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Editor's Note

By Milanthi Sarukkali

It is October, the end of summer and beginning of fall. The year is flowing by rather quickly, and it is time to publish our last newsletter for 2019. Once again, we are excited to bring to our readers a diverse lineup of articles covering events, new developments and views from across multiple regions.

In this issue, we cover a couple of meetings of importance to the actuarial community, with recaps of the International Actuarial Association Council and Committee meeting that took place in Washington, D.C., in May and the Society of Actuaries (SOA) Asia Pacific and China Symposiums held in June.

This issue of *International News* explores challenges that emerging markets face with the impending accounting changes of IFRS 17, as well as government-sponsored health initiatives in Colombia. It also takes a look at the implications of demographic changes in Mexico. Next, we focus on microinsurance, with an article introducing the recently concluded SOA research on technology in microinsurance and an interview with Renata De Leers of Actuaries Without Borders® on inclusive insurance in central and southern Europe.

We also feature the runner-up of the Country Feature Article Call for Papers of 2019, an article that highlights why life insurers should care about Brexit. Congratulations to Ronald Klein, who has participated in this competition for a number of years, submitting entries with many interesting perspectives that are

internationally relevant and emerging as the runner-up in 2015, 2016 and 2017.

I would also like to draw your attention to a flyer we have published in this issue on an event that is closer to home for me personally. The South Asian Actuarial Conference will be held in Colombo, Sri Lanka, on November 13 and 14. We have an interesting lineup of presentations and panel discussions under the theme “Stepping Into the Future,” discussing the changing role of the actuary and associated opportunities and challenges. The SOA ambassadors from the South Asian region will be hosting a networking event for SOA members attending the conference, and I look forward to meeting some of our readers there.

By the time this newsletter reaches our readers, the 2019 SOA Annual Meeting & Exhibit will be right around the corner. The International Section has contributed an interesting lineup of sessions for this event and also plans to host a few networking events for members. I look forward to meeting our members and readers personally at this event.

This is a bittersweet time for the International Section, as we bid farewell to a few council members and welcome new leadership. Arpita Das will be completing her term as chairperson of the International Section in October. Arpita is a long-standing volunteer who has contributed much of her time and energy to the International Section, as council member and then as chair, and prior to that as the editor in chief of this newsletter. We owe much of the success of this newsletter to her tireless efforts in providing leadership to the editorial board. On a personal note, I have thoroughly enjoyed working with her and wish her continued success in the future. By the time you read this newsletter, we will have welcomed a few new council members, and we look forward to introducing the new leadership of the section in our next issue.

As always, I would like to encourage our readers to reach out to us with ideas on how we can improve this newsletter and provide relevant and useful content. Also, while we are thankful to our regular writers for their contributions to this newsletter, we encourage our readers to consider submitting their own articles for future issues, highlighting new developments, ideas and events in their regions.

I hope you enjoy this final issue for 2019. Happy reading! ■



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Chairperson's Corner

By Arpita Das

Welcome to the October issue of *International News*. The year has indeed flown by—summer ends, autumn begins and this article marks my last as chairperson for the International Section. As I reflect back on the year, I am proud of the progress we've made and look forward to our activities at the 2019 SOA Annual Meeting & Exhibit in Toronto this month. I am also excited for the new slate of leadership whose terms begin after the annual meeting and who will move our section into 2020.

The guiding light for the past year has been a mission of connection and outreach. On the connection front, we have taken networking and event sponsorships to a truly international level. This has included past and upcoming events scheduled this year in Washington, D.C.; Harare, Zimbabwe; Indianapolis; Toronto and Bangkok. We are also in the midst of revamping our website, which will now include an actuarial events page to better facilitate global connections across members.

On the outreach front, we continue to remain involved with research initiatives, and we support actuarial education. This has included collaboration on health care—funding research projects and support of organizations like Actuaries Without Borders®.

These highlights were a few of many initiatives that took place this year. None of this would have been possible without active engagement from our council members and friends. I am grateful for the excellent team we had in place. In particular, I would like to thank our outgoing council members this year—Heather Ingram, Ken Seng Tan and James Xu—for their many contributions.

I invite all of our readers to attend the exciting set of sessions the International Section has sponsored for the 2019 SOA Annual Meeting & Exhibit. These include sessions on global



aging and production innovation, mortality improvement around the globe and a panel on insurtech trends, challenges and application case studies. I also encourage all of you to take the opportunity to meet fellow section members and members of our council at the meeting, many of whom have been directly involved in organizing these sessions.

Beyond October and into the next year, I am excited for the upcoming council elections and our new slate of leaders. I thank all those who have expressed interest in running for our council. Our section needs your enthusiasm, engagement and leadership.

Finally, to all of our readers, thank you for your continued support of this newsletter and of the International Section. I look forward to meeting many of you in person at the annual meeting and crossing paths in the future. ■



Arpita Das, FSA, FSAI, is the life and disability senior actuary at Allianz Partners. She is based in Dublin, Ireland, and can be reached at arpita.das@allianz.com.



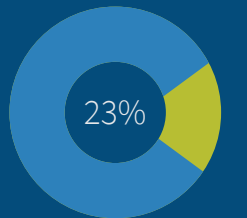
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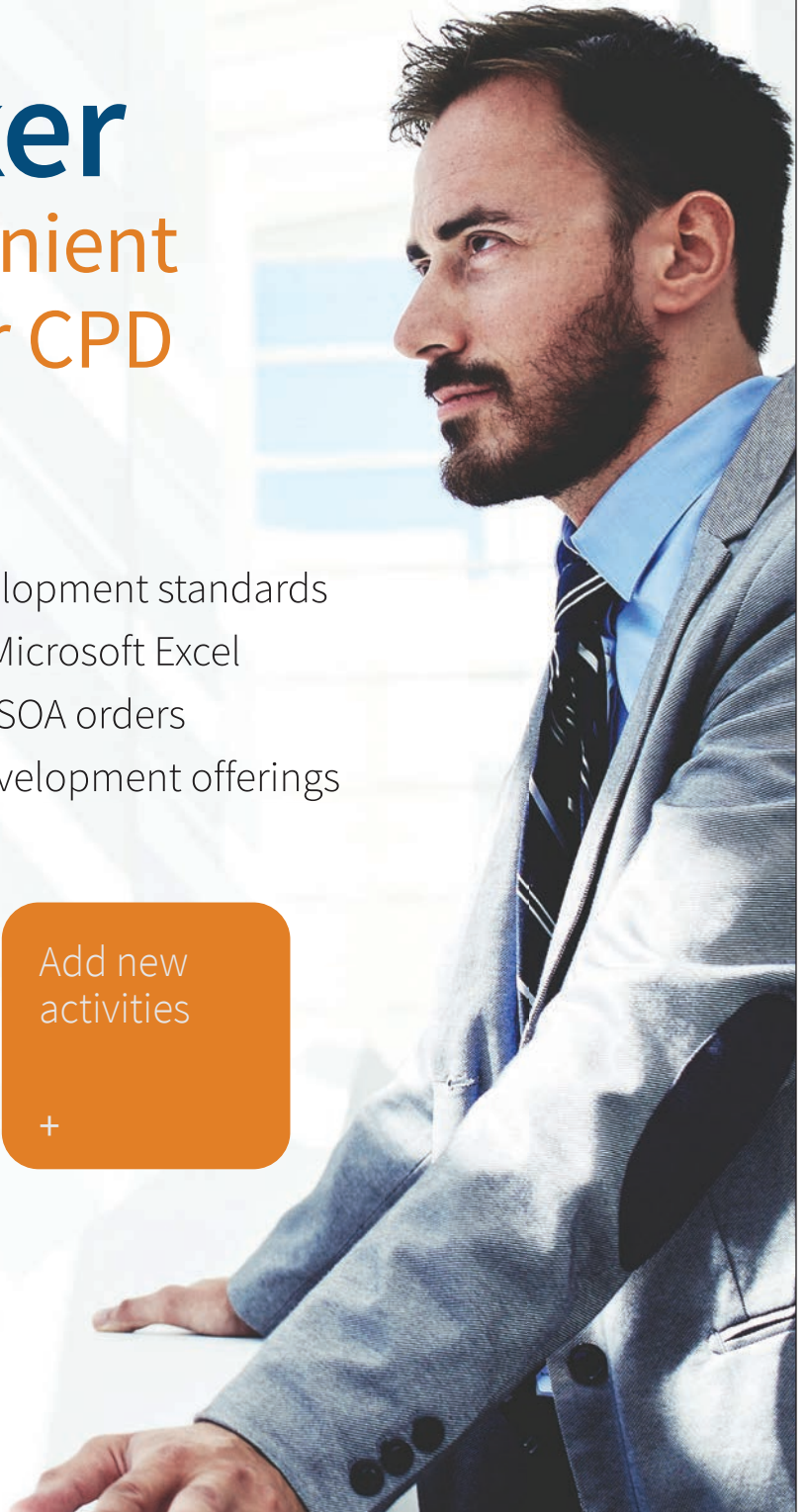
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Recap: International Actuarial Association Council and Committee Meeting

By Susan Mateja

The International Actuarial Association (IAA) Council and Committee meeting took place in Washington, D.C., from May 14 through May 19. The IAA Council is the governing body of the IAA and normally meets twice a year in different countries. It comprises the officers, one delegate per full member association (FMA) and one delegate per section:

- **Officers.** The officers are Gábor Hanák (Hungary), president; Masaaki Yoshimura (Japan), immediate past president; Tonya Manning (U.S.), president-elect; and Mathieu Langelier (Canada), executive director.

