

External Factors Affecting Insurance Industry in Iran

Hamed Najafi

MSc. Faculty of Economy, Payame Noor University, Iran

E-mail: hami.najafi2@gmail.com

Abstract

Nowadays insurance affects virtually everything we do in life and in business. It protects homes, jobs, cars, property and the continuity of lives. Insurance industry is growing rapidly in results of government policies, political events and many other reasons and it has affected by various internal or external factors. In this paper we investigate the main challenges about Iran's insurance industry by using a Political, Economic, Social and Technological (PEST) analysis. We apply conventional actuarial thought on this area by focusing strictly on Iran's conditions and introduce the affecting factors on insurance industry. Considering Iran's economy and sanctions conditions, we have provided some recommendations at the end of this article. This is expected to be useful for insurance companies, policymakers and other individuals.

Keywords: Insurance industry; economy; political; challenges; risks; Iran; PEST

Introduction

Simply insurance is the transfer of risk, from the insured to the insurer, in exchange for a premium. In other words, insurance equals peace of mind. In exchange for a payment or payments to the insurer, the insured knows that, should some unpredictable ill befall him or his property, the insurer will be responsible for resolving some or all of the problem (depending on the terms of the insurance agreement). For example, the purchaser of health insurance knows that her health insurance plan will be there to pay for her treatment should she get sick; that her property and auto insurance carriers will be there to pay for repairs should her house be damaged by fire or replacement should her car be stolen; and that her life insurance carrier will provide her family with the money it needs to live on should she died unexpectedly.

Nowadays insurance industry is a significant factor for a proper economic system, economic growth and promoting higher employment amongst other factors. Such system should be jagged, especially in the non-life business sector of insurance; it may lead to higher risks in the economic decisions taken by companies and individuals. Accordingly, the insurance industry is totally useful for the economic system since it provides the ability to transfer, pool and mutualize risks, which helps keep a country economically stable (CEA 2006).

Risk mitigation is a systematic reduction in the extent of exposure to a risk and/or the likelihood of its occurrence. During the course of our lifetime we have been exposed to certain events which have altered the financial services industry. Some examples include the September 2001 terrorist attacks, flooding across Europe and the 2008 economic crisis. These events, amongst others, have shaken the insurance industry considerably. (Schiro 2006)

Insurance protects a business from closing due to a catastrophic loss. Fires, floods, hurricanes and tornadoes have been the end of many businesses in the world. When a company carries insurance against these types of losses, closure and loss are only temporary instead of permanent. There are several reasons for existence of insurance industry: it keeps commerce moving, lenders require insurance, it is compulsory in some states, grants peace of mind, ensures family and business stability, lets entrepreneurs explore opportunity, protects the small individuals in other words helps prevent monopolies from forming and could have helped a community to recover after a crisis. In addition, given the liquidity requirements

that the insurance industry faces, investments need to be sufficiently liquid to ensure that the company remains solvent throughout the course of its lifetime.

This article intends to evaluate the risks posed by external factors in Iran insurance industry, by the use of a Political, Economic, Social and Technological (PEST) analysis as a tool to explain these risks. This analysis is used to assess these four external factors in relation to business situation. Aside from the company's internal resources and industry factors, there are several other macro-economic factors that can have a profound impact on the performance of a company. In particular situations such as new ventures or product launch ideas, these factors need to be carefully analyzed in order to determine how big their role in the organization's success would be. One of the most commonly used analytical tools for assessing external macro-economic factors related to particular situation is PEST Analysis.

Basically, a PEST analysis helps to determine how these factors will affect the performance and activities of business in the long-term. It is often used in collaboration with other analytical business tools like the SWOT analysis and Porter's Five Forces to give a clear understanding of a situation and related internal and external factors. As SWOT incorporates internal factors (strengths and weaknesses), we believe it would be inappropriate to apply it to a whole industry. In our opinion it would be useful to apply SWOT when comparing different forms of insurers (say Mutual) rather than when assessing external pressures.

There are certain questions that one needs to ask while conducting PEST analysis, which give them an idea of what things to keep in mind. They are:

- What is the political situation of the country and how can it affect the industry?
- What are the prevalent economic factors?
- How much importance does culture has in the market and what are its determinants?
- What technological innovations are likely to pop up and affect the market structure?
- Are there any current legislations that regulate the industry or can there be any change in the legislations for the industry?
- What are the environmental concerns for the industry?

We have developed a PEST analysis following discussions with professionals and an in-depth literature review.

Political and Legislative Factors

Rigorous laws and regulations have always been considered by the policymakers and private sector as one of the most important obstacles to economic development and the expansion of national production; however, which regulations are considered in the legal environment of Iran's business? In the answer we should say; less attention has been paid to this issue.

Red tape is caused by violating the legislative (or in a more general sense, regulation-related) principles. In such a situation, the legislators adopt new laws or amended legislation frequently and early, and as a result, economic activists are faced with uncertain and unpredictable environment. Obscure and difficult legislation; regulation without sufficient attention to, or knowledge of, the existing legal system; the legislative sectoralization; and repeatedly amended laws, are contradict the legislative principles. (Markaz Malmiri, 2015) has explained the number of laws and regulations rather than the costs of those who identify laws and regulations should be considered as main indicators for red tape. Thus it is appropriate to consider legislations and regulations in terms of volume, issue, and the type, and category, and then drawing an exact methodology, administrative costs for the businesses are evaluated.

Political interventions have been seen as necessary to ensure the stabilization of the financial services industry against a number of risks due to this industry's economic importance. Considering the recent economic events (such as the 2007 financial crisis) that have impacted the whole world economy, political forces¹ have tried to harmonizes Iran's legislation so that there will be a common ground on which the financial services industry is regulated.

