<td>S. Arabia</td>
<td>60.0</td>
<td>707.7</td>
<td>1.3</td>
<td>12.0</td>
<td>61.3</td>
<td>7.8</td>
</tr>
<tr>
<td>UAE</td>
<td>12.0</td>
<td>649.0</td>
<td>1.1</td>
<td>152.0</td>
<td>13.1</td>
<td>1.6</td>
</tr>
<tr>
<td>Sudan</td>
<td>27.0</td>
<td>1.6</td>
<td>4.0</td>
<td>-</td>
<td>27.4</td>
<td>83.0</td>
</tr>
<tr>
<td>Oman</td>
<td>5.0</td>
<td>132.0</td>
<td>1.0</td>
<td>30.0</td>
<td>6.0</td>
<td>3.6</td>
</tr>
<tr>
<td>Kuwait</td>
<td>-</td>
<td>162.0</td>
<td>-</td>
<td>34.0</td>
<td>-</td>
<td>0.0</td>
</tr>
<tr>
<td>Egypt</td>
<td>-</td>
<td>414.0</td>
<td>-</td>
<td>165.0</td>
<td>-</td>
<td>0.0</td>
</tr>
<tr>
<td>Iran</td>
<td>n/a</td>
<td>1,537.0</td>
<td>15.0</td>
<td>160.0</td>
<td>15.0</td>
<td>0.9</td>
</tr>
<tr>
<td>Tunisia</td>
<td>5.0</td>
<td>300.0</td>
<td>-</td>
<td>26.0</td>
<td>5.0</td>
<td>1.5</td>
</tr>
<tr>
<td>Morocco</td>
<td>-</td>
<td>703.0</td>
<td>-</td>
<td>269.0</td>
<td>-</td>
<td>0.0</td>
</tr>
<tr>
<td>Lebanon</td>
<td>-</td>
<td>398.0</td>
<td>-</td>
<td>79.0</td>
<td>-</td>
<td>0.0</td>
</tr>
<tr>
<td>Algeria</td>
<td>244.0</td>
<td>-</td>
<td>-</td>
<td>14.0</td>
<td>-</td>
<td>0.0</td>
</tr>
<tr>
<td>Total</td>
<td>127</td>
<td>5,655</td>
<td>19</td>
<td>949</td>
<td>146</td>
<td>6,750</td>
</tr>
</tbody>
</table>

Note: Takaful business would increase to 32% if all NCCI premiums were included as takaful business.

Of the African and Middle Eastern countries profiled in table 3 above, none has enacted takaful-specific legislation and seven do not have domestic takaful companies.

**XV. PROJECTED DEMAND FOR TAKAFUL**

Table 4 uses economic and social data to describe a profile of the Muslim world. The data on per capita income, Muslim population and savings rates per capita can be used to estimate the future demand for takaful cover (Life and Non-Life). Assuming that (a) the penetration rates for insurance increase substantially to an average 1.25% to 2.5% per capita (yet still would be approximately one-half of those rates in developed economies) and (b) 10% to 15% of the per capita savings were allocated to cooperative risk-sharing schemes (takaful), the projected demand worldwide for takaful cover both non-life and life in year 2011 could be $10.1 billion. Of this amount, nearly $2 billion in annual premiums would be written in GCC countries, $3.1 billion written in the Asia-Pacific region and an additional $2.6 billion in Europe, Turkey, China, India and the U.S.
### Table 4: Economic Profile of the Muslim World