- **Associations.** The roughly 75 FMAs include the Society of Actuaries (SOA), the American Academy of Actuaries, the Casualty Actuarial Society, the Conference of Consulting Actuaries and the American Society of Pension Professionals & Actuaries (ASPPA).
- **Sections.** The seven sections are Financial Risks, Non-Life Insurance, Actuaries Without Borders® (AWB®), Pensions and Social Security, Health, Life Insurance and Consulting. Although the members of the IAA are other associations, the sections' membership consists of individual actuaries. Currently the total section membership is over 5,000. I attended as vice chairperson of the IAA Health Section. The SOA International Section donated \$2,000 to AWB®, and they thanked us for this generous donation during their section meeting.

With this structure, the IAA has both a top-down approach, with the FMAs, and a bottom-up approach, with the sections.

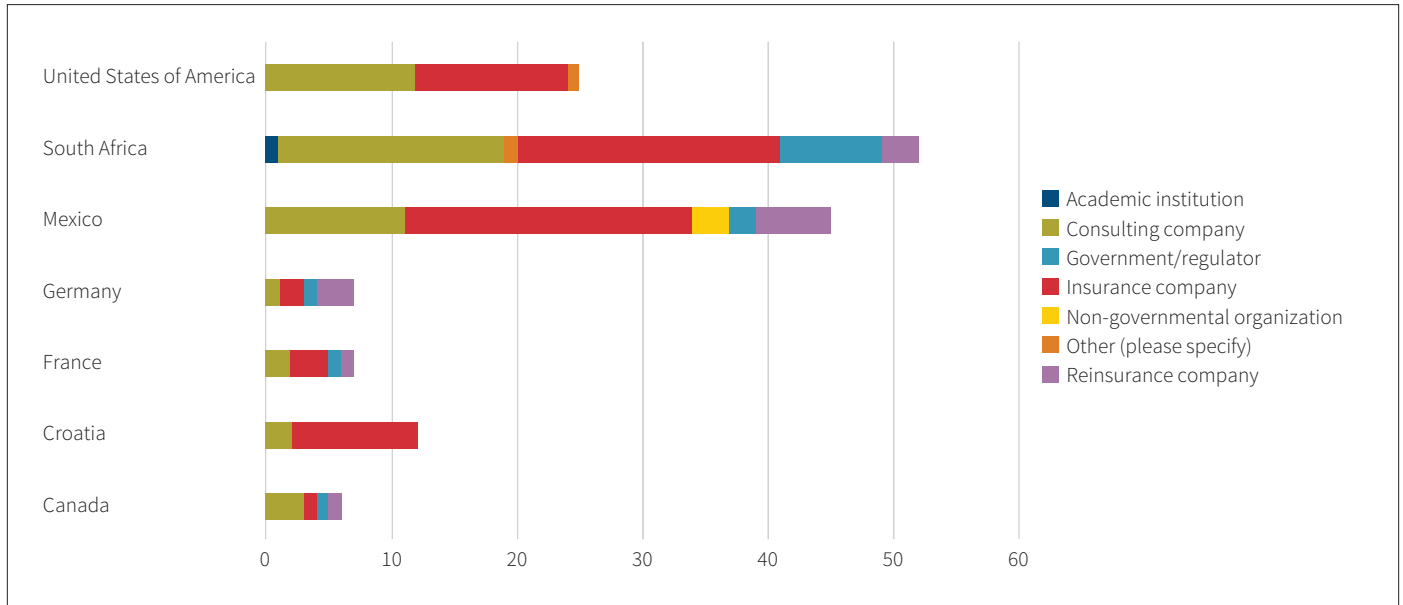
The May meeting took place in the Mayflower Hotel in downtown Washington, D.C. There were about 280 participants from 42 countries. While some of the discussions gave recommendations for an improved governance and organizational structure of the IAA, many other topics were presented:

- measurement of health care inflation;
- evolution of the role of the health actuary;



Some of our networking group in front of the White House as we walked to Ocean Prime

Figure 1
Health Survey Respondents by Country



- big data and the health actuary, specifically how risk management, pricing and underwriting, and the profession will be impacted;
- Health Section membership survey;
- Organisation for Economic Co-operation and Development (OECD), which is working with the IAA to foster prosperity through economic growth and financial stability;
- proposed changes to IFRS 17, including transitional requirements, improving clarity and delaying the effective date to 2022; and
- climate change's impact on health insurance.

Breakout sessions featured various working groups and committees' sessions, including the mortality working group, the scientific committee, the health committee, the advice and assistance committee, the Own Risk & Solvency Assessment (ORSA) subcommittee, the actuarial standards committee, the pension and employee benefits group and the Africa subcommittee, to name a few.

I was particularly involved with the health care survey, through which we gathered demographic information to gain insights on

the future of the health actuarial profession and to develop ways of collaborating and communicating on a global scale. We had 183 responses from 22 countries, as seen in Figure 1.

No meeting would be complete without networking opportunities. The International Section Council hosted a lovely event, led by Bill Sayre and myself, on Thursday evening at the upscale Ocean Prime, which is a 15-minute walk from the Mayflower Hotel. This event, with an attendance of about 15 actuaries, sparked great conversation and connection within and outside of the SOA and the International Section. A sizable contingent consisted of AWB® members, and it was good to interact with them. I don't think you can measure the goodwill that was enhanced by this event, but it is safe to say more internationally minded people know our name and mission because of it.

The next IAA Council and Committee meeting will take place in Tokyo in November 2019. ■



Susan Mateja, FSA, MAAA, is a retired fellow of the Society of Actuaries and serves as vice chairperson for both the SOA's International Section Council and the International Actuarial Association Health Section (IAAHS). She can be reached at susanmateja@aol.com.

SOA Asia-Pacific and China Annual Symposia Held in Guiyang and Bangkok

By Paul Setio Kartono, Hassan Scott Odierno and Jessie Li

This June, Asian actuaries gathered in China and Thailand for the Society of Actuaries' (SOA) two major annual symposia in Asia tailored to local actuarial practice interests and markets.

The Fourth SOA China Annual Meeting was held in Guiyang, China, June 13–14. The symposium gathered leaders from China's insurance regulatory authority, alongside actuaries, executives, scholars and experts from the actuarial, insurance and finance fields.

Guiyang is the capital city of Guizhou province and home to China's national big data center, playing a vital role in China's national digital strategy. The southern city is a major tourist attraction, inviting attendees to linger, nestled among tall green mountains like ancient Chinese landscape paintings. Its role on the cutting edge of big data and insurtech presented the perfect setting for stakeholders to explore new developments in the actuarial profession in China.



Attendees enjoy networking at the 2019 APAC Symposia.



William B. “Flick” Fornia, member of the SOA Board of Directors and chairperson of the SOA International Committee, gave opening remarks, attaching great importance to the growth of the profession in China and commitment by the SOA to further its work with Chinese partners.

Jia Biao, deputy director general, Life Insurance Regulatory Department, China Banking and Insurance Regulatory Commission, gave a keynote speech titled “Get Ready for Opportunities and Challenges and Be Accountable.” He stressed that, with increasing attention on risk management in China, actuaries are playing a more important role in insurance companies and other relevant industries than ever before.

Li Mingguang, vice president, chief actuary and the board secretary of China Life Insurance Co., as well as chief actuary of China Life Pension Co., delivered a second keynote, sharing his belief that actuaries must be more forward-looking, innovative, integrated and service-oriented and must strive to improve their actuarial professionalism, communication and coordination.

In addition, Wang Jiachun, president of Wefar Assets Management Co., along with other leaders and experts practicing in the actuarial profession, discussed the profession's opportunities and challenges and shared their perspectives on the future of the insurance industry.

The first day of the symposium featured concurrent sessions covering current market topics, including:

- health and health management;
- new technology and innovations; and
- IFRS 17 updates.

The second morning of the symposium offered an in-depth review by project leaders from industry and the regulators of the current work streams in the development of C-ROSS Phase II, including a description of plans for its next test phasing and the schedule for adoption.

The China symposium was followed by an intensive half-day course titled Professionalism in Practice, in which participants were challenged in small groups and individually to examine the principles and their real-life impacts.

Just a few days after the China symposium, the SOA held the Ninth Asia-Pacific Annual Symposium in Bangkok, Thailand, June 17–18 at the Marriott Marquis Queen’s Park hotel in the Sukhumvit area, which is in the heart of Bangkok city. The event attracted more than 150 delegates from 15 nationalities. It was supported by the Society of Actuaries of Thailand (SOAT), Thai Life Assurance Association and READI (Risk Management, Economic Sustainability and Actuarial Science Development in Indonesia). READI is a project devoted to the development of the actuarial profession in Indonesia, supported by the University of Waterloo.



Hassan Scott Odierno speaks at the Ninth Asia-Pacific Annual Symposium in Bangkok, Thailand.

Bangkok is a vibrant city for meetings, corporate events and tourism. It was built on the banks of the Chao Phraya River in the early 15th century. The river underwent man-made alterations to facilitate transportation, with the last shortcut canal achieved in 1722. The metropolis has developed on this configuration, around the waterways and low-lying areas of the delta, into what it is today. It has numerous cultural sites, shopping havens, food paradises and nightlife hubs.

The one-and-a-half-day event was followed by another half-day Professionalism in Practice course facilitated by presenters from both Thailand and the United States, including Itt Apiraktivong, chief actuary of the Prudential Life Assurance (Thailand); Flick Forna; and Andy Peterson, SOA senior director, International Committee.