¹ . Parties, personalities, pressure groups that strongly influence the economic and **political** stability of a country through their actions and pronouncements.

One such example is the introduction of Solvency II (SII), an EU Directive that codifies and harmonizes the EU insurance regulation and reinsurance undertakings. The main objectives of such a directive include:

A solvency capital requirement may have the following purposes:

- To reduce the risk that an insurer would be unable to meet claims;
- To reduce the losses suffered by policyholders in the event that a firm is unable to meet all claims fully;
- To provide early warning to supervisors so that they can intervene promptly if capital falls below the required level; and
- To promote confidence in the financial stability of the insurance sector (Doff 2008).

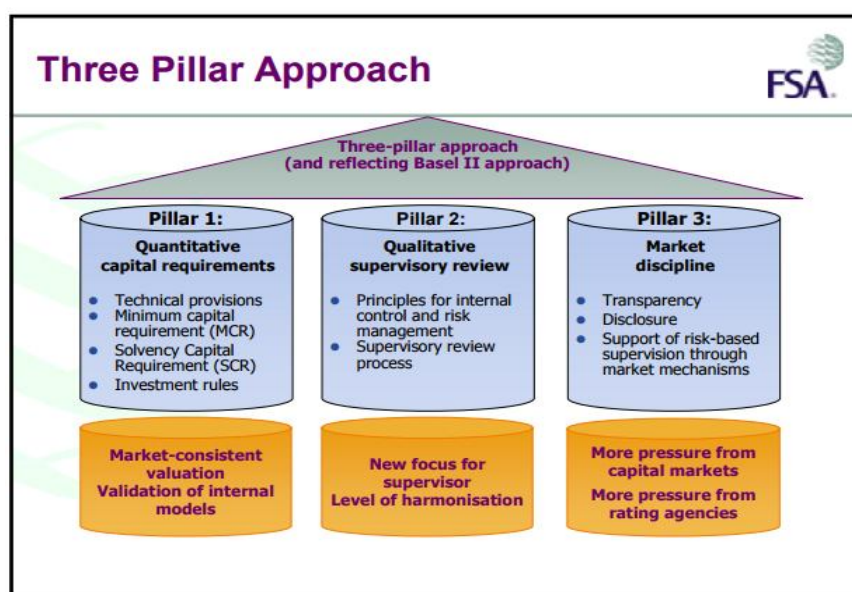


Figure1. Introduction to Solvency II

SII is based on three pillars:

- Pillar 1 consists of the quantitative requirements (for example, the amount of capital an insurer should hold). This is evaluated as a Value-at-Risk at a 99.5% percentile measure over one year.
- Pillar 2 sets out requirements for the governance and risk management of insurers, as well as for the effective supervision of insurers.
- Pillar 3 focuses on disclosure and transparency requirements. (Linder and Ronkainen 2004)

The introduction of such legislation can be considered fruitful to the Iran's financial services industry as it reduces regulatory arbitrage. Stricter legislation brings about an additional burden on insurance companies, especially captives.² SII does however include a proportionality principle which ensures that the legislation is not too burdensome and takes account of specific institutions and industries. Such principle takes into account the scale, nature and complexity of the insurance undertaking.

Most insurance undertakings need to hold additional capital to be in line with these requirements. Despite this, SII is generally not prescriptive in nature. For instance, it allows insurance companies to decide on their own risk appetite and to develop their own internal models which are commensurate to their own risks, subject to regulatory approval (Ernst &

². Insurance companies established by the parent company for the specific purpose of insuring the parent company's risks.

Young 2010). It is however prescriptive for smaller firms without resources to do a full Own Risk and Solvency Assessment (ORSA) exercise.

Governments may decide to introduce laws that affect just one class of insurance. Such decisions can impact the industry as a whole. If the government decide to remove the third party liability motor insurance from being compulsory, such legislation would considerably affect insurance companies which offer this type of insurance because they would face with decrease in demand for such insurance cover and could lead to an increase in competition especially since many insurance companies offer motor insurance and this may, in turn, lead to a reduction in premium prices.

Assume an increase in enforcement by government could considerably impact insurers. For example, the government may decide to make stricter rules in relation to the wearing of seatbelts or on drinking and driving. This may lead to less car accidents which would result in fewer claims for insurers.

The political environment of a country affects the insurance industry. Governments with strict regulatory regime would pose greater regulatory risks on the insurance industry. However, such regulation could be key factor in the country's dealings with catastrophic risks since the undertakings would be sufficiently prepared in meeting the aftermath of such risks. Hence, a lax regulatory regime could promote decreased regulatory risks and fewer costs for undertakings to be compliant with the regulations at the expense of increased risk to policyholders. One of the reasons why SII was introduced was to harmonize regulations as well as reduce regulatory arbitrage. (Barbara, et al, 2017)

Political forces could prove to be vital in the attraction of insurance firms to their particular countries. Tax incentives for companies setting up in a particular jurisdiction and the elimination of the Dollar in neighborhood transactions may provide the country with additional investment opportunities. Such incentives give certain states the upper hand and would bring about an increased investment activity especially since some of the countries mentioned are limited in terms of local investments.

(Tye and Latrémolière 2007) explain the introduction of retirement schemes in Malta. Such retirement schemes target UK residents which opt to transfer their benefits from a registered pension scheme or a relevant non-UK scheme to these Qualifying Recognized Overseas Pension Scheme (QROPS). Given that Malta has a double taxation treaty with the UK, then the members of the scheme would benefit from a reduction in tax charges.