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SAR</td>
<td>18.5</td>
<td>21.5</td>
<td>139</td>
<td>6,900</td>
<td>64</td>
<td>(1,394)</td>
<td>-20.2</td>
<td>-2.7</td>
</tr>
<tr>
<td>BAH</td>
<td>0.6</td>
<td>0.6</td>
<td>4.9</td>
<td>7,640</td>
<td>84</td>
<td>(206)</td>
<td>-2.7</td>
<td>-124.1</td>
</tr>
<tr>
<td>JOR</td>
<td>4.8</td>
<td>5</td>
<td>8.1</td>
<td>1,630</td>
<td>87</td>
<td>220</td>
<td>13.5</td>
<td>14.3</td>
</tr>
<tr>
<td>QAT</td>
<td>0.7</td>
<td>0.7</td>
<td>9</td>
<td>12,800</td>
<td>81</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>SUD</td>
<td>21</td>
<td>31</td>
<td>9.4</td>
<td>303</td>
<td>46</td>
<td>-</td>
<td>0.0</td>
<td>n/a</td>
</tr>
<tr>
<td>UAE</td>
<td>2.5</td>
<td>2.6</td>
<td>44.6</td>
<td>17,870</td>
<td>80</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>OM</td>
<td>2.45</td>
<td>2.5</td>
<td>16</td>
<td>6,400</td>
<td>80</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>KUW</td>
<td>1.7</td>
<td>2.1</td>
<td>30</td>
<td>14,300</td>
<td>80</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>IRA</td>
<td>64.3</td>
<td>65</td>
<td>117</td>
<td>1,810</td>
<td>73</td>
<td>(60)</td>
<td>-3.3</td>
<td>-42.9</td>
</tr>
<tr>
<td>EGY</td>
<td>60.9</td>
<td>63.4</td>
<td>89</td>
<td>1,403</td>
<td>51</td>
<td>191</td>
<td>13.6</td>
<td>5.0</td>
</tr>
<tr>
<td>TUN</td>
<td>9.3</td>
<td>9.4</td>
<td>20</td>
<td>2,120</td>
<td>67</td>
<td>271</td>
<td>12.8</td>
<td>12.8</td>
</tr>
<tr>
<td>MOR</td>
<td>28.3</td>
<td>29.7</td>
<td>35</td>
<td>1,190</td>
<td>44</td>
<td>181</td>
<td>15.2</td>
<td>18.0</td>
</tr>
<tr>
<td>LEB</td>
<td>3.2</td>
<td>4.3</td>
<td>15.8</td>
<td>3,700</td>
<td>86</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>ALG</td>
<td>30.8</td>
<td>31.8</td>
<td>46.5</td>
<td>1,550</td>
<td>62</td>
<td>104</td>
<td>6.7</td>
<td>8.2</td>
</tr>
<tr>
<td>PAL</td>
<td>6</td>
<td>6</td>
<td>10</td>
<td>1,780</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>MALA</td>
<td>12.4</td>
<td>22.7</td>
<td>76.9</td>
<td>3,390</td>
<td>84</td>
<td>631</td>
<td>18.6</td>
<td>22.2</td>
</tr>
<tr>
<td>INDO</td>
<td>186</td>
<td>207</td>
<td>140</td>
<td>676</td>
<td>84</td>
<td>93</td>
<td>13.8</td>
<td>11.8</td>
</tr>
<tr>
<td>SING</td>
<td>1.8</td>
<td>3.5</td>
<td>85</td>
<td>24,150</td>
<td>91</td>
<td>9,153</td>
<td>37.9</td>
<td>12.0</td>
</tr>
<tr>
<td>Subtotal:</td>
<td>455.25</td>
<td>508.8</td>
<td>896.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IRQ</td>
<td>21.7</td>
<td>22.4</td>
<td>52.3</td>
<td>2,400</td>
<td>58</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>LIB</td>
<td>6</td>
<td>6.2</td>
<td>40</td>
<td>6,450</td>
<td>76</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>SYR</td>
<td>15.8</td>
<td>17.2</td>
<td>26</td>
<td>1,511</td>
<td>71</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>U.S.</td>
<td>8</td>
<td>278</td>
<td>8879</td>
<td>31,910</td>
<td>97</td>
<td>3,063</td>
<td>9.6</td>
<td>93.1</td>
</tr>
<tr>
<td>U.K.</td>
<td>1.5</td>
<td>59.4</td>
<td>1403</td>
<td>23,600</td>
<td>99</td>
<td>1,558</td>
<td>6.6</td>
<td>207.6</td>
</tr>
<tr>
<td>FR</td>
<td>3.5</td>
<td>59</td>
<td>1453</td>
<td>24,170</td>
<td>99</td>
<td>3,263</td>
<td>13.5</td>
<td>64.1</td>
</tr>
<tr>
<td>GER</td>
<td>3</td>
<td>82</td>
<td>2103</td>
<td>25,620</td>
<td>99</td>
<td>3,126</td>
<td>12.2</td>
<td>54.1</td>
</tr>
<tr>
<td>JAP</td>
<td>0.6</td>
<td>126</td>
<td>4054</td>
<td>32,030</td>
<td>99</td>
<td>8,392</td>
<td>26.2</td>
<td>46.6</td>
</tr>
<tr>
<td>TURK</td>
<td>60</td>
<td>64.1</td>
<td>50</td>
<td>780</td>
<td>83</td>
<td>120</td>
<td>15.4</td>
<td>29.6</td>
</tr>
<tr>
<td>CHINA</td>
<td>50</td>
<td>1266</td>
<td>1030</td>
<td>813</td>
<td>82</td>
<td>175</td>
<td>21.5</td>
<td>7.6</td>
</tr>
<tr>
<td>INDIA</td>
<td>90</td>
<td>998</td>
<td>439</td>
<td>440</td>
<td>53</td>
<td>32</td>
<td>7.2</td>
<td>27.1</td>
</tr>
<tr>
<td>PK</td>
<td>138</td>
<td>144</td>
<td>68</td>
<td>470</td>
<td>38</td>
<td>22</td>
<td>4.7</td>
<td>12.7</td>
</tr>
<tr>
<td>S.AFR</td>
<td>1.6</td>
<td>44</td>
<td>139</td>
<td>3,170</td>
<td>82</td>
<td>165</td>
<td>5.2</td>
<td>342.8</td>
</tr>
<tr>
<td>KAZAK</td>
<td>8</td>
<td>16.6</td>
<td>20.7</td>
<td>1,250</td>
<td>98</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>UZBEK</td>
<td>21</td>
<td>24.4</td>
<td>23</td>
<td>942</td>
<td>99</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>BRUNE</td>
<td>0.2</td>
<td>0.33</td>
<td>7.7</td>
<td>24,620</td>
<td>89</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>YEMEN</td>
<td>16.1</td>
<td>16.9</td>
<td>6.6</td>
<td>390</td>
<td>40</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>