The SOA events in China and Thailand attracted leaders from insurance regulatory authorities, actuaries, scholars, and other experts from insurance and finance.

Dr. Suthiphon Thaveechaiyagarn, secretary-general of the Office of the Insurance Commission of Thailand, joined Forna and Peterson in delivering the welcome remarks. Tommy Pichet Jiarmaneeetaweesin, president of SOAT, opened the symposium with remarks on the future of the actuarial profession, noting that “an actuary is like a cook, taking good-quality materials and using processes—recipes—to create a masterpiece. A master chef ensures both amazing taste as well as presentation. Actuaries need to do the same! And people need to understand what we have done.”

Simon Lee, regional chief operating officer of AXA Partners Asia, also shared new applications for artificial intelligence in both health and motor insurance, with vivid case studies.

Other sessions featured discussions of the intersection between actuarial science and technology, including:

- An Innovative Way of Improving Customer Retention for Insurance Companies, presented by Anuran Mohanty and Sandeep T. Patil
- Application of Machine Learning in Life Insurance Modeling, presented by Zachary Stenberg
- IFRS 17: Deciding Whether to Build Internally or Buy a Ready-Made System, presented by Hassan Scott P. Odierno



Dale Hall of the Society of Actuaries inspires the crowd at the Ninth Asia-Pacific Annual Symposium.

- Asia Retirement Landscape, presented by Elvin Tharm
- Health Care Technology Especially in Diabetes Treatment and Monitoring, presented by Kamakhya Das and R. Dale Hall

The sessions also produced some interesting quotes, notably:

- “The customer doesn’t care if you are on blockchain, using AI or predictive analytics or anything else. What they care

about is whether you solve their problems!” —Justin Yiu, Solaria Labs

- “The top four actuarial technologies of 2019 are data visualization tools, predictive analytics, cloud computing and collaborative tools.” —Dale Hall, SOA

Finally, Paul Kartono, director and chief strategic officer with the PT FWD Life Indonesia, representative of the organizing committee and Greater Asia Committee member, closed the symposium with remarks on the ongoing SOA endeavors and activities to support the profession in Asia. ■



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News from Latin America: SOA Conducts an IFRS 17 and Solvency II Workshop in São Paulo

By Alexandre Leal

Editor's note: This article was originally published on the website of the National Confederation of General Insurance, Pensions and Life, Health, and Capitalization Products Companies (CNseg) of Brazil on July 19, 2019. It has been translated from the original Portuguese by Marli Barba.

The IFRS 17 and Solvency II Seminar, sponsored by the Latin American Committee of the Society of Actuaries (SOA) and supported by CNseg, took place July 15–17 at Escola Nacional de Seguros, in São Paulo, Brazil. The seminar was presented by Alexandre Leal, CNseg technical and studies director, highlighting the relevance of the topic for the insurance industry and recalling the occasions in which CNseg promoted initiatives such as this one, helping with the technical

improvement of the professionals of the industry and the resulting positive effects on commissions' debates, and in the forums constituted by regulators to deal with these issues.

Ronald Poon-Affat, FSA, opened the seminar by addressing the mission of the SOA—which has more than 31,000 members worldwide—promoting education, research and professional development. According to him, IFRS 17 is considered today “the most disruptive norm of all time.” Published in May 2017, this is a new international financial reporting standard for insurance contracts. It is estimated that its impact will reach 186 countries around the world. In Brazil, companies in the publicly traded insurance sector should adopt the international standard. The others are still waiting for definitions from insurance regulatory agencies (SUSEP [Superintendence of Private Insurance] and ANS [National Agency of Supplementary Health]).

Máris Gosmann, a professor at Federal University of South Rio Grande and director of the Brazilian Actuarial Institute, addressed the concepts and issues of IFRS 17, such as treaty measurement, separation of contract components, aggregation level, the new form of result statement and disclosure of the assumptions made, as well as detailing the principles that guide future rules, which will come into effect in 2022.

Carlos Arocha, FSA, developed even further the concepts of the norm, also talking about the treatment given to reinsurance treaties through practical application exercises. Among IFRS 17 features, it highlighted the best comparability, the most intuitive economic vision and better perception of profit and transparency, as well as bringing more dynamism, consistency and cash flow strength. Also highlighted was the importance of the



Left to right: Carlos Arocha, Máris Gosmann and Alexandre Leal

accounting, financial, actuarial, technology and risk management sectors to work together toward an effective implementation of IFRS 17.

The IFRS 17 seminar ended in the morning of the second day with the presentation of implementation workflow consisting of:

- mapping sources of information, including insurance contract data and actuarial information;
- validation and data enrichment;
- filing;
- insurance contract group definition (groupings);
- insurance contract classification (non-onerous, onerous, etc.);
- insurance contract service margin calculation, risk adjustment, among other variables;

- identification of the specificities of IFRS 17 in the accounting process;
- consolidation and reconciliation;
- financial statements, including explanatory notes; and
- internal reports demonstrating the interfaces with solvency capital requirements.

In the afternoons of the 16th and 17th, the SOA seminar addressed issues related to Solvency II, a risk-based capital standard applied to European insurers and an inspiration for the Brazilian current model. ■

Alexandre Leal is the technical and studies director at CNseg in Brazil.

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Government-Sponsored Health Actuarial Initiatives in Colombia

By Armando Zarruk

The Colombian Association of Actuaries (CAA, or Asociación Colombiana de Actuarios), recently organized, with government and academic institutions, two actuarial seminars in health-related topics conducted by Society of Actuaries (SOA) members.

THE LOCAL HEALTH SYSTEM

The Colombian health system underwent a deep transformation in the 1990s and now operates as a government centrally managed system that has fairly succeeded in reaching universal coverage.

The health social security system is financed through wage contributions and public resources from the government.¹ It is made up of three major segments:

- the contributory regime for employed and independent individuals with ability to pay;
- the subsidized regime for the low-income population and those in the less formal economy; and
- some exempted regimes (e.g., police forces, teachers).

The compulsory system is administered by specialized health promoting insurers (EPS, “entidades promotoras de salud”) with the main function of properly managing the government-designed health benefit plan package and insurance rates. EPSs are required to manage health and financial risks, guarantee effective access and ensure quality in the provision of health services. They receive a risk-adjusted premium per capita (UPC, “unidad por capitación”) set yearly by the government, in addition to copayments paid directly by insured individuals; at the same time, they contract with health provider institutions (IPS, “instituciones proveedoras de servicios”) in order to deliver the prescribed services.

Health funds are administered in a centralized way by the Ministry of Health, which collects and redistributes them to EPSs



Attendees at the Risk Adjustment and Predictive Modeling in Health seminar (left to right): CAA vice president Luis Gabriel Caro; Ian Duncan; CAA president Armando Zarruk; Félix Nates, Ministry of Health official; Jacobo Pereira-Pacheco; and CAA treasurer Inti Gómez.

based on a government-defined risk-adjusted capitation formula that includes age, sex, geographical location, type of regime and health condition.²

SEMINAR ON RISK ADJUSTMENT AND PREDICTIVE MODELING IN HEALTH

To promote and help develop best practices among actuaries and technicians that work in the health arena, the CAA, in cooperation with the Colombian Ministry of Health and Social Protection and the National University of Colombia, organized the seminar Risk Adjustment and Predictive Modeling in Health, held Dec. 1, 6 and 7, 2018, in Bogotá, Colombia.

This three-day event started with a one-day short course covering basic statistical and R concepts as required for the seminar and given by Óscar Javier Lopez and Luis Hernando Vanegas, Ph.D., professors at National University.

The core part of the seminar was conducted by Ian Duncan, FSA, who dedicated the second day to health care risk adjustment topics. This session was of significant interest to the government and stimulated discussion among participants and government officials about the local system.

The last day was dedicated to predictive modeling and included several topics covered in the health predictive analytics seminar administered by the SOA. It was a practical, hands-on session that had the collaboration of Jacobo Pereira-Pacheco, who assisted participants to apply R to the case studies presented.

Presentations related to the local system were also given by Ministry of Health officials Felix Nates, director for the Division of Regulation of Benefits, Costs and Rates, and Anwar

Rodríguez, a delegate for Diana Cardenas, the vice minister of social protection.

SEMINAR ON RISK MANAGEMENT FOR THE HEALTH INSURERS (EPSs)

In June 2018, the Superintendence of Health issued Circular Letter 004, which established a comprehensive risk management system for EPSs, as well as management of only health risk to other supervised entities, mainly IPS providers. For EPSs, the standard includes health, actuarial, credit, liquidity, market and operational risks, among others.

To lay down guidelines, the Health Superintendence, in collaboration with the CAA, organized a one-day seminar titled Risk Management in Light of Current Regulation. The event was held Dec. 19, 2018, in Bogotá. The seminar targeted both management officials and senior technicians at the institutions overseen by the Health Superintendence, and it aimed to help companies not only to comply with the new regulation but at the same time to implement risk management mechanisms that provide value to their institutions.

The sessions began with a presentation by Daniel Pinzon, responsible for the Office of Supervision Methodologies and Risk Analysis at the superintendence, where he discussed main objectives and expected timeline for the implementation of the norm. Then, separate modules were presented on the different risks, including the fundamentals of risk management, the prescribed regulation and risk quantification approaches. Maureen Tresnak, FSA, presented two separate modules, covering actuarial risk and health risk. Luis Caro, ASA, covered the module on financial risks, and Steven Koegler, M.B.A., presented a module on operational risk.