Economical and Business Environment

Financial Crises

Nothing is easy for Iran's economy these days, and things could soon get even tougher. There is definitely some worry over new sanctions, especially of their impact on business with Europe and Asia. On other hand moderating inflation has caused another problem to surface. Lower inflation combined with soaring interest rates — sometimes as high as 25 percent — has the country's top banking officials warning of a potential crisis. During last decade, many banks were pressured into making risky loans with the short-term goal of propping up parts of the economy. Now, many of the recipients of those loans, often small- to mid-sized businesses with narrow profit margins, are having trouble keeping up with the payments.

Extreme economic crises influence different industries. Because of their nature, their effects are almost unpredictable. The International Monetary Fund (IMF) reported total losses amounting to US\$4.1 trillion of which \$2.73 trillion were incurred by banks and \$1.36 trillion by insurers, pension funds and other financial institutions (IMF 2009). Due to lack of liquidity, the insurance industry was less affected than the banking industry (Liedtke and Schanz 2010) and limited systemic risk (Harrington 2009). One of the reasons was that insurers do not face the risk of a client defaulting but rather the risk to pay the insured should they suffer a loss, death or maturity of a policy. Nevertheless, the insurance industry is prone to market risks. Because insurers have increased their connections with banks and with other non-traditional insurance activities (mainly in capital markets) over the past two decades, it has been seen that systemic risk has seeped into the insurance industry and this trend is expected to continue.

(Baluch et al. 2011) explain during the financial crisis period, the less economic activity, the less hard rating structure, for example SwissRe (Zurich, Switzerland) reported a downturn of 0.8% in non-life premiums due to the financial crises of

2007–2009, and more claims being paid out due to a more litigious environment as well as an increase in fraudulent and exaggerated claims. Furthermore, given that this insurance is long term business, any results from the 2008 credit crunch and financial crisis will probably remain unknown for many years.

(Liedtke and Schanz 2010) and (Baluch et al. 2011) figured out that post crisis insurance industry continued to grow in line with the global financial market mostly because investors had understood that the effect of crises on the insurance industry was less severe.

Interest Rates

Considerable doubt exists among analysts that a recent directive by the Central Bank of Iran (CBI) on reducing interest rates will be capable of maintaining financial discipline within the country’s banking system. In April 2015, the Central Bank of Iran reduced the maximum interest rate to 20 percent. In June 2017, bankers agreed to offer a maximum 15 percent interest on one-year deposits, down from the previous 18%. The rate for short-term deposits is set at 10 to 14 percent. The deposit interest rate in Iran in figure2 shows that there is a diminishing status after year 2014 which is maybe due to expansionary monetary policy to overcome the recession.

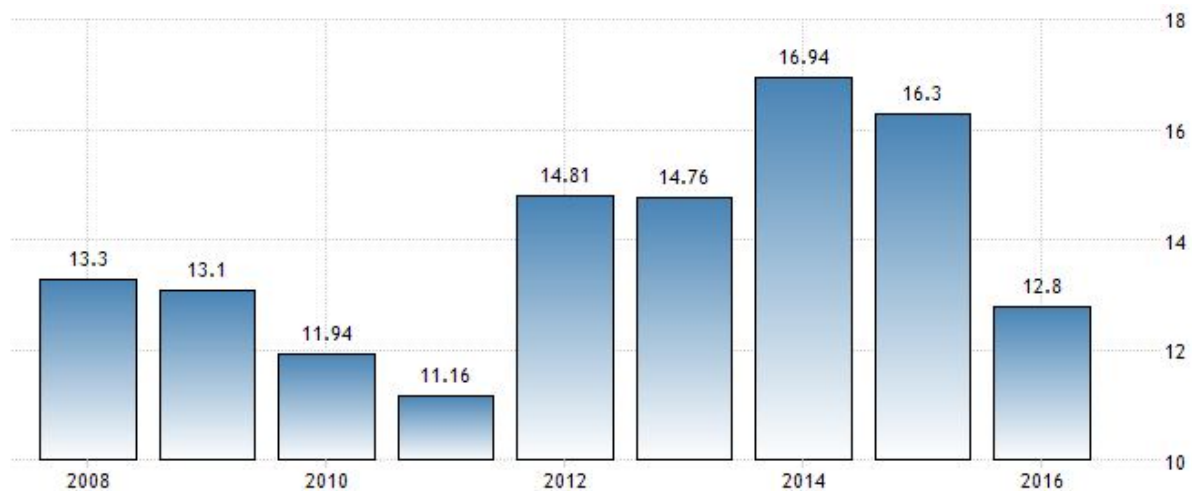


Figure2. Deposit Interest Rate in Iran (2008-2016)

A modern economy is intrinsically linked to interest rates, thus their importance on the financial markets. Interest rates affect consumer spending. The higher the rate, the higher their loans will cost them, and the less they will be able to buy on credit. Changes in interest rates are likely to affect long term products and as such would be expected to have a higher impact on life insurers than on non-life insurers. The low interest rates increase the present value of liabilities. This is placing significant pressure on insurers since liabilities must be covered with assets, stressed further by an environment of high capital requirements.

Interest rate risk for insurance companies is a significant factor in determining profitability. Although rate changes in either direction may affect insurance company operations, insurance company profitability typically rises and falls in concert with interest rate increases or decreases.