**Total:** 6,000 30,898

Approximately, 52% of the projected total annual takaful premiums would be non-life with an increase in life/family takaful up to $4.9 billion. These figures indicate the magnitude of the business opportunity in takaful yet to be realized. The forecast also assumes that takaful operators augment capital commitments to their primary takaful operations so that significantly higher volumes of non-life and life premiums written can be achieved.

**XVI. CHALLENGES AND OBSTACLES TO FUTURE GROWTH**

The array of challenges that confront the primary takaful cover writers can be grouped into four categories:

- Internal factors: skilled staff, management style, level of capitalization
- External factors: regulatory framework, competitive environment, treatment of takaful versus conventional insurers, role of government, maturation level of insurance industry (conditioning/mandates), etc.
- Muslim client profile: attitude toward risk and response, savings rates and discipline, access to capital markets and investment options (mutual funds, bonds, etc.), Islamic awareness and habits, majority versus minority position in country, and
- *Sharī'a* issues: coexistence of various *sharī'a* rulings on takaful practices, controversy between *mudaraba* and *wakala* models and a gradual consensus building around a set of takaful norms.

We will highlight now the challenges that comprise each category.
A. Internal Factors

There are traditional and cultural reasons why Muslims have not generally chosen insurance as a career. It remains for training organizations such as MII, BIRT, and BIBF (Bahrain) to reshape attitudes about insurance and encourage young people to seek out promising careers in takaful, including professional areas of actuarial sciences, treasury management, investments fund management and underwriting.