Both events were free of charge for participants, and limited registration places were assigned to health insurance institutions and to CAA members practicing in health.

These two conferences are important events that highlight the relevance of the participation of actuaries in the health arena, from a regulator's point of view. The risk adjustment and predictive modeling seminar, sponsored by the SOA, had over 80 registered attendees, while the risk management seminar had over 100.

I would like to take this opportunity to thank the SOA's Latin America Committee for its support. These events contribute to the SOA's strategic initiative to expand actuarial knowledge internationally and at the same time, emphasize predictive analytics.



Maureen Tresnak presenting at Risk Management in Light of Current Regulation

For more information about these conferences, visit the events section of the Colombian Association of Actuaries website at www.actuarios.org.co. ■



Armando Zarruk, ASA, is the actuarial reserving manager for Liberty Insurance, in Bogotá, Colombia, and an actuarial instructor at the National University of Colombia. He can be reached at azarrukr@unal.edu.co.

ENDNOTES

- 1 In addition to the compulsory (public) health coverage, consumers can also purchase a voluntary (private) plan, comparable to a U.S. commercial health insurance; however, individuals have to demonstrate they are in the contributory regime in order to acquire a voluntary plan.
- 2 More details can be found in chapter 23 of *Healthcare Risk Adjustment and Predictive Modeling* by Ian Duncan (New Hartford, CT: ACTEX Learning, 2018).

Demographic Change in Mexico (Part I)

An Opportunity and a Challenge for the Insurance Industry

By Juan Antonio Monroy Kuhn

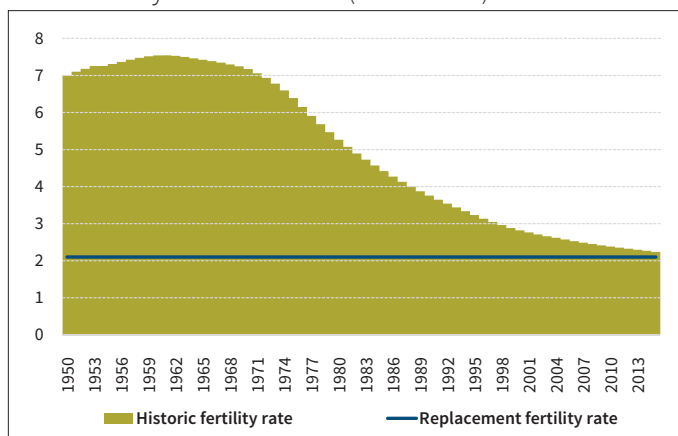
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The most recent demographic data published in Mexico allows us to analyze in detail the profound demographic transition that has been taking place in the country for more than four decades. It is possible to develop forecasts for the future on the basis of this historic experience. The purpose of this article is not only to illustrate the profound demographic change in Mexico—and what it is expected to experience over the coming decades—but to highlight the challenges for the insurance industry posed by the various demographic trends. Wherever challenges are found, however, opportunities also exist, provided the industry succeeds in adequately transforming its own processes and meeting the needs of a changing market.

DEMOGRAPHIC CHANGE IN THE PAST

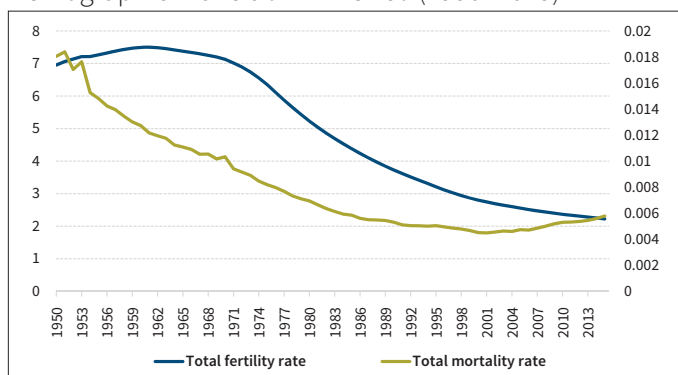
Falling fertility rates are a well-known phenomenon in virtually every country that has experienced a given degree of industrial and digital transformation.¹ What is striking is the speed at which this fall has taken place in many Latin American countries, including Mexico. Whereas the total fertility rate in Mexico averaged 7.35 children per woman between 1950 and 1970, by 2015 the figure had fallen 70%, to just 2.2 children. This represents an annual fall of 1.8% over a 45-year period (1971–2015). The short-term projections of the Mexican National Population Commission (Comisión Nacional de Población—CONAPO)* indicates that the total fertility rate will fall below the replacement rate of 2.1 children during the current year of 2019. The replacement rate is the theoretical fertility rate that would permit a closed population to remain constant over time. The speed at which the total fertility rate has fallen in Mexico is noteworthy when we take into account that the fertility rate in Germany fell by an average of just 0.6% per year between 1955 and 2010.² In other words, the same

Figure 1
Total Fertility Rate in Mexico (1950–2015)



Source: Gen Re—Own calculations based on the data “Conciliación Demográfica de México 1950–2015, Consejo Nacional de Población (CONAPO), 2018.”*

Figure 2
Demographic Transition in Mexico (1950–2015)

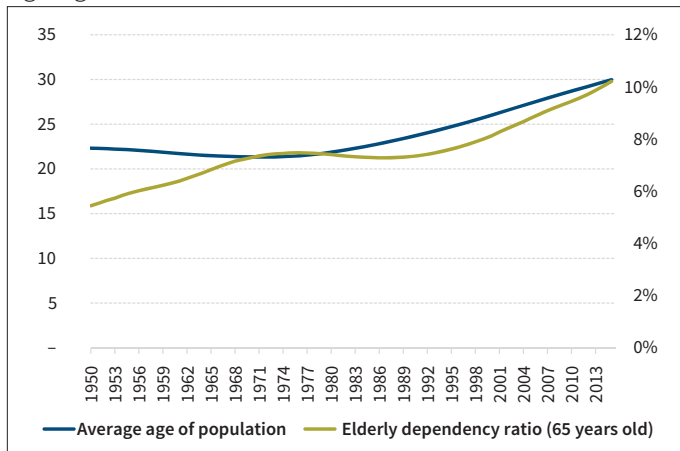


Source: Gen Re—Own calculations based on the data “Conciliación Demográfica de México 1950–2015, Consejo Nacional de Población (CONAPO), 2018.”*

change has been occurring three times as fast in Mexico as in Germany (Figure 1). As we can see from Figure 2, the fall in the fertility rate was preceded by a notable fall in the total mortality rate. Between 1950 and 1990 the mortality rate in Mexico fell at a rate of 2.9% per year, before stabilizing and then showing a slight rise due to the general ageing of the population. A fall in mortality rate followed by a fall in fertility rate, as shown in Figure 2, is a phenomenon that has been observed in many other countries and that is traditionally described by different models of demographic transition.³

Clearly the combination of the two phenomena has led to a general ageing of the population. The average age of the population rose from 22.3 years in 1950 to 29.97 in 2015 (see Figure 3). Whereas the average age remained constant, or even fell slightly, between 1950 and the mid-1970s, it began rising in linear fashion from 1975 onwards. Similarly, if we assume 65 as the retirement age and 15 years old as the start of working age,

Figure 3
Ageing in Mexico (1950–2015)



Source: Gen Re—Own calculations based on the data “Conciliación Demográfica de México 1950–2015, Consejo Nacional de Población (CONAPO), 2018.”*

the ageing process may also be observed via the elderly dependency ratio.⁴ This ratio is the ratio of the economically inactive population (namely, given our assumption, the population older than or equal to 65 years old) to the working age population. This ratio grew from 5.44% in 1950 to 10.21% in 2015. In other words, whereas in 1950 there were 18.37 persons of working age for each retired person (assuming retirement at the age of 65), in 2015 there were only 9.79 persons, or slightly more than half the 1950 number. This can be seen from the elderly dependency ratio shown in Figure 3.

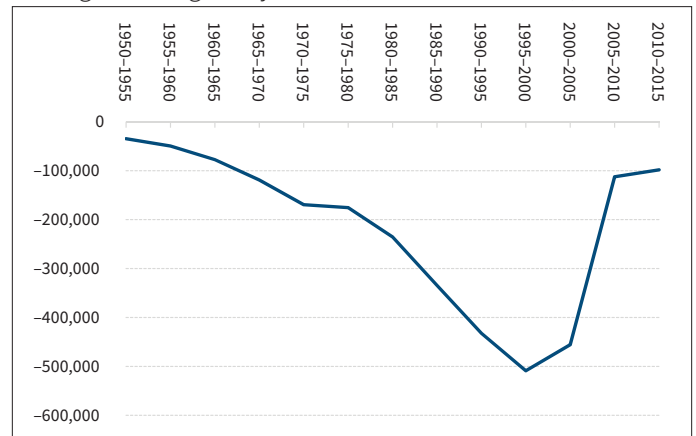
MIGRATION AS A FACTOR CONTRIBUTING TO THE AGEING OF A POPULATION

Mexico has traditionally been a country of high net negative migration, with the United States being the principal recipient of Mexican emigrants. In countries that have fertility rates falling short of the replacement rate and low mortality rates, the migration factor plays an important role, which may or may not accelerate demographic transition. In the case of Mexico, migration is a phenomenon that exerts additional pressure on the ageing of the population.