Changes in interest rates can affect the assets and the liabilities of an insurance company. Insurance companies have substantial investments in interest-rate-sensitive assets, such as bonds, as well as market interest rate-sensitive products for their customers. Drops in interest rates can decrease an insurance company's liabilities by decreasing its future obligations to policyholders. However, lower interest rates can also make the insurance company's products less attractive, resulting in lower sales and, thus, lower income in the form of premiums that the insurance company has available to invest. The net impact on the company's profitability is determined by whether the decrease in liabilities is greater or less than any reduction in assets that is experienced.

Lower interest rates can also negatively impact an insurance company's risk profile as an equity investment if analysts believe the company may have difficulty meeting future financial obligations. Lower levels of equity investment mean lower levels of assets for insurers.

While the precise effect of interest rate changes on a specific insurance company may be uncertain, historical analysis shows that the overall trend is for the profitability of insurance companies to increase in an environment of rising interest rates. Totally price-to-earnings (P/E) ratios for insurance companies usually increase in fairly direct proportion to increases in interest rates. Life insurers are taking measures such as cost cutting, consolidation, balance sheet restructuring, including hedging and derivatives, and increasing reinsurance cover in order to keep their company stable and providing satisfactory profits for their shareholders. (Sander and Krauel 2013)

Inflation Rates

Inflation is the rising price of goods and services over time. Traditionally the two main causes of inflation are said to be demand pull inflation and cost push inflation. The former is when the demand for goods and services rises at a faster rate than the supply/production, leaving supply constant and in turn causes prices to increase, thus inflation. On the other hand, cost-push inflation occurs when the supply of goods and services diminish, leading to higher prices as demands remain constant. (Barbara et al, 2017)

Iran's stellar economic performance since the lifting of economic sanctions in January 2016 has not yet translated into improved living conditions for all citizens. Add this to the following traditional factors:

- Oil shocks and liquidity growth
- Public budgets and reliance on oil revenues
- budget deficit
- The policy of devaluation of the national currency and supportive policies
- Inappropriate pricing of manufacturers

Considering these factors figure3 shows Iran inflation rate from 2012 up to 2022 (compared to previous year).

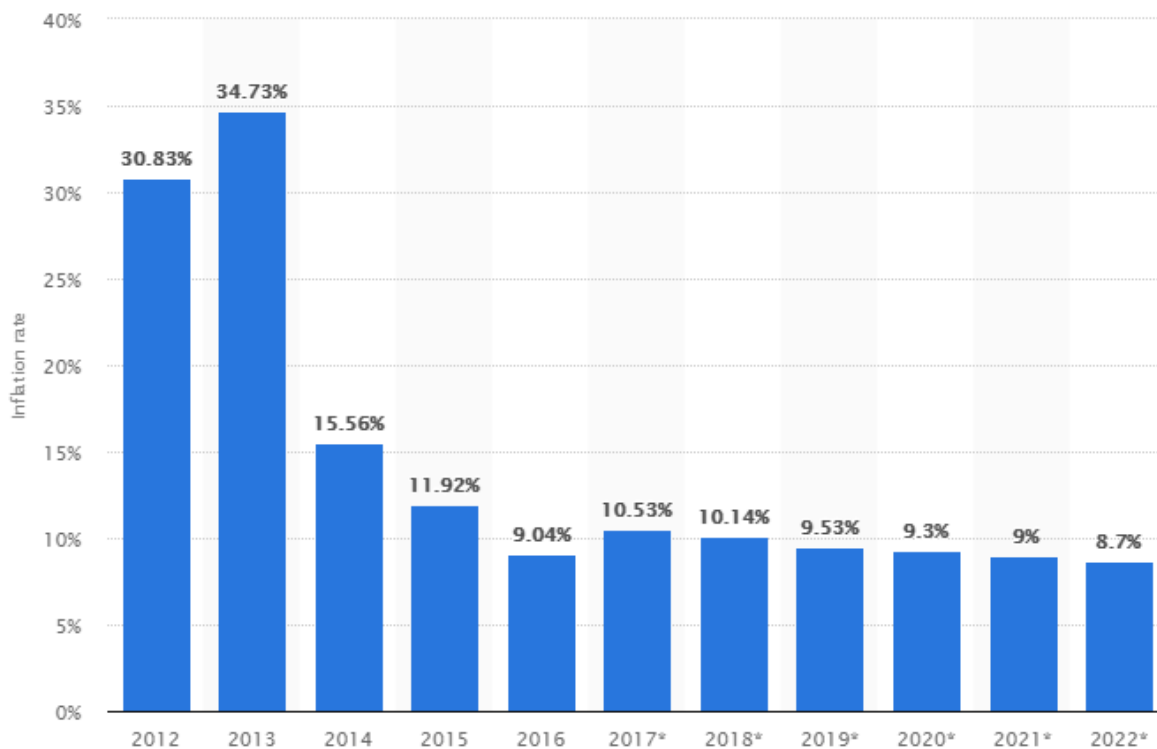


Figure3. Iran Inflation rate from 2012 to 2022 (compared to previous year)

In the short run, inflation rate has a negative effect on stock market investments. In other words, the more expensive consumer items, the more decrease in equity spending which might occur because of unequal increase in wages and the costs of stockholders. Therefore the inflation rate effect will be neutralized that means stock market index will rise in the long-run. As a result insurance companies should consider the short-run inflation effects. (Najafi, 2018)

Contrary to inflation is deflation which can be caused by a diminishment in general economic activity forcing suppliers to reduce prices; often caused by a low supply of money in the economy (Alhgrim and D'Arcy 2012).

Long term non-life insurance products (e.g. health insurance products) are more sensitive to economic shocks because of their fluctuation, since this product provides cover for long term-care, the impact of inflation can be seen in the long run given that such a product has lengthy pay outs and claims (Alhgrim and D'Arcy 2012).