At present, there appears to be a shortage of skilled personnel who are also dedicated Muslims to enable takaful operators to strike an important balance between insurance industry expertise and Islamic values. For example, there are less than six trained Muslim actuaries worldwide working with takaful companies. There are only a handful of accountants knowledgeable about insurance statutory accounting as well as takaful accounting. Globally there are only about a score of Muslim underwriters and fund managers expert in Islamic finance. Muslim and non-Muslim trained personnel as takaful operators and insurance personnel knowledgeable about takaful operations must be expanded. Although there is no definitive data available on the takaful industry worldwide, the authors estimate that the primary takaful operators employ nearly 2,000 personnel worldwide whereas the seven re-takaful companies employ upwards of 100-150 staff in total. This compares with 250,000 conventional insurance personnel in the U.S., along with over 150,000 conventional insurance agents and brokers, and some 86,000 insurance staff, agents and brokers in Malaysia.

The development and innovation of new products is not keeping pace with the overall insurance industry. Takaful management must strive to be proactive in designing cooperative savings and risk protection products for a broad range of client needs. For example (refer to Figure 1, above), to date a takaful savings product for hajj and/or ʿumra, takaful product purchase warranties and specialized property and liability coverage for religious buildings and organizations have yet to be developed.

Another important area of development is the operational and accounting standards for takaful. The two pioneering companies in Malaysia, Takaful Malaysia and Takaful Nasional, joined forces in 2000 to develop a code of ethics for the industry. With the encouragement of Bank Negara they launched an initiative in 2001 with the Life Insurance Association of Malaysia to promote best practices and greater professionalism in the industry. Other takaful operators are urged to also implement locally the best practices gleaned from the industry worldwide.

As we have seen, the level of capitalization for takaful operators and re-takaful companies is relatively modest and should be augmented to enable them to accept higher volumes of premiums or retain greater level of risk exposure. Inadequate capitalization or capital reserves result in excessive ceding of primary risks by takaful companies to conventional insurers. The under capitalization of re-takaful companies only serves to compound this trend whereby takaful operators today typically retain a mere 15%-40% of the primary takaful risk.

B. External Factors

There are narrow options currently available for takaful operators to invest premiums on a shariʿa-compliant basis. Only Malaysia has a special law that recognizes and regulates takaful operators separately from conventional insurers. Other takaful operators must conform to the investment restrictions that violate Islamic values, namely, placing investments in interest-based securities such as bonds, T-bills, treasury notes, etc. Prudent risk management would dictate that a takaful operator diversifies its portfolio in secure, liquid and long-term instruments, which are rare in Islamic finance offerings. Islamic bankers have yet to develop a shariʿa-compliant money-market fund that is sanctioned by a central bank, although these are under development presently in Bahrain and Malaysia. There is an urgent need to create leased backed securities, REITs and other securitizable assets which are publicly traded to broaden the investment options for takaful operators and assist them to overcome the competitive disadvantage where conventional insurers gain interest returns on “idle” and short-term funds.

In Muslim-majority countries, government and insurance regulatory bodies could elect to follow the worthy example of Malaysia and authorize a special legislation for takaful companies. Such an act would recognize the primacy of the shariʿa and balance its guidance with secular laws generally geared to assure solvency of insurers and to protect consumers. A special Takaful Act could also address the requirement of takaful operators to invest funds in accordance with Shariʿa principles. In addition, the act would address the critical issue of how to rate the takaful operators (e.g., AM Best or S&P) which will require them to adopt a transparent operations and standardize their accounting, claim-paying and reserves practices. At this time, it is difficult to see how takaful operators can be rated internationally with a modest capital structure and the absence of internationally rated Islamic securities.