Figure 4 shows the average net annual migratory flow by five-year periods from 1950 to 2010 between Mexico and other countries. This net negative flow grew steadily from 1950 onwards, reaching a peak between 1995 and 2000 before falling from 2005 to 2016. This fall was largely due to a tightening of U.S. immigration policies from 2008 onwards, which has led to an increased flow of immigrants returning to Mexico.

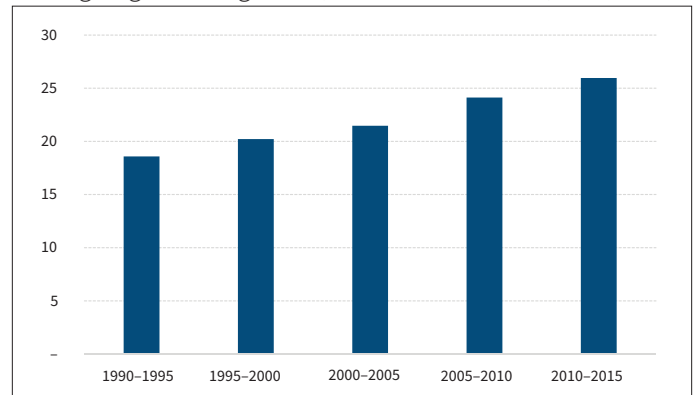
The figures show that the majority of those leaving the country are very young persons—between 20 and 30 years old—although the mix has changed over time, as Figures 5 and 6 demonstrate.

Figure 4
Average Net Migratory Flow (Mexico, 1950–2015)



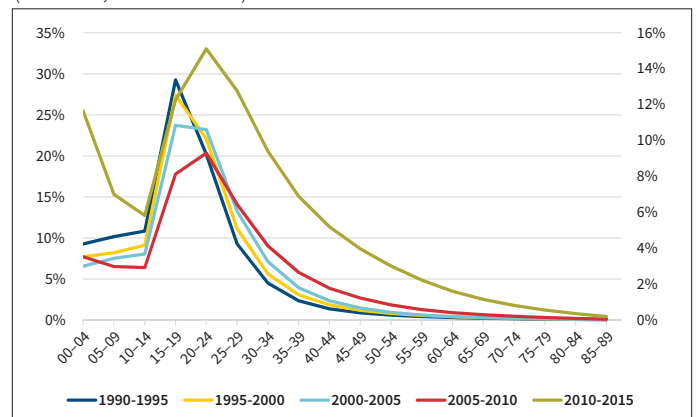
Source: Gen Re—Own calculations based on the data “Conciliación Demográfica de México 1950–2015, Consejo Nacional de Población (CONAPO), 2018.”*

Figure 5
Average Age of Emigrants (Mexico, 1990–2015)



Source: Gen Re—Own calculations based on the data “Conciliación Demográfica de México 1950–2015, Consejo Nacional de Población (CONAPO), 2018.”*

Figure 6
Average Emigration Flow by Five-Year Cohort and Age (Mexico, 1990–2015)



Source: Gen Re—Own calculations based on the data “Conciliación Demográfica de México 1950–2015, Consejo Nacional de Población (CONAPO), 2018.”*

The increase in the average age of emigrants over the past 25 years can partially be explained, at least until 2010, when it reached its high point, by the natural ageing that Mexico was undergoing. This can be seen from Figure 7, which shows that the ratio between the average age of the emigrants and the average age of the Mexican population remained almost constant from 1990 to 2010. Changes in immigration policies from 2008 onwards have brought in their wake a change in the age structure of emigrants.

Having analyzed the past, we shall now focus on a discussion of various projected scenarios for the short-, medium- and long-term foreseeable future.

A striking fall in fertility rates is shaping the new demographics in Mexico.

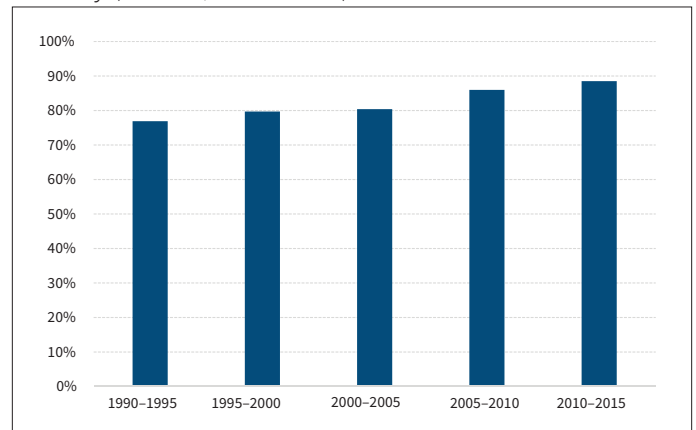
MEXICO IN THE FUTURE

So far, we have been discussing the demographic change Mexico has undergone since 1950. However, a more interesting question, at least from the viewpoint of the insurance industry, is what Mexico will look like in 30 or 40 years' time. In the first instance, the answer is clear: in all probability, society will continue to grow older. However, to what extent will this be the case?

One way of answering this question, at least in approximate fashion, is to use a cohort-component model in order to project the population. In its simplest version, such a model can be used to estimate the population in year t as the sum of the population in year $t-1$ plus the births during years $t-1$ and t . We then subtract deaths from this total and add the net migratory flow observed during the year. The official population projections published by CONAPO may be approximated via this model, using 2015 as the base year and making the following assumptions:

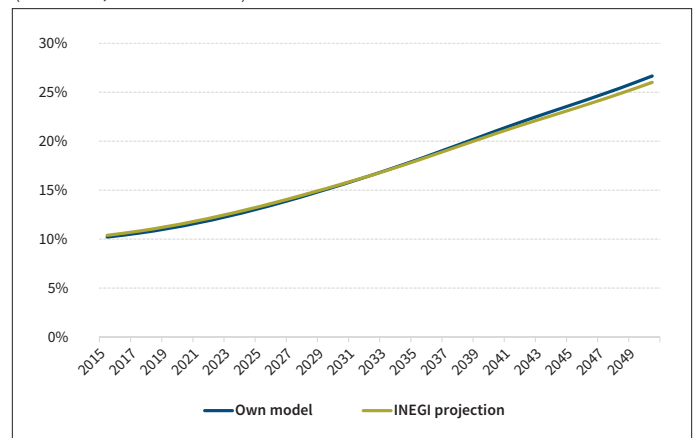
- A linear fall will take place in the total fertility rate of 1.05% per year (taking 2.15 children per woman as the starting point and arriving at 1.70 in 2060).
- On the mortality component side (used to estimate deaths during each year of the projection), our approximation of the official model assumes a constant 1.08% annual improvement in the mortality rates.
- Finally, the National Institute of Statistics and Geography (Instituto Nacional de Estadística y Geografía—INEGI) assumes an increase by a factor of two in the future net

Figure 7
Ratio of Average Age of Emigrants to Average Age of Country (Mexico, 1990–2015)



Source: Gen Re—Own calculations based on the data “Conciliación Demográfica de México 1950–2015, Consejo Nacional de Población (CONAPO), 2018.”*

Figure 8
INEGI Elderly Dependency Ratio vs Own Model (Mexico, 2015–2050)



Source: Gen Re—Own calculations based on data fo “Proyecciones de la Población de México y de las Entidades Federativas, 2016-2050, Consejo Nacional de Población (CONAPO), 2018.”*

migratory flow as compared with the estimated flow in 2015. Our model introduces this change in linear fashion via the projection.

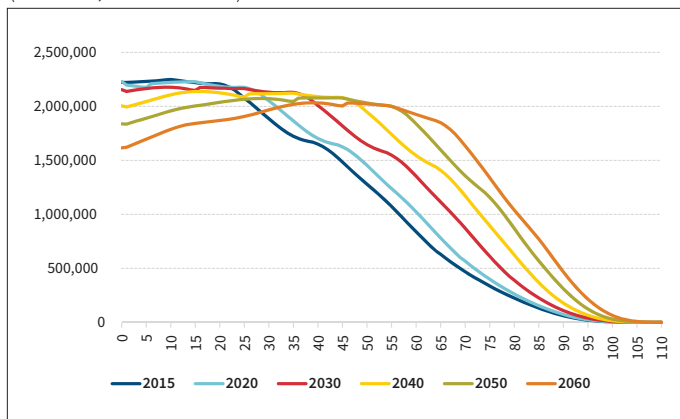
Figure 8 compares the elderly dependency ratio estimated on the INEGI projection base with the approximate dependency ratio arrived at by applying our cohort model as described above. In both models, the ratio is forecast to grow from 10.21% to 26.7% by 2050. That is, by 2050 there are expected to be 3.8 persons of working age per pensioner (assuming a constant retirement age of 65). To put this figure into perspective, it suffices to glance at Table 1, where we can see similar current elderly dependency

Table 1
Elderly Dependency Ratios by Countries (2015)

Country	Dependency Ratio 2015
Mexico	10.4%
Germany	32.1%
France	30.2%
Sweden	31.1%
UK	28.2%
Japan	42.7%

Source: CIA World Factbook.

Figure 9
Population Distribution by Ages and Year
(Mexico, 2015–2060)



Source: Gen Re—Own calculations based on the data “Conciliación Demográfica de México 1950–2015, Consejo Nacional de Población (CONAPO), 2018.”*

ratios in various European Union countries, as well as in Japan, the longest-lived country in the world.