In addition, general insurance products such as motor insurance policies have a different economic impact. Alhgrim and D'Arcy (2012) have explained that inflation has two effects:

- Increase in the value of items insured, and therefore increase in claims costs. The reason is the cost to repair or replacement cost of an item should be equal to the current market value. For example, vehicle manufacturers have increased the replacement cost of those parts that experience most damages during the incident, much higher than inflation. Hence as vehicle original parts increase in price, so will the claim costs to repair or replace.
- Insurers might also face higher medical care costs due to continuous advances in modern medicine.

Insurers should attend to inflation by adjusting the sums insured of the properties insured accordingly. Life premium rates have to be adjusted according to the increase in wages and prices (Karl et al. 2010).

Liability insurance is more bowed to the social cost escalation than general price inflation, because technology and medical developments advance at a higher rate than inflation. Hence, general inflation is not the only factor causing an increase in prices and claims costs. Over the past decade the price of vehicles has increased by 25%, however, most of this increase is due to the advance in technology rather than the effects of inflation (Alhgrim and D'Arcy 2012).

Foreign Exchange Rates

Mojtahed, et al, (2014) investigated the long-term effects of exchange rate changes on GDP and its indirect impact on premium in Iran and found that exchange rate has negative effect on GDP and increase in GDP has positive effect on premiums. This has caused such Iranian companies to face foreign exchange risks, which means that insurers would face a difference in the value relationship between currencies during the time.

A fluctuation in interest rates can have significant effects on the profitability of an insurer operating in jurisdictions in multiple currencies or writing business in different currencies (such as a reinsurer). Insurance companies can manage such foreign exchange risk through hedging, forward and future contracts, options and swaps. (Barbara et al, 2017)

Najafi (2018) showed that an increase in exchange rate will increase the proportion of non-commercial claims. Increasing exchange rate in the short-run the stock market index declines. It seems powered by the expectation of individuals about exchange rate increases. Forecasting profits in the stock market, people have withdrawn their capital from market in the short run and it causes the fall in stock market index. But in the long-run, the effect of increased revenues from exports of manufactured products will compensate the short-run negative effect. Therefore increase in exchange rate will positively effect on the stock market in the long-run. As a result, since the foreign exchange rate will indirectly affect the balance sheet items of insurance companies, they should keep track of financial ratios to do not be surprised losing competitive power.

The volatility in the foreign exchange rate can become a source of risk for firms. X examining the effects of foreign exchange rate volatility on profitability of insurance industry in Kenya showed that foreign exchange rate volatility

negatively impacts on the ROA of the insurance industry. At 5% level of significance, all the independent variables are not statistically significant. (Kemuma, 2015)

Demography and Economic Growth

Today's workforce is changing. The baby boomer generation - which dominated the labor market for so long - is nearing retirement, and the up-and-coming millennial are poised to take control of the nation's many industries. As a result, experienced professionals will give way to younger go-getters and the insurance industry could start to see a shift in claim frequency, job openings, technology and pricing. These changes only scratch the surface of the influence demographics wield over businesses. Adapting will allow you and your company to get ready for the new environment looming on the horizon. It is better insurance companies consider:

- Population growth must be addressed
- Insurance feels effects of aging workforce
- Risk management moves to forefront
- Demographics affect many sectors and maybe have several indirect effects on insurance industries.
- Finally, no matter what, keep demographics in mind whether you are buying insurance or preparing for long-term business growth. Think about implementing new technology and training methods to attract millennial, and figure out how to meet the varied needs of boomers as they near retirement. Above all else, don't forget that today's workforce is changing.

Shepherd (2010) explains that when income decreases following an economic crisis the mortality rate for the elderly and young children increases. The reason is people would not have sufficient income to cover necessities like medicine, food, clothing, heating, etc. that leads to poor health and thus mortality.

Demography has had an impact on insurance purchase for a number of years. For example, policyholders within Iran have spent 5.1% of their social expenditure on disability insurance (more widely known as personal accident insurance). Furthermore, the reduction in mortality rates has triggered a higher demand for pension schemes, health and social care; mainly amongst elderly people. (Central insurance of Iran, 2017)

The Underwriting Circle

All industries experience cycles of expansion and contraction and similarly, the insurance industry is cyclical in nature. It fluctuates between the soft market (when premiums hold steady or decrease) and the hard market (when rates increase and coverage is harder to find). Insurers constantly match premiums charged, as well as terms, regard to their competitors in the market. Sometimes this is done by losing or even breaking in order to maintain market share and sustain fixed costs although a hard market with high profits absorbs new insurance companies.

The property casualty market has been in a soft state for the past years. For the past couple of years, people have been predicting the market will harden, but that hasn't been the case. Now, after much speculation, the market is starting to lean toward a hard cycle which has following features:

- Higher insurance premiums;
- More stringent underwriting criteria, which means underwriting is more difficult;
- Reduced capacity, which means insurance carriers write less insurance policies;
- And less competition among insurance carriers.

The characteristics of a soft market in the insurance industry include:

- Lower insurance premiums;
- Broader coverage;
- Reduced underwriting criteria, which means underwriting is easier;
- Increased capacity, which means insurance carriers write more policies and higher limits; and
- Increased competition among insurance carriers.

In the long run, weak insurance companies will fail due to low capital and high liabilities sometimes caused by a catastrophic outcome, forcing them to exit the insurance market. This will only leave the stronger insurance companies in the market and due to low competition it allows them to drive higher premiums above claims costs, which in turn generates higher profits and permitting once again for the cycle to repeat itself (Grossman and Ginsburg 2004).

