

# Automatic Adjustment Mechanisms in Pension Systems (AAM)

## Intro : Current Problems

In some regions, especially in Asia, many countries are facing huge demographic changes. As medical technology advances and people's overall standard of living is improved as time passes. Many nations in Asia including Japan, Korea, China, Singapore as well as Thailand need to readjust their pension system. Particularly, in Japan, where the life expectancy rate is one of the highest in the world. Together with low fertility rate, the country is now confronting a problem regarding its capability to take care of the retirees and the elderly who are already not economically active.

At the moment, as the overall population is getting older, the pension systems are now in trouble. First, pension system deficits can increase very quickly, limiting room for policy action and hampering fiscal sustainability. Second, the projected aging of populations can have large intergenerational equity implications. Both imply an urgent need to reform pension systems to achieve sustainability and ensure equity. This is why there is an urge for the governments to step in and make changes to the system. Now, the Automatic Adjustment Mechanism in the pension systems (AAM) could essentially be the way out to the problems.

It is quite obvious that our society needs to reform the pension system. Currently, social insurance pension systems are dominated by defined benefit schemes, pay-as-you-go financed. In these systems, individuals generally contribute a percent of their salary during their work lives, with pensions typically based on a formula depending on the years of contributions and the salary levels. While it is possible to design pay-as-you-go defined benefit pension schemes which are in balance, this requires collecting contributions at the long-run equilibrium levels and accumulating reserves in the early decades of operations. For economic, historic and political reasons, this approach was rarely pursued. We need the pension systems which is highly flexible, adaptive, and responsive to demographic, macroeconomic, and financial developments and the Automatic Adjustment system in the pension systems (AAM).

## Rationale and Benefits behind AAM

From political perspective, political cost for regulatory changes in the pension systems is the main hindrance to the improvement and development of the whole system. Those costs often lead to procrastination, postponement or reversal of reforms which, over the longer run, have fiscal costs, requiring even harsher measures at a later date. Therefore, gradual changes in the pension systems and fiscal sustainability cannot be achieved due to this problem.

Automatic adjustments can theoretically make the reform process politically less painful and more likely to succeed. Therefore, the governments have to act if they want to keep automatic changes from happening. AAMs can thereby increase the likelihood of parametric changes taking place, to the extent that sustainability and financial adequacy can be achieved and with less political trade-offs after it is implemented.

To apply AAM, many exogenous variables in the economy must be carefully considered. This is because the effects of AAM depends on specific design and type of parameters used to adjust the pension schemes. Mainly, it acts as a signaling instrument which determines pre-commitment rules in fiscal and monetary policies. This could prevent large reforms potentially implying unexpected extra burdens of benefit cuts or additional taxes. By replacing standard, static legislative logic with dynamic legislation, it makes adaptive rules the default implying less political cost.

## Structural Framework

There are four main legal structural features characterizing AAMs (1) the trigger variables (i.e. the indicators used in determining when and how an adjustment should be made); (2) the adjusting parameters that are linked to the trigger indicators; (3) the frequency of adjustment; and (4) the boundaries of adjustments.

There are two main kinds of Trigger Variables which are (1) prediction-based variables (ex-ante) and (2) state-of-the-world variables (ex-post). Prediction-based variables can include unfunded liabilities, future changes in GDP (can be retrieved by using the method of Econometrics), forward benefits indexation. However, these variables require feedback mechanisms to correct the differences between the expected and the observed values. For the

state-of-the-world variables, these comprise of improvement in life expectancy and backward-looking benefits indexation. These variable can only be observed after the events have already occurred. The drawback of this type of variable is that it implies delayed reaction which lead to urgent adjustments. Nevertheless, both variables should be measurable and predictable in order to allow time for the adjustment period. Both variables can lead to changes in labor supply, saving decisions, public expenditure and so on.

For the adjustment parameters, there are three major categories of parameters that can be adjusted using AAMs: benefit levels, eligibility criteria and contribution rates.

Benefit levels can be adjusted through benefit indexation, valorization of past earnings or other reductions reflecting improvements in life expectancy at retirement. The benefit indexation rules (how the benefits are linked to wage and price inflation) can have a significant impact on pension finances by directly affecting the real growth of pension benefits. The valorization of past earnings entering the pension formula can have a profound effect on starting pensions as well. It is commonly used in an automatic mechanism to ensure intergenerational equity.

Under eligibility criteria, retirement age is often adjusted automatically. Increases in retirement age reflect improvements in life expectancy to ensure that the expected period of benefit receipt is kept constant.