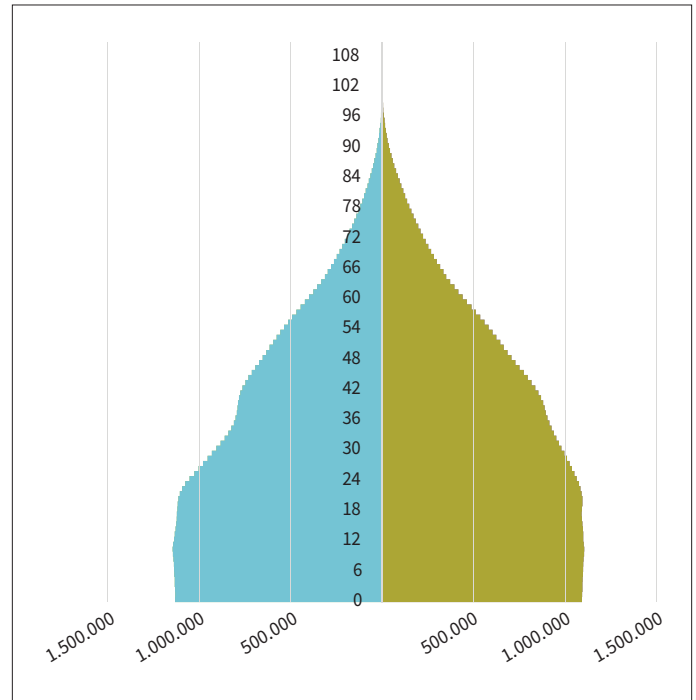
Figure 9 graphically demonstrates the anticipated ageing of the Mexican population. Whereas the 2015 life expectancy at birth in Mexico was 71.7 for men and 77.5 for women, under the assumptions made for our base model, life expectancy at birth in 2060 will be 78.48 for men and 83.2 women, a net increase of 6.7 and 5.6 years respectively.

The ageing expected in the population can also be represented by means of population pyramids, which show a clear trend towards inversion of the population pyramid for 2015 (Figure 10).

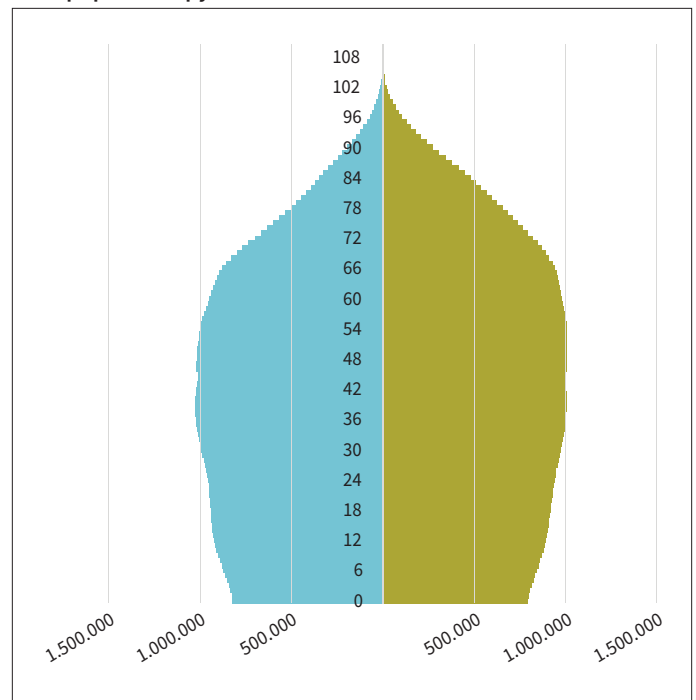
Like any long-term projection, the forecasts of Mexico’s future demographic situation depend on the assumptions made for the purposes of the model. Accordingly, it is of particular importance to analyze different scenarios in order to attain a higher

Figure 10
Population Pyramids (Mexico, 2015–2060)

2015 population pyramid



2060 population pyramid



Source: Gen Re—Own calculations based on the data “Conciliación Demográfica de México 1950–2015, Consejo Nacional de Población (CONAPO), 2018.”*

degree of certainty concerning the projections made and the possible future scenarios.

Different Future Scenarios

Taking the scenario described above (the Base scenario) as our starting point, we shall now analyze four further scenarios in which we vary one assumption at a time while leaving all the others constant. The variables analyzed are:

- the annual improvement in mortality,
- the total fertility rate assumptions,
- the migratory flow and
- pension age.

Below we discuss each of the scenarios analyzed.

Advance Scenario. In our Base scenario we assume an improvement in mortality of 1.08% p.a. To test the elasticity of our model with respect to this variable, we analyzed the assumption that [there would be] an as yet-unknown spontaneous technological advance bringing about a substantial improvement in the diagnosis and cure of illnesses currently considered incurable, such as certain types of cancer. In this scenario we assume a consequent improvement in mortality of 2.5% p.a. This improvement is assumed to be constant throughout the projection period.

Reduced Migration Scenario. Currently Mexico experiences a negative migratory flow of approximately 100,000 people. This is a significant number when we consider that cities such as San Pedro Cholula (Puebla) or Tula de Allende (Hidalgo) have populations of roughly 100,000. There are indications that U.S. immigration policy could become more restrictive in the short to medium term. Given that the U.S. is the principal country of destination for Mexican emigration, we shall analyze a scenario in which it gains complete control over illegal migration, leading to a neutral annual flow of zero from 2020 onwards.

Uncontrolled Migration Scenario. The average net migratory flow reached an annual peak of –500,000 people during the five-year period 1995–2000. In this scenario, we assume

socio-economic disorder within Mexico, leading to a major rise in illegal emigration and a negative net annual migratory flow reaching –300,000 per year from 2020 onwards and then remaining constant until the end of the projection. We further assume that the age structure and sex of the emigrant/immigrant population remains constant and as observed in 2015.

Work Scenario. At the moment, the official retirement age in Mexico is 65. Politicians are currently discussing increasing the retirement age in order to ease the financial pressures that are caused by the ageing population and that are faced by diverse social security and pension payment schemes—for example, the Mexican Institute of Social Security (Instituto Mexicano del Seguro Social—IMSS) system. To visualize the impact of increasing the retirement age on the population structure, we assume an incremental increase in the retirement age of one year every five years, starting from 2020, until reaching a retirement age of 70. This is a realistic scenario if we take a look at the differences between the remaining life expectancy after retirement in 2015 and 2060 respectively within the Base scenario. As can be seen from Table 2, on average men would be living 11 months longer and women almost three months longer after their retirement in 2060 than they would be given their remaining life expectancy after retiring in 2015.

For greater clarity, Table 3 summarizes the changes made in each of the scenarios analyzed.

Impact on Population Growth

The Base scenario forecasts population growth of approximately 0.52% p.a. between 2020 and 2060. In Figure 11 we can see the difference in population size between each scenario and the Base scenario in various different years of the projection. It is interesting to note how the scenario that features an increase in the improvement in annual mortality (Advance) has a similar effect in terms of the projected population size on the scenario in which the net flow of migration is zero (Controlled Migration). Both scenarios involve an increase up to 4% greater (2050) as compared with the absolute population size in the Base scenario. Also noteworthy is the fact that a negative migration flow

Table 2
Remaining Life Expectancy by Sex (Mexico, 2015–2060)

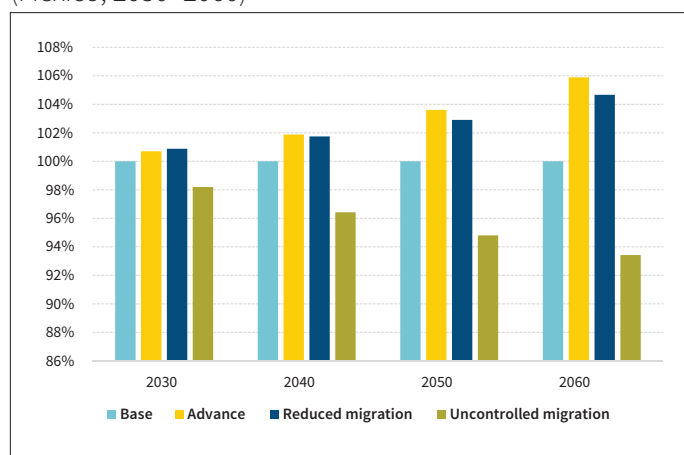
Year	Retirement Age	Remaining Life Expectancy—Men	Remaining Life Expectancy—Women
2015	65	12.08	15.47
2060	70	12.98	15.71

Source: Gen Re—Own calculations based on the data “Conciliación Demográfica de México 1950–2015, Consejo Nacional de Población (CONAPO), 2018.”

Table 3
Summary of Projected Scenarios

Variable	Base	Advance	Reduced Migration	Uncontrolled Migration	Work
Mortality	1.08% p.a.	2.5% p.a.			
Fertility	1.109%				
Migration	-100K		0 p.a. (2020)	-300,000 p.a. (2020)	
Retirement age	65				70

Figure 11
Population Growth by Scenario and Year (Mexico, 2030–2060)



Source: Gen Re—Own calculations based on the data “Conciliación Demográfica de México 1950–2015, Consejo Nacional de Población (CONAPO), 2018.”*

(Uncontrolled Migration) would lead to a population reduction of 7% by 2060. In other words, by that year there would be roughly 10.3 million fewer people than under the Base scenario.

Impact on Life Expectancy at Birth

As might be expected, the only scenario that alters life expectancy is the Advance scenario since it is the only one that alters the assumptions regarding the annual probability of death and therefore of a person’s survival.

As can be seen in Table 4, the Base scenario predicts that life expectancy by 2060 will have increased by 6.7 years among men and 5.6 years among women. The Advance scenario predicts an increase in life expectancy over 220% greater than in the Base scenario, yielding respective increases of 15.18 years among men and 12.85 years among women.