What shall the insurance companies do? They should know that a string of natural disasters and the residual effects of the economic downturn have been the main causes for this change in the insurance industry cycle from soft to hard market. Furthermore, there are two things that effect business insurance premiums – payroll and revenue. As companies began experiencing a decrease in revenue and consequently started to lay off employees, both their payroll and revenue decreased, which in turn meant a decrease in premium to the insurance carrier. This is another way in which the carrier is losing money due to the economic downturn. (English, 2013)

Social and Cultural Environment

Work and Employment Patterns

Job Mobility

Nowadays, it is unlikely for persons to experience a stable working life of unbroken full time employment. It is often sought-after to experience several jobs in different organizations, in order to grow professionally and expand on one’s skills and experience. However, an employee changing jobs, or even careers, numerous times is fairly likely to suffer periods of enforced “retirement” or redundancy (Atkinson and Dickson 2011).

Unemployment Rate

Iran’s unemployment started increasing in the 2010s and specially met 12.6% in 2017. An increase in unemployment led to changes in institutions, whereby most governments tried to control it by introducing employment protection, bringing about the creation of unemployment insurance. Consequently, it has seen that the different paths taken explain the differences in the unemployment rates across Iran today (Statistical Center of Iran, 2017).

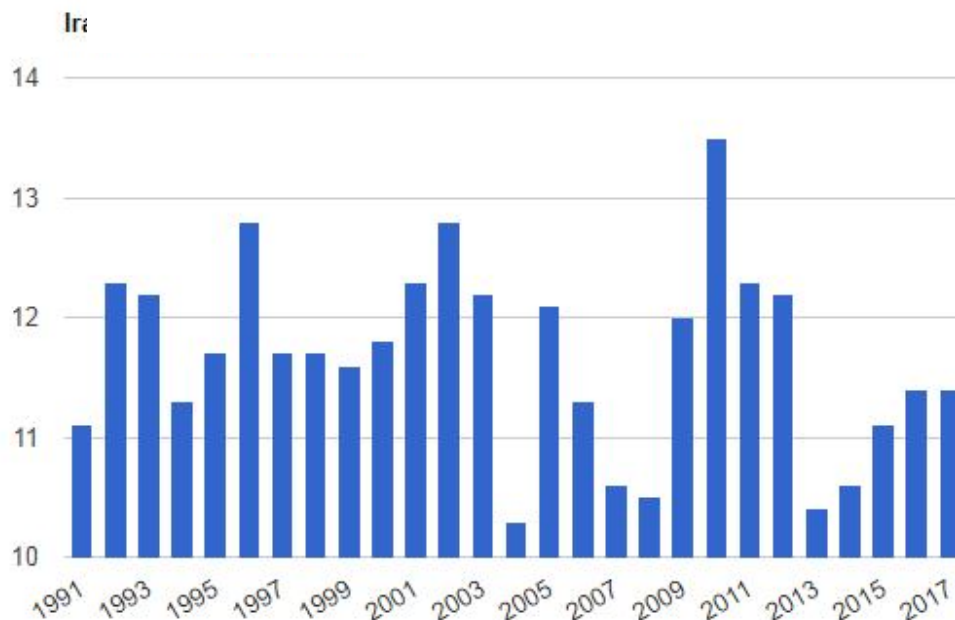


Figure4. Iran Unemployment Rate 1991-2017

Maternal Employment Rates

Multiple earner households imply a higher joint income and hence more consumption which in turns leads to higher demand for insurance. This in effect has resulted in more mothers entering the work force when their children are still young.

Governments can help in this societal shift by introducing parental leave, maternity leave, spouse support and child care, amongst others (Scarr et al. 1989). This change can be advantageous to the insurance industry since nannies are on the rise due to the result of both parents working.

Fertility, Mortality and Migration

Family formation, trends in fertility, mortality and migration have also experienced a seismic shift over the past few decades resulting in changing demographics and socio-economic structures of societies. Consequently, they have an impact on the demand for insurance. These are all vital factors to consider when investigating the financial condition of a national pension scheme.

Ageing Population

Life expectancy in Iran is generally in the middle relative to most other regions of world. It is expected to keep growing, more than reducing deaths at higher ages. This will affect the population distribution such that there will be a higher proportion of individuals in retirement ages (figure 2). Improvement in education and standards of living has a major impact on longer life expectancy, hinting that the pattern of increasing longevity could be further extended in the future.

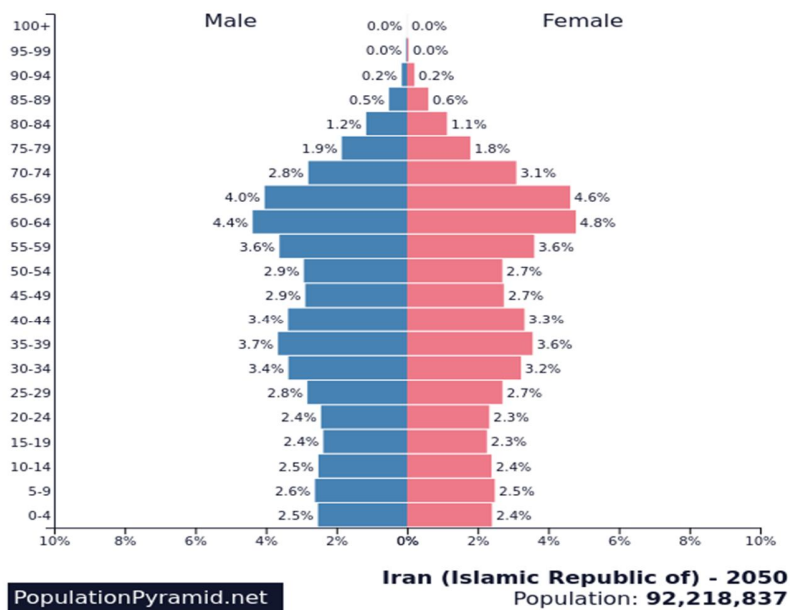


Figure5. Estimation of Iran population until 2050

With such an ageing population in Iran, demand for health insurance could grow along with that of private pensions, whereby governments will encourage the savings into insurance plans for future pensions.

