ASIA-PACIFIC FINANCIAL FORUM (APFF) — JAPAN MINISTRY OF ECONOMY, TRADE AND INDUSTRY — TOKIO MARINE & NICHIDO FIRE INSURANCE JOINT CONFERENCE

THE ROLE OF FINANCIAL SERVICES IN ENHANCING HEALTH AND PRODUCTIVITY MANAGEMENT

28 January 2019 Mitsubishi UFJ Morgan Stanley Securities Co., Ltd. Conference Room Tokyo, Japan

Executive Summary

The Asia-Pacific Financial Forum (APFF), Japan's Ministry of Economy, Trade and Industry together with other government and private sector stakeholders convened to explore the role of financial services in enhancing health and productivity management and increasing access to innovative health care products to alleviate the burden of steeply rising aging populations and non-communicable diseases. Japan is proceeding towards a "super-ultra" aged society with over 35% of the population predicted to be elderly by 2060. The increase in life-style and aging related diseases necessitates a renewed focus on prevention, healthy aging and lifelong activity. Expenditure on national medical care and long-term care in Japan is expected to increase and securing the financial resources to pay for it is a major policy issue. The private sector will likely need to participate more actively in order to tackle the problem.

To meet this challenge companies are developing new technologies including products to incentivize health-promoting activities, wellness applications, and dementia detection and prevention technologies among others. There is also a significant need for new drugs to target ageing related diseases (e.g. dementia and Alzheimer's disease) as well as securing additional workers in the health/welfare field. The use of digital technologies and giving patients and customers the knowledge and tools to improve their health will be critical. Currently, there is a disconnect between data collected by lifestyle and information industries and the collection and use of medical data. Better integration these two data ecosystems will allow for more innovative approaches and products to be developed.

The concept of health and productivity management, improving employees' health and vitality and corporates' productivity, can enhance corporate performance and value in capital markets and can extend healthy life expectancy in the aging society each country has faced. Companies that that invest in health and productivity management are typically more profitable and exhibit lower volatility as compared to their peers. APFF recognizes the importance of these concepts and promotes the investment in companies active on health and productivity management.

Finally, the need to develop new health care financing models and how those models can be used to mitigate various types of risks for producers and payers was explored.

Recommendations:

- 1. Continue to share information regarding company programs on health and productivity management so that best practices may be disseminated and adopted by others.
- 2. Explore options to increase data exchange and integration of medical and lifestyle information databases.
- 3. Consider utilizing the APEC Checklist of Enablers for Alternative Health Financing or aspects of it to evaluate the enabling environment for alternative health care financing mechanisms and consider the development of additional social impact bonds and other innovative financing mechanisms to meet the growing needs of an aging population, including through the convening of relevant stakeholders.

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- 4. Explore links between the work within the APFF and that of the G20.
- 5. Consider programs and initiatives to help increase fertility.
- 6. Convene relevant stakeholders to explore the use of risk sharing agreements to increase access to innovative medicines.

Opening Session

Mr. Yoshihide Esaki, Deputy Director-General, Commerce and Service Industry Policy Group, Ministry of Economy, Trade, and Industry (METI)

Ms. Yoshie Hirose, Director, Health Care Promotion Office, Ministry of Health, Labour and Welfare

Mr. Makoto Okubo, General Manager, International Affairs, Nippon Life Insurance Company

The challenge facing Japan in terms of aging populations and expected social security expenditures and the need for new technologies and new approaches to address the challenge. Japan is working with companies to encourage health and productivity management and promote the inclusion of health considerations into environmental, social and governance investment strategies. It was also noted that Japan's aging population is impacting the labour market and more must be done to improve the health of aging populations. Japan is working with public health insurance stakeholders and employers so that health improvement is further integrated into the strategy of businesses in Japan. The workshop is being held under Chatham house rules.