It is important to note that living longer does not automatically entail that the period of life free from illness also increases. In the literature, it is customary to refer to the difference between

Table 4
Life Expectancy at Birth (Mexico, 2015–2060)

Life Expectancy at Birth	Men	Women
Base (2015)	71.76	77.55
Base (2060)	78.48	83.20
Advance (2060)	86.95	90.40

Source: Gen Re—Own calculations based on the data “Conciliación Demográfica de México 1950–2015, Consejo Nacional de Población (CONAPO), 2018.”*

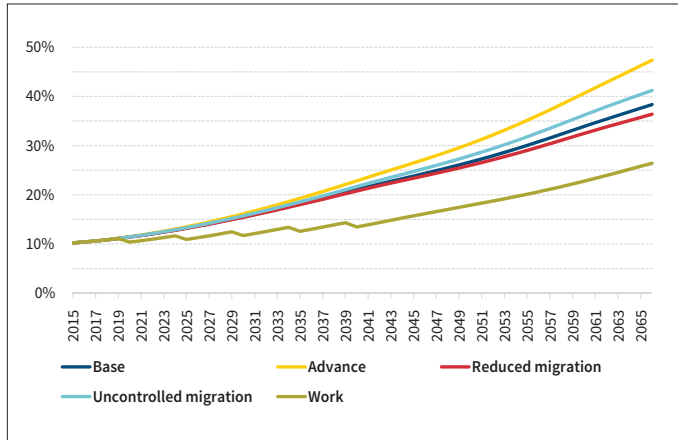
“life span” and “health span,” in order to highlight precisely this difference between a long life and a long and healthy life.

Impact on the Elderly Dependency Ratio

The elderly dependency ratio, defined as the ratio of retired people to people of working age, is a good indicator of the expected burden that the working age population will have to face in relation to the people who have ceased working. This indicator is crucial for fixing and financing budgetary expenditure on education, health and pensions, as well as other social security outlay.



Figure 12
Elderly Dependency Ratio by Scenarios
(Mexico, 2015–2065)



Source: Gen Re—Own calculations based on the data “Conciliación Demográfica de México 1950–2015, Consejo Nacional de Población (CONAPO), 2018.”*

Projections of dependency ratios are very sensitive to the input parameters for the model employed. In our case, the Advance scenario involves a 2060 dependency ratio, which is some 20% greater than in the Base scenario. The models featuring different migratory flows (Reduced Migration and Uncontrolled Migration) have a lesser impact as compared with the Base scenario (of 96% and 107% respectively). As we saw previously, these scenarios do have an impact on absolute population size, but they do not substantially alter the population’s age structure.

As can be seen from Figure 12, the scenario that has the greatest impact on the elderly dependency ratio is the Work

scenario, which involves an incremental increase in the retirement age from 65 to 70 up until 2040. This scenario leads to a 2060 dependency ratio of 23%; in other words, a rate almost 33% lower than in the Base scenario and 44% lower than in the Advance scenario. This scenario exemplifies the fact that increasing the retirement age could represent the most effective means of counteracting the economic effects that could arise from an ageing society.

The panorama outlined above raises various issues of importance for the insurance industry. In Part II we shall take a more detailed look at different aspects. ■



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ENDNOTES

- * <https://www.gob.mx/conapo/acciones-y-programas/conciliacion-demografica-de-mexico-1950-2015-y-proyecciones-de-la-poblacion-de-mexico-y-de-las-entidades-federativas-2016-2050>.
- 1. The total fertility rate is defined as the average number of children women would have by the end of their reproductive lives if they experience the age-specific fertility rates applying in the study period.
- 2. Human Fertility Database. Max Planck Institute for Demographic Research (Germany) and Vienna Institute of Demography (Austria). Available at www.humanfertility.org.
- 3. This phenomenon was described, for example, in Europe’s second demographic transition. D. J. van de Kaa, Population Reference Bureau, 1987.
- 4. This assumption ignores the average real age of retirement in Mexico and possible legislative changes over time.



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Tech, Inclusive Insurance and Actuaries

By Queenie Chow

Low-income people face numerous challenges in accessing appropriate financial products. In overcoming these challenges, an increasing number of innovations and technologies have emerged in the arena of microinsurance. A growing discussion highlights the evolving intersections of the actuarial profession with technological innovation around microinsurance. The Society of Actuaries (SOA) commissioned the MicroInsurance Centre at Milliman to develop a literature review on emerging technologies that interact with the actuarial profession within the space of microinsurance. As an extensive literature review assembled with key-person interviews, this research intends to spark readers' interest in, and create a vision for, how microinsurance and its associated technologies

may impact the actuarial industry in the future. This research gives an overview of the technology, a description of how the technology impacts the specific aspect of the microinsurance process and possible implications and applications for actuaries as a result of the technology.

Concrete examples of disruptive technologies being applied in the inclusive insurance space around the world are split into four key themes:

- **Rating:** big data, machine learning, remote sensing technology and pricing tools
- **Distribution:** mobile networks, telemedicine and digital marketing channels
- **Claims adjustment:** claims administrative systems, smart-phone applications, satellite technology, machine learning, data mining, internet of things (IoT) and blockchain
- **Payment facilitation:** mobile money, airtime and others

Through this research, the authors explore the role of actuaries in microinsurance within the new world of cutting-edge



technologies. Some actuaries argue that microinsurance has typically been simple and short term in nature—namely, credit life and hospital-cash products. Thus, as long-term risk managers, actuaries have a limited or even no role to play.¹

On the flipside, practitioners like Veronique Faber, former executive director of the Microinsurance Network, believe that “most microinsurance services are developed without proper actuarial experience. ... Actuaries, who deal with business risk, are the pillar of insurance companies worldwide.”² Nigel Bowman, chair of the International Actuarial Association’s microinsurance working group, argues that the key to the role of actuaries in microinsurance lies in the word “proportionality.” That is, the level of actuarial skills required depends on the level of risk inherent in the insurance product offered, as well as the extent to which product providers can manage potential risks.³

Actuaries must embrace—
intervene and interface with—
technologies in order to stay
relevant in this changing world.

With tremendous advancements in technology, particularly with machine learning, the future role of actuaries has often been questioned. Is the actuarial profession becoming obsolete in the wake of technological innovations? The role of actuaries in microinsurance is no exception. Undoubtedly, the work of actuaries will be advanced or made more efficient with technologies like machine learning or predictive analysis. However,

actuaries bring greater value than acting as a simple “calculator.” While the profession is often perceived to offer technical skills, it is the blend of high technical capabilities, ethics and integrity, effective communications, and qualitative judgment that makes this profession valuable.

At the same time, actuaries must embrace—intervene and interface with—technologies in order to stay relevant in this changing world. As technology grants access to quality data, actuaries can help with developing models that translate the data to actually inform business decisions. Experience has further shown that even with technology, a customer-centric approach is important in combination with methodologies that are actuarially sound. As new products and new environments continue to emerge— inclusive of the microinsurance industry developing alongside innovative technologies—actuaries must continue to evolve in their ability to serve all aspects of the insurance market. ■



Queenie Chow, AIAA, works in microinsurance innovations with the Impact Insurance Facility (ILO) and MicroEnsure. She is based in Manila, Philippines, and can be reached at queeniechow0320@hotmail.com.

ENDNOTES

- 1 Garand, Denis. Email interview. April 4, 2019.
- 2 Blacker, J., and M. Yang. 2015. Introduction. In *Actuaries in Microinsurance: Managing Risk for the Underserved*. New Hartford, CT: ACTEX.
- 3 Bowman, N. The Role of Actuaries in Inclusive Insurance. *Inclusivity Solutions*, n.d., <http://inclusivitysolutions.com/the-role-of-actuaries-in-inclusive-insurance/> (accessed July 30, 2019).

Inclusive Insurance in Central and Southern Europe: An Interview With Renata De Leers

By Carlos Arocha



Renata De Leers, the executive director of Actuaries Without Borders® since 2013 and a member of the Advice & Assistance and Accreditation Committee, subcommittee Africa, of the International Actuarial Association.

On May 24, 2019, Carlos Arocha of the Society of Actuaries interviewed Renata De Leers. Here she shares her thoughts on inclusive insurance and its importance to central and southern Europe.

Carlos Arocha: What is inclusive insurance?

Renata De Leers:

“Inclusive insurance” refers to a state in which all age adults have effective access to insurance and savings product offered by insurers from formal providers. “Effective access” involves convenient and responsible service delivery, at a cost affordable to the customer and sustainable for

the provider, with the result that financially excluded customers use formal financial services rather than existing informal options.

—International Association of Insurance Supervisors

Inclusive insurance includes mass insurance and microinsurance, both offered to clients who are not in the radius of the conventional broker or agent, inherited from advanced markets. Mass insurance reaches out to clients from existing economic actors (aggregators) such as banks, microinsurance institutions, mutuals and cooperatives, retail distribution, religious communities and mobile phone operators with whom the insurer will partner to offer products adapted to the members of those aggregators. Those members may belong to various social classes, including high-income earners as well as informal and rural workers with irregular income. Microinsurance reaches out to low-middle-income or low-income earners who may have or may not have a link with those aggregators.

CA: What developments have you witnessed in central and southern Europe?