Increasing numbers of people at old and very old ages will pose major challenges for health-care systems. However, people are also living longer with less disability and fewer functional limitations (Christensen et al. 2009).

Education

People are now better educated, resulting in more questions being asked when purchasing insurance products. Iran's recent higher education is said to be diverse and this is regarded as one of its major strengths. Hence consumers have become more risk aware, tending to be insurance inclined in order to protect their ever increasing number and cost of goods and assets. Insurance companies must therefore take better care of their clients in order to retain them. With insurance, people look at service whenever a claim arises and how fast and efficient one solves a claim. There has been a growing interest in financial literacy and financial education over the past years. As a result, the financial market place has become more dynamic and complex affecting individuals' financial decisions such as which retirement plan workers should select (Bosshardt and Walstad 2014).

Community Values, Attitudes and Cultures

Anti-discrimination legislation has been brought about by many reasons including community disapproval of discrimination based on gender, marital status, religion, disability and race. It also results in ongoing public debates, questioning the right of life insurers and pension schemes to be exempted from such legislation, as well as to what extent insurers have in limiting the ability to discriminate in their underwriting (Avraham et al. 2013).

Values and norms have been changing over the past years and can be seen in calls for recognition of de facto partners and same-sex partners, along with married opposite-sex partners. This will affect benefits payable to spouses from pension schemes. The insurance industry is also faced with constraints on the types of questions insurers ask in their proposal forms such as sexual orientation. Attitudes of people also have an impact on the insurance market when making claims along with the extent to which people believe that under-insuring is a prudent method of decreasing their expenses. In an insurance industry, the level of criminal activity in a community could impact the level of claims. This could be higher in urbanized areas since there is a greater concentration of assets leading to increased opportunities for crime and for evading detection (Esho et al. 2004).

Urban concentration increases the rate of interaction amongst individuals; hence more activities are undertaken in close proximity to neighbors and in turn some insurers use urbanization as a proxy for loss probability (Browne et al. 2000). Furthermore, this criminal effect on insurance is explored by (Litton 1982) whereby insurers can influence the behavior of potential victims in such a way as to prevent the crimes from which they may have otherwise suffered.

Technological and Physical Environment

Advances in Technology

Technology has a two-fold effect on the insurance industry; on the one hand technology has been used by insurers since the 1960s and has enabled them to improve their services. However, many insurers have struggled to cope with the ever-changing technological environment. Furthermore, business mentality has now changed and placing the customer at the center of the organization is essential for the business to prosper. Insurers must understand customer's lifestyles to create products that satisfy these needs and technology can be a powerful tool in doing this (KMPG 2014).

Mahdavi, (2013) explains, considering the emergence of mobile technology in Iran there are some barriers, such as promotion and implementation of new services that cause disadvantages so far, mobile commerce does not get its true status rather to other countries. Insurance companies should cooperate with governors to achieve the best level of technology implementing these cases:

- Development and promotion of telecommunication network
- Promoting the usage of PDAs
- Constructing the National Mobile Payment System
- Execution of rules
- Connecting to the international networks
- Training, technical knowledge, marketing and
- Attention to National and Global Standards

Mobile devices have evolved tremendously such that they can be considered as the new personal computers whereby individuals have come to rely on mobile devices for purchasing goods and services (Rauch 2011).

The growth of internet connected devices and sensors affecting the availability of real time information give insurers an opportunity to have an edge over competition. This information can be used to offer more affordable prices, better underwriting and loss control. Also, advances in artificial intelligence techniques allow insurers to base decisions on technology, as opposed to just using technology as a means of processing data (PwC 2012). Block chain technology, a distributed ledger that has been gaining a lot of attention, can provide insurers with opportunities for new products, improved fraud detection and lowering of administrative costs (Lorenz et al. 2016).

These developments have led to an increase in the number of claims and also the cost of claims, as new technology can be very costly (Shepherd 2010). The long-term side effects of new technologies in any area from traditional equipment to cosmetic enhancements are unknown, leading to potential latent claims. Consider a scenario in which mobile phones are found to be carcinogenic—the experience on claims may be as substantial as the insurance exposure to asbestos.

The Physical Environment

Climate change

There is growing acknowledgement among insurers that the impact of climate change on future insured losses is likely to be profound. Insurers have an enormous opportunity to develop new profit centers by providing innovative insurance products for energy users or providers of clean energy services.

Managing risks and controlling losses is central to the insurance business, and is evident in the industry's history as founders of fire departments and advocates for building codes. While the primary focus in recent years has been on financially managing risks, physical risk management is receiving renewed attention and could play a large role in helping to preserve the insurability of coastal and other high risk areas. Improved building codes and land use management are important starting points. Improved management of forests, agriculture and wetlands also offers dual benefits: withdrawal of carbon from the atmosphere and storage in biomass and soils coupled with increased resilience to drought, coastal erosion and other products of weather extremes.