Session 1: The Economic and Social Challenges Facing APEC Economies from NCDs and Aging Populations

Moderator: Mr. Makoto Okubo, General Manager, International Affairs, Nippon Life Insurance Company

Panelists: Mr. Yoshihide Esaki, Deputy Director-General, Commerce and Service Industry Policy Group, Ministry of Economy, Trade, and Industry (METI)

Mr. Taichi Ono, Professor, National Graduate Institute for Policy Studies

Mr. Takahiro Mizukami, Manager, Government Relations, Dai-ichi Life Holdings, Inc.

Ms. Hideko Ikeda, Head of Fertility Business Unit, Merck

The Asia-Pacific Financial Forum (APFF) was introduced as a regional platform for collaboration among public sector, private sector and multilateral institutions to help accelerate the development and integration of financial markets and services in the APEC region. The APFF is an official policy initiative under the APEC Finance Ministers Process (FMP) and has been entrusted to the APEC Business Advisory Council (ABAC). The structure and priorities of the APFF were described and emphasized that health topic is relevant to the various work streams on financial infrastructure development; trade and supply chain finance; financial market infrastructure; capital markets; and insurance, health and retirement income. Finally, The attendees were also informed of an upcoming insurance forum hosted by the Life Insurance Association of Japan (LIAJ) which will take place in Japan on June 5th, 2019 and will discuss the roles of insurance in achieving the G20's objectives in the context of global aging, resilient economy, digital innovation, and the global regulatory landscape.

An overview of the demographic challenges facing Japan and efforts to create a lifelong active society was provided. Japan is proceeding towards a "super-ultra" aged society with over 35% of the population predicted to be elderly by 2060. Within Japan there has been a major shift in the population structure in $19^{th} - 21^{st}$ centuries and there is a recognition that it is not impossible to maintain the social security systems established in 1960-80s. As societies grow more affluent average life expectancy increases and we are seeing an increase in life-style / aging related diseases and thus a new health care system based on prevention, healthy aging and lifelong activity is needed. The effectiveness of drugs and treatment satisfaction varies across various diseases. There is currently a significant need for new drugs to target ageing related diseases (e.g. dementia and

Alzheimer's disease).

Data was presented to explain Japan's social security expenditures as compared with their GDP and how the country ranked compared to other countries was described. Japan's expenditures are not overly high when GDP and agedness are accounted for. Securing enough workers in the health/welfare field, as well as increasing productivity of health/welfare work is now a primary focus. Public pension policy is now looking at incentives to encourage labor force participation by the elderly or to secure appropriate social security (pension + health care) coverage for part-time workers. The current focus is on steady implementation of the policies outlined in the "Comprehensive Reform"; streamlining the health care system so as to better realize benefits and efficiencies under universal health coverage (UHC); and encouraging social participation by seniors (extension of healthy-life years) and increasing productivity in the health care sector in a super-aged and population-decreasing society.

The audience also heard the challenges facing Japan in terms of aging populations and the resulting increases in social security expenditures. Within Japan lifestyle diseases (neoplasm and circulatory system disease) occupy a large proportion of national medical care expenditure. Long-term care expenditure is expected to increase with dementia having one of the biggest impacts. Currently, long-term care expenditure is financed from public funds (50% total, 25% national treasury and 25% local government) and the insured person (50%). Going forward expenditure on national medical care and long-term care in Japan is expected to increase and securing the financial resources to pay for it is a major policy issue. Governments may have to consider how to improve the efficiency of the existing medical care and nursing care systems and private sector will likely need to participate more actively in order to tackle the problem. Dai-ichi Life also presented on some of the new technologies it is developing and using including products to incentivize health-promoting activities, wellness applications, dementia detection and prevention technologies among others.

Data on Japan's fertility levels which at 1.46 is below the OECD average was also presented. The drivers of Japan's low fertility include: delayed marriages and births; changing (and unchanging) gender roles; and insecure employment. Ms. Ikeda described Merck's Yellow Sphere Project which supports women undergoing fertility treatment through education, paid leave, and subsidies for employees for their infertility treatment. In order to increase fertility and build a family friendly society it will be important to: make Japan a better place to have kids, take a "fertility in all policies" approach, and use available technology. Funding for fertility-based initiatives is critically important and should be viewed as an investment.