Finally, the Muslim client profile and attitude toward risk along with the shariʿa issues can only be redressed by education and consensus-building. While it is undeniable that most Muslims follow the advice of contemporary Islamic scholars, many practicing Muslims still keep their own counsel. A recent survey by Islamic Business and Finance Network (IBF Net) concluded that 55% of respondents, if facing “conflicting fatwās” would study the different opinions and develop their own opinion.\textsuperscript{35} Islam is ultimately a religion of conscience. Therefore,
prevailing customs and popular understandings about risk and risk-taking can only be modified by sustained dialogue between individuals and takaful operators. They must clearly state their case to prospective consumers substantiated with historical and religious evidence. Takaful offers a strong viable alternative to conventional insurance. Takaful programs offered with competitive protection features along with spiritual benefits are being truly welcomed by Muslims as witnessed by the 60% annual growth in applications even in a mature market like Malaysia.

The specific merits of takaful models are emerging to be passionately debated in takaful forums and in private shari'a advisory consultations. We are confident that, eventually, a scholarly consensus will emerge that can guide the further evolution of the global takaful industry.

**XVII. CONCLUSION**

There are eight main obstacles to the rapid evolution and expansion of a global takaful industry:

- How to react to the sweeping changes impacting the conventional (re)insurance sector such as global consolidation, demutualization and the Internet revolution.
- How to respond to advancing disintermediation whereby customers are redefining distribution channels and their information needs.
- How to attract capital for the local takaful sector.
- How to accelerate product innovation, not imitation.
- How to widen the scope of shari'a dialogue, both to include risk securitizations and other innovations as well as to help focus Islamic scholarly research and reflection on such issues.
- Emergence of a scholarly consensus for models of takaful operations that is sensitive to regional differences and local governmental regulations yet adheres strictly to the fundamental cooperative principles of takaful.
- Establishment of a global re-takaful facility in order to increase underwriting capacity and expertise available to indigenous takaful operators.

One should remember that insurance is a major mechanism for wealth and capital creation in emerging markets worldwide—both as an important source of funding and to address risk mitigation in human activities from family formation to launching new enterprises. Hence, to expand takaful and re-takaful business is to nurture indigenous capital and wealth formation.

In conclusion, Islamic finance and Islamic takaful are ethical financing and cooperative risk protection methods that are superior alternatives precisely because they reinvigorate human capital, emphasize personal dignity, community self-help, and economic self-development, generating manifold benefits for all participants. Islam is an integrated way of life. Thus interest-free financing and takaful are mutually reinforcing systems that promote economic efficiency, communal risk-sharing and individual rewards through self-purification. While the takaful system revolves around active participation by members of the community, it is imperative that public awareness be enhanced. As Muslims and non-Muslims alike come to understand the real benefits of takaful and cooperative risk sharing, the evolution of the takaful industry will accelerate making the projections described herein possibly overly conservative.
REFERENCES


World Bank Atlas and Development Indicators. 2001.


In a later section of this paper the authors outline the contrasting elements of these two models for *takaful* management.

Islamic scholars have issued opinions that on an exception basis *takaful* operators may cede premiums to conventional reinsurers that do not adhere to *shari’a* guidelines in either operations or investments. The moral imperative exists, however, for Muslims to redress the shortcomings in all aspects of primary risk-protection and reinsurance in order to realize the full material and spiritual benefits of the *takaful* system.

Operates under Takaful/cooperative principles while evolving into a full entity in accordance with Takaful model.

Khidr Capital Corporation, June 2000.

Sigma 9/2000 and American RE reports.

Bahrain, Brunei, Egypt, Indonesia, Jordan, Kuwait, Morocco, Pakistan, Qatar, Singapore, Tunisia, Turkey, Saudi Arabia and UAE.

Some exceptions to this rule exist among *takaful* operators.

*Takaful Nasional* (Malaysia) currently sells through independent agents, and charges their commissions to the Participants’ Takaful Fund.


Sigma Report 9/2000, Swiss Re.


See Figure 6 for details.