Climate change is fast becoming a risk to all society as the increase in emissions of greenhouse gases has taken its toll on our climate. Furthermore, as one of the largest and most powerful industries in the world, the insurance industry must be pro-active and respond to such a threat (World Economic Forum 2016). As with most problems basic knowledge and understanding about the situation is required in order to be able to generate suitable solutions and action plans. Therefore, insurers may start off with research in order to create risk models which take climate change into consideration. The solutions reached should help both the industry as well as society as a whole (Mills, 2009).

Natural Disasters

Many people believe that damage caused by natural disasters is never covered, but that's a myth. Most home insurance policies automatically cover damage caused by these "unpredictable" weather events.

For example, if a hailstorm damages your lawn furniture and the siding on your house, this is generally covered. The same is true if a tornado tears off part of your roof. In the ice storm of 1998, considered by many experts to be the largest natural disaster Canada has seen: policyholders received more than \$1.8 billion in benefits. Good news, lightning is generally covered on all auto and home insurance policies, often with no deductible. (National bank of Canada, 2015)

For some property, people may need to purchase additional coverage, called an endorsement. For example, above-ground pools or outdoor spas have to be named on the contract and covered by an endorsement. Similarly, some events, such as earthquakes, need to be covered in an extra clause in the policy.

However, insurance companies are faced with the problem of "spreading of risk" when dealing with natural disasters. This problem arises as people who live in areas where there is, for example a high risk of an earthquake occurring will be more inclined to purchase insurance to protect them from such an event. On the other hand, if there is hardly any risk of an

earthquake occurring, then people may not feel the need to purchase such insurance. In this respect the premiums collected may not be enough to cover the cost of claims. (Barbara et al, 2017)

Conclusions and recommendations

The insurance industry is vital to Iran's market in both well developed and developing regions as it also has a ripple effect on other industries both within the financial and non-financial realm. Insurance increases financial stability, is a successor and complementary to the government social security programs, helps to equip savers, reduce damages and allocating capital efficiently. This makes a generic overview of the industry an important update to be made. We used a PEST analysis to overview the main political, legislative, economic, social, demographic, technological and environmental changes that affect the industry as a whole.

According to the research and due to direct and indirect effects of external factors, we have some recommendation and alarms for Iranian insurance companies:

- Insurers must carefully inspect the items that will be covered before issuing insurance certificates and provide advices on risk management to help reduce potential risks and prevent accidents.
- The beginning of a gradual reduction of compulsory reinsurance, implementation of supervision of financial strength about insurance companies and eliminating the regulatory system of tariffs are the most significant structural reforms in the country's insurance industry in recent years made an opportunity to insurers increase their market share.
- The low level of insurance culture in society, lack of development of expert human resources, the presence of newly established private companies, lack of sufficient mastery of private sector shareholders to participate in insurance industry, imbalance between life and non-life insurance, imbalance between compulsory and non-compulsory insurance are the biggest threats for insurance companies.
- Lack of communication with the international market has also been a deterrent factor to creating a free market in the country's insurance industry. Therefore, the insurance market in Iran cannot be regarded as a completely free market.
- Insurance companies have based the competition on providing lower rates than competitors, and neglected the most important aspects of the insurance industry, including the desirable quality of services and the provision of insurance coverage for the various strata of society. Accordingly, insurance companies should attend to the quality of services.
- Given the low variety of insurance products in Iran market and availability of suitable facilities in the country, creation of new fields in insurance (interdisciplinary) is one of the most effective measures to increase the penetration rate of insurance in the country. Therefore, insurance companies should work harder to promote new insurance disciplines.
- Development of independent professional institutions, such as the actuaries' institution, the Business Appraisal Authority of insurance companies and the Audit Authority of Insurance Companies can be useful in this regard.
- Establishment of corporate governance in insurance companies such as internal audit in order to protect shareholders' rights
- Development of rating agencies of insurance companies, agents and brokers
- Creating professional institutions for determining and evaluating, such as trustworthy (for both of insurers and underwriters).
- According to reduction in sanctions, for positive and constructive interactions with international companies, there are some prerequisites: adherence to the principles of pricing based on calculation and risk assessment, financial transparency in the formulation of financial statements, facilitate the entry of foreign companies for investment and shareholding in the interior, contextualization in order to reciprocity on the outside and creation a two-way relationship between assignment and reciprocity.

The main discussions outlined during the report and the findings are summarized in Table 1. This table lists the main external factors which have been identified as key in the PEST process, including some examples.

Table 1. Summary of main drivers

	Main Drivers	example
Political and Legislative Factors	Stricter legislation Harmonization Specific laws in a class of business Indirect Judicial decisions Political environment Tax incentives	Political forces Solvency II Less public healthcare More traffic enforcement Different interpretation of policies Protectionism Additional investment opportunities
Economical and Business Environment	Financial crises Interest rates Inflation Foreign exchange rates Demography and economic growth Underwriting cycle	2007–2009 Current low interest rate scenario putting Increased medical costs Home vs. foreign currency Reduction in mortality rates Soft vs. hard markets
Social and Cultural Environment	Work and employment patterns Fertility, mortality, migration Ageing population Education Common values, attitudes	Gig economy changing pension demands Higher generation gap between parents and Children Term care insurance Greater demand for insurance products but better service required Antidiscrimination laws leading to same pricing between genders
Technological and Physical Environment	Direct technological effects New technology to cover Disruptive technologies Climate change Natural disasters	Block chain, telematics Photovoltaic panels New products by competing industries Risk modeling improvements Pest damage to crops

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