Session 2: Innovative Approaches to Insurance for Health Care Solutions

Moderator: Mr. Makoto Okubo, General Manager, International Affairs, Nippon Life Insurance Company

Panelists: Mr. Niven Ramlakhan, Operations Manager, Sumitomo Life Insurance Company

Mr. Seiichiro Tomita, Corporate Officer, Head of Health Business, AXA Life Insurance

Mr. Yasuhiro Maenaka, Executive Officer & Vice President, Corporate Strategy Planning, Integrated Change Management

Mr. Kazumi Nishikawa, Director, Health Care Industries Division, METI

The session discussed innovative approaches taken by insurance companies through public-private sector collaboration, including those that harness the potential of digital technology for health care solutions.

A paradox was noted that the benefits of health care are immediate while the price is hidden, whereas with wellness the benefits are hidden, and the price is immediate. Four main risk factors (physical activity, unhealthy diet, smoking, and excess alcohol) and four non-communicable diseases (respiratory disease, diabetes, cancer, and cardiovascular disease) account for 60% of deaths worldwide. Sumitomo explained a program called Vitality which strives to incentivize policyholders to manage their wellness by giving them the tools, knowledge, and access to improve their health. The insurance products emphasize the importance of prevention and CMIACTIVE-1100646497.1

wellness and utilize incentives to drive behavior change over the long term. A study of over 400,000 people was conducted combining the Vitality incentives program with the apple watch which resulted in significantly increased activity levels for participants.

The audience heard a company's movement from "payer" (an institution that offers financial benefits to consumers upon claims) to "partner" (an institution that empowers customers and helps them live healthier lives) as the conventional health insurance business looks to accommodate changes in social conditions was noted. Digital transformation and external partnerships/alliances are key. New insurance products are combining cash benefits with care coordination. An example program was presented which helps customers visualize and control salt intake with digital wearable devices combined with lifestyle management on a personalized website and tele-coaching by health professionals.

Another company provided a brief introduction to its work and noted the need for additional public-private partnerships to address social challenges. The experience of the customer is extremely important and should be considered when developing health services. An example of an initiative in Singapore as part of the regulatory sandbox work was presented. The company is working to decrease the burden on the customer regarding claims and providing data and an example of a product to cover diabetes during pregnancy was presented. There is a need to work closely with health care providers to help change the behavior of patients and the insurance industry is happy to work with relevant stakeholders to get the incentives right. The use of blockchain technology can also be used to help create more frictionless processes for customers.

The audience learned about typical disease progression within Japan. Currently, there is a disconnect between data collected by lifestyle/information industries and the collection and use of medical data. A key issue will be working towards integrating these two data ecosystems. The health care industry is expected to expand from a 25-trillion-yen market in 2016 to a 33-trillion-yen market by 2025. Pharmaceutical companies are working to shift business models from the provision of drugs to the provision of comprehensive health care solutions including prevention and lifestyle management services, simultaneously; there is a switch from a vertical integration structure to a horizontal specialization structure which blends prevention and lifestyle management.

A model was presented for how various stakeholders including municipalities, medical institutions, economic organizations, and companies together with health care industrial associations can work together to develop guidelines. Japan is also working to develop regional councils to accelerate cooperation between health care-related professionals and the health care industry. The use of Social Impact Bonds (SIB) in Hachioji, Kobe, Hiroshima prefecture, Kawanishi, Mitsuke, and Shirako was also described. A specific initiative in Kobe was presented which looks to prevent diabetes complications and promote dialysis machine use through payments issued based on performance of the initiative (in this case kidney function level). Finally, Japan described their "Well Aging Society Summit" which invites startups, health care companies, investors, and governments to discuss solutions to aging issues.