RDL: Economies in central and southern Europe are emerging or developing, have low penetration rates for insurance. They show that the easy “copy and paste” policy from developed, Western European economies does not give the expected results in economies that left only two to three decades ago a socialist or communist economic environment. Many economies are still managed with a Solvency I regulatory framework or are preparing a risk-based solvency regime or are already in compliance with Solvency II. One can say, however, that irrespective of their status, they face problems to go to a fully fledged risk-based supervision environment because their economic model is not that of Germany or France, because the governance model may take many years to implement properly and, last but not least, because appropriate and efficient actuarial services with regulators and in industry are missing.

It’s my personal belief that unconventional insurance with ORSA [Own Risk and Solvency Assessment] and FCR [financial condition report] reports should be implemented for retail business. Inclusive insurance with a regulatory environment taking into consideration the size, the nature and the complexity of the business, as well as the available human resources, would probably fit better. Inclusive insurance can be an answer as a transitional measure, short term or midterm, to achieve the same status as the advanced markets. It’s not about tailoring but accepting reality where the society and the economy stand today in 2019. This needs innovative business models instead of conventional insurance models.

CA: What is the role of regulation?

RDL: Regulations in developing and emerging economies should allow for innovation while protecting new consumers. Innovation will lead to increased financial inclusion, consumer awareness and stronger market resilience. Therefore, regulations should allow for test-and-learn or provide for a sandbox regulatory environment.

Once financial inclusion, consumer awareness and stronger market resilience are attained, the supervisor can safeguard the stability of the insurance sector and provide true policy protection.

CA: What can actuaries do to encourage innovation?

RDL: Today's governance model does not allow the actuary to take part in decision-making, product development, innovation. The actuary's tasks are mainly restricted to those prescribed in the insurance regulations. Those tasks are mainly related to

technical provisions certification. Exceptionally, actuaries may work in other domains.

This can only change when a new governance model—as per Insurance Core Principles 5, 7 and 8—will be implemented. The introduction of the four internal control functions will change the governance. An actuarial function introduces a list of new tasks such as second opinions on underwriting, reinsurance, pricing, product development and design, asset evaluation and investment policies, ORSA, risk management, etc.

Only at that moment will actuaries be able to contribute in a wider area and be innovative and creative.

CA: Is the IAA promoting inclusive insurance solutions?

RDL: The IAA created a working group on microinsurance to support the development and promotion of microinsurance. This working group has published a paper on microinsurance, which is available on the website of the IAA (www.actuaries.org).

CA: Can the SOA play a role in central and southern European insurance markets?

RDL: The SOA may support the local actuarial associations to develop the actuarial capacity in compliance with international standards. This will assist them in two ways: upgrading their education syllabus to comply with the IAA 2017 education syllabus and getting independence from a regulator-driven education model. In doing this, the SOA may need to review the availability of exam centers and the cost structure attached to the exams in developing countries. ■



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Why Should Life Insurers Care About Brexit?

By Ronald Klein

Editor's note: International News is pleased to feature this article, which won second place in the International Section 2019 Country Feature Call for Papers.

THE SEVERABILITY CLAUSE

Reinsurance is my life. Ever since 1990, when I first entered the world of reinsurance, I immediately fell in love. Reinsurance is a transaction between sophisticated parties and is a risk management tool to solve problems. Sometimes these problems are simple and sometimes they are quite complex. While I really enjoyed creating innovative internal solutions for the company for which I was working, the real “buzz” was when I could solve a problem for a client company.

With almost 30 years of reinsurance experience under my belt, I have been frequently asked to present at various conferences on reinsurance. Also, working for some of the largest insurers and reinsurers in the world has afforded me a unique perspective from both sides of the equation.

My favorite presentation was at a Society of Actuaries (SOA) Advanced Reinsurance Seminar, where I was asked to speak about common reinsurance treaty pitfalls. It is amazing that I have been speaking about this one particular pitfall for many years, yet it seems to still be prevalent today—the Severability Clause.

A typical reinsurance treaty Severability Clause will state:

If any provision of this Agreement is determined to be invalid or unenforceable, such determination shall not impair or affect the validity or the enforceability of the remaining provisions of this Agreement.

It is easy to see why this provision has been put into treaties. Neither party would want a treaty to become invalid if a minor provision was deemed unenforceable. For example, what if interest charged for unpaid balances was based upon the London Interbank Offered Rate (LIBOR) and LIBOR became a non-recognized benchmark? Should the treaty become invalid?

I don't think that either party would have wanted the other party to be able to cancel a treaty in this circumstance. In this example, the interest rate for unpaid balances is probably not an important part of the risk transferred.

However, what if something unforeseen occurred such as a country seceding from the entity under which the treaty pertains? Furthermore, what if this newly separated country had some type of trade barrier precluding it from making claim payments to another country? In this example, the country may be forbidden to make claim payments but the treaty would require the counterparty to continue to pay premiums. The claim payment clause would be “severed,” but the remainder of the treaty would continue to be enforceable.

The example I always use is a simple trade where I agree to pay GBP 1 million to a British company in exchange for GBP 1 million worth of gold to take place on November 1, 2019. What if it is deemed illegal to trade gold post Brexit and there is a typical Severability Clause in the contract? Does this mean that I still have to pay the GBP 1 million to the counterparty even though I do not expect to receive the gold?

While at a major U.S. insurer, I had the Severability Clauses in all of our life reinsurance treaties changed to the following:

If any provision of this Agreement is determined to be invalid or unenforceable, such determination shall not impair or affect the validity or the enforceability of the remaining provisions of this Agreement except if the invalid or unenforceable provision will materially alter the original purpose of the Agreement, in which case the Parties agree to adjust the Agreement to its original intent.

Many will argue that materiality is difficult to define, and I would agree that there could be some gray areas. However, a provision that precludes claim payments would be quite material to the treaty, while a provision to set interest charges on



a benchmark interest rate would not be material. In our gold example, I would argue that not being able to receive the gold is quite material to the contract.

FSOC ANNUAL REPORT

So, why the lecture on the Severability Clause? With Brexit looming, there are many changes that could occur affecting reinsurance treaties. With one of the most well-known reinsurers in the world—Lloyd's of London—based in the U.K., many reinsurance treaties could be affected. And, there are some large insurance companies based in the U.K. that could also be affected.

The Financial Stability Oversight Council (FSOC) recently published its Annual Report, which identified Brexit as a major risk factor to the U.S. financial services industries. In the report's Executive Summary, the following was written in the second paragraph:

At the same time, financial stability risks outside the U.S. appear to have increased; most notably, the potential for a disorderly United Kingdom (UK) exit from the European Union (EU) in March 2019 could have serious implications for the functioning of some global financial markets and firms.

And, it also has called for an alternative to LIBOR as a benchmark interest rate:

The weaknesses of the London Interbank Offered Rate (LIBOR) may undermine market integrity and the uncertainty surrounding its sustainability could threaten U.S. financial institutions and the U.S. financial system more broadly. The Council commends the progress of the Alternative Reference Rates Committee (ARRC) in identifying the Secured Overnight Financing Rate (SOFR) as an appropriate alternative reference rate and in its subsequent steps to facilitate a transition to SOFR.

FSOC was established as part of the Dodd-Frank Wall Street Reform and Consumer Protection Act, commonly referred to as Dodd-Frank, after the financial crisis. In short, it has three main objectives: (1) identify risks to financial stability, (2) promote market discipline and (3) respond to emerging threats. The Annual Report was written while the stock market was performing well and unemployment rates in the U.S. were at record lows. It is interesting that it looked at Brexit as a major threat to the financial stability of the U.S. financial markets.

COVERED AGREEMENTS

While the U.S. is looking at Brexit as a risk, the U.K. is attempting to negotiate financial agreements to replicate mutual access to markets that it enjoyed as part of the European Union (EU).

Anyone involved in international reinsurance is very aware of the agreement between the EU and the U.S. to minimize collateral requirements—commonly referred to as the Covered Agreement. With Brexit looming, the U.K. had to negotiate its own version of a Covered Agreement—which it recently did and will become effective upon the U.K.'s exit from the EU. The agreement is basically identical to the EU–U.S. agreement.

Covered Agreements and LIBOR are just two examples of items that could affect reinsurance treaties with the U.K. post Brexit. I am sure that there are many more agreements with many other countries that will need to be (re-)negotiated. No doubt, the simplest thing for the U.K. to do is to copy any existing agreements that the counterparty already has in place with the EU. Which begs the question, why leave the EU if you will just mimic all international agreements with counterparties—but that topic is for another article.

TREATY MAINTENANCE BEFORE THE STORM

What Brexit does mean is that any person working for an insurer or reinsurer that has a reinsurance treaty where one counterparty is in the U.K., should review this contract carefully. The slightest change could cause some unforeseen financial events for the treaty. The materiality of an unenforceable clause may be called into question. While I would love to be correct with my long-standing argument that typical Severability Clauses are poorly worded, it would be very damaging to the reinsurance industry if this causes unintended harm to one party of a treaty. Sometimes it is better not to be correct.

The best thing for those involved in reinsurance to do is to review these treaties now and have discussions with your counterparties. Make sure to change wordings so that the intent of the treaty provisions is better documented. In fact, a blanket agreement between counterparties that covers all treaties between the parties may be in the best interest of both companies.

International reinsurance is a fascinating business. Counterparties attempt to capture all possible events in their contracts, but this is just not possible. In addition, with changes in personnel, the true intent of the original treaty may be lost over time. Significant reinsurance treaties must be reviewed periodically and adjustments may be necessary. The Severability Clause could be one treaty provision that should be refreshed—especially with Brexit looming. ■



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