Session 3: Promoting Financial Market Support for H&PM in the Corporate and SME Sectors

Moderator: Mr. Mikio Aoki, Director, Commerce and Service Industry Policy Group, Ministry of Economy, Trade, and Industry (METI)

Panelists: Dr. Reiko Kojima, M.D., Ph.D., Marui Group presented on the creation of corporate value through wellness promotion.

Mr. Masaaki Nagamura, Head, Corporate Social Responsibility, Tokio Marine Holdings

Ms. Daisylyn Edades, Director, Global Health Services, Asia, Johnson and Johnson

Ms. Asayo Hashimoto, Director of Employee Health Management Rated Loan Program, Development Bank of Japan (DBJ)

Ms. Akemi Hatano, Mitsubishi UFJ Morgan Stanley Securities

Mr. Masaru Arai, Chair, Japan Sustainable Investment Forum (JSIF)

The concept of Health and Productivity Management (H&PM) which is a corporate strategy that strives to improve the health of employees. The 2016 U.S. Chamber report which followed reports from ABAC and the APEC Life Sciences Innovation Forum documenting the predicted productivity losses dues to aging populations and increasing prevalence of non-communicable diseases was presented. Japan's H&PM program seeks to highlight enterprises engaged in efforts to advance H&PM and thereby aims to establish an environment in which such enterprises are able to gain enhanced public recognition. Over 850 listed companies and over 23,000 SMEs have started H&PM programs. The Health and Productivity Stock Selection was described together with the Certified Health and Productivity Management Organization Recognition Program. The links between Health and Productivity Management, Environmental, Social and Governance (ESG) investing, and the United Nations Principles for Responsible Investment (PRI) were discussed. Data was presented showing increased return on investment for those companies that invested in health and productivity management. Support for cooperating on health and productivity management at the Japan-U.S. Business Conference as well as work through the B20 and the Global Health and Human Resources Knowledge Partnership was described. The Government of Japan is exploring various ways of sharing best practices on health and productivity management and recognizing companies that have useful programs in place.

A company-wide wellness project was described and showed an increase in the ability of employees to manage their work as well as a resilience program which consisted of a one-year program to improve the resilience of the top management. The programs have also had an impact on the prevalence of metabolic syndromes. The Marui Group has also analyzed sleep patterns and exercise and has showed a strong correlation between sufficient sleep and exercise and high performance ratings.

Demographic trends in Japan's labor force and the benefits of health and productivity management which include: enhanced productivity, recruitment, and enhanced reputation were also described. Top management takes a leadership role in recognizing the importance of promoting the health of its employees, their families and their customers. To disseminate best practices in health and productivity management networks have been established in local communities. An example was provided regarding the incentives that are provided including bonuses that can be received based on walking certain amounts.

It was noted that companies with the most effective Health & Productivity programs have a financial advantage. They are twice as likely to "significantly" outperform their peers, have fewer days of unplanned absences per year, accrue \$1000 less in annual health care expenses and have 50% higher revenue per employee. A company's vision is to have the healthiest workforce – enabling longer, healthier, happier lives. To accomplish this the company tries to enable its employees everywhere to achieve their personal best in health and wellbeing – cascading the effect to the health of the business and ultimately the health of their customers. The company's human energy management system is designed to teach participants how to maximize their personal energy, to feel physically energized, emotionally connected, mentally focused and more aligned with their own personal mission. Graduates of the program have a higher probability of receiving a top-rating, are more likely to stay at the company, and have a higher probability of receiving a promotion than non-graduates.

A work was described to design an affluent future through responsible financing. The audience learned about an Employees' Health Management Rated Loan Program which is a special loan program introduced in FY 2011 to assess corporate health management initiatives and apply the results to loan terms and conditions. They have found that improved health management leads to better corporate performance. The program looks to encourage a change in approach: from "sick care" (treating illness which has already occurred) to "health care" (working proactively to maintain health) in order to promote employee wellness and build more sustainable companies and communities. The effort looks to promote and highlight companies which put serious effort into sustainability management. The organization works to ensure that such firms are duly evaluated by the financial markets and other stakeholders.

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The correlation between Health & Productivity Management and corporate earnings was described. Companies committed to social issues have statistically significant lower volatility. In Japan engaging in health care management makes sense because labor productivity per worker is much lower than the OECD average and lowest of the seven leading industrialized countries. Japan's government aims to improve labor productivity and sees improvements in working conditions and working hours as an issue. Since workers in Japan tend to put in much more overtime in than in other countries changes in how people work are likely to lead to improvements in labor productivity.

There are a number of reasons why health and productivity management is important to companies. The Principles for Responsible Investing (PRI) were described as well as the growth in their adoption with 12 of the top 20 pension funds now signatories. Sustainable investment is increasing rapidly in Japan with integrated indices such as the FTSE Blossom Japan Index and thematic indices such the MSCI Japan Empowering Women Index. The GPIF and FTSE Russel ESG Ratings were also explained.

Session 4: Innovative Health Care Financing Mechanisms

Moderators: Ambassador Robert Holleyman, President and CEO, C&M International

Panelists: Dr. Ryan MacFarlane, Director, C&M International

Dr. Ashoke Bhattacharjya, Executive Director, Global Health Policy, Johnson & Johnson

Some of the policies and initiatives companies are developing to incentivize better health and the role that digital innovation is playing in helping people make better decisions and empower patients. Pharmaceutical companies are shifting from simply treating symptoms to actually curing diseases. They are taking a more comprehensive approach and investing in wellness and prevention and delivering innovations that extend healthy lifestyles. Insurance companies are moving beyond a simple transactional relationship and transitioning from "payers" to "partners." They are looking to engage with their clients throughout the relationship, not just when the contract is signed or when significant care is required. Regulatory frameworks that help facilitate the development and deployment of these new technologies while ensuring data security and data privacy will be key. Tools like the APEC Enablers for Alternative Health Financing Checklist are helping economies evaluate their policy environment to facilitate the development and deployment of alternative health financing mechanisms.

A work the Life Sciences Innovation Forum is conducting in partnership with the Asia-Pacific Financial Forum was introduced. APEC Ministers and Leaders have recognized this work and have called for dialogue between health and finance officials together with the private sector. Described were the partnership with Thailand and the study that was recently conducted which examined the demographic challenges and burden of disease, the value of investments in health care, and innovative health care financing mechanisms, as well as the APEC Checklist of Enablers for Alternative Health Financing which was approved in 2017 by APEC Health Ministers as a tool to help economies establish the policy environment to enable the development and deployment of innovative health care financing mechanisms. A description of the various fiscal, financing, and insurance options that can increase access to health care as well as various risk sharing models to help economies mitigate financial or performance risk for medical treatments were also presented.

A need was noted for interaction between the various arms of government as well as the health and financial sectors and applauded Japan for leading on the issue of health care financing. Countries finance health in different ways and that there is a need for a mix of models both within and across countries. The use of Social Impact Bonds to help address mental health in New Zealand and to improve colon cancer screening and diabetes prevention in Japan were also described and can complement other efforts to improve health. The use of managed entry agreements and the risks that such arrangements can help mitigate were also addressed.

During the question and answer session it was noted that there is often a misconception regarding the cost of drugs. Anti-ulcer, statins, and HIV drugs were all at one point thought to be capable of bankrupting health care

systems however in fact they revolutionized treatments and are now often available at pennies on the dollar compared to initial prices. Additionally, in Japan, approximately 50% of the costs in the health care system are associated with hospital stays which tend to be much longer than the OECD average. Innovative drugs and devices can alleviate this burden and help economies develop via novel schemes to increase access. Such schemes, including social impact bonds are growing in Japan and the Cabinet office has decided to establish an initiative to further investigate their use. In response to a question regarding the appetite for innovative health care financing schemes in Japan, it was pointed out that while there are budget constraints and that health care costs are rapidly rising, there is interest in investing in new innovation and in particular investment in prevention and drugs that cure diseases.