Contribution rates are rarely used for automatic adjustment. It is adjusted to improve public pension scheme's sustainability in response to labor market tension. The change could be either permanently or temporary. Contribution rates increase if (a) the legislated rate is below the level required for sustainability, as defined by law, and (b) the government failed to introduce other measures aiming to address sustainability concerns. At the same time, if contribution rates increase, benefits are also nominally frozen for three years (until the publication of the next actuarial assessment).

Frequency of Adjustments need to be defined by law. Most of the time, automatic adjustments typically take place once a year or less. However, there is a possibility the it would occur less frequent. Infrequent changes usually imply a larger adjustment.

Boundaries of adjustment can be expressed in terms of the frequency of changes, individual adjustments or compounded impact. It determines the bound of applicability in which

the AAM can adjust. We cannot let the AAM adjust all the variables by its own without any supervision. For example, in case of hyperinflation, it is prohibitively expensive to readjust the pension schemes based on the benefits provided. Therefore, in this case, changes can be made up to a certain limit.

## Considerations

Adjustments introduced through automatisms face the exact same trade-offs between fiscal sustainability, adequacy and equity. This reflects that AAMs essentially affect the legislative process through which pension reform is introduced. While AAMs can improve sustainability, they can harm adequacy in some cases. But this is less related to the automatic nature of the adjustment: all reforms with an impact on the financial sustainability of pension system can influence equity or adequacy or both. AAMs' main benefit is in their predictability and simplicity.

Nevertheless, equity and adequacy considerations should be kept in mind when designing AAMs. For instance, automatic price indexation may have a small impact on relative pension levels but over time, this policy erodes pension levels so much that, eventually, an upward level shift in benefits may become necessary. On the other hand, deflation could raise pension levels in relative terms if indexation is not designed to work under deflation. Similarly, automatically raising retirement ages for all individuals in line with life expectancy at retirement may need to be reconsidered.

AAMs can also interact with other institutional features of the economy, especially in labor markets. AAMs can also affect workers in terms of their labor supply and saving decisions or investment in human capital if they are aware of the potential changes likely to be triggered by AAMs. To allow for the right private sector response, it is important to provide enough and timely information about the AAM and allow smooth and gradual adjustments.

## III. AUTOMATIC ADJUSTMENT MECHANISMS IN ASIAN PENSION SYSTEMS

There is significant scope to introduce automatic indexation of retirement age to changes in life expectancy across pension systems in the region. While some countries have already

raised the retirement age over time, pension systems in Asia still not feature automatic links between retirement age and life expectancy. Moreover, expected years in retirement is higher in Asian than in other countries and regions. In some case suggests that automatic indexation of retirement age to life expectancy can indeed help reduce the pension system's financial imbalances.

The defined contribution schemes in Asia reduce the scope for using AAMs for financial sustainability purposes and pension adequacy. AAMs can play an important role to improve the sustainability of defined benefit systems. For defined contribution schemes, sustainability is typically inherent.

While AAMs would be beneficial regardless of position in demographic transition, they are not likely to be sufficient to solve financial imbalances in countries that are aging fast. Asian countries are projected to age at different speeds.

In Japan, the AAM has been introduced when the pension system had already matured and social security expenditures were already high, to prevent further deterioration in system imbalances.

For countries that are aging fast, AAMs can play a useful role in slowing down the accumulation of imbalances.

For the group of countries that are relatively young it would be easier to link system. The priority for those countries would be to first ensure that the pension system is close to its target in terms of coverage, fiscal sustainability, benefit adequacy and equity. In these countries incorporating automatism into pension systems could also take place at the level of pension system design.

Some countries in the region may have limited scope to reduce benefits, requiring greater reliance on AAMs with adjustments to eligibility criteria. But in some countries in the region there may be limited scope to adjust benefits given adequacy considerations . In those cases, AAMs may need to rely on adjusting the eligibility criteria. Since raising contribution rates can effect on the labor market and growth, it would be important to order other adjustments. But, in some cases contribution rate adjustments may be needed.

Fragmentation in pension systems in some countries should be kept in mind in considering the applicability of AAMs. Pension systems in many Asian countries are fragmented, with different funding and benefit schemes for different categories of workers. Applying AAMs could be more complicated in fragmented systems (for instance in adjusting retirement age with changes in mortality) and some consolidation may be needed before adopting AAMs.

## Case Studies in Asian Pension System

### Japan

Pension system was introduced in 1961 with a defined-benefit scheme which significant amount of financial assets held by public pension funds. The biggest pension funds in Japan is Government Pension Investment Fund (GPIF), it is a pay-as-you-go or PAYG basis. The system has three categories of insured in three tier of contributions and benefits. First, employees pay contributions in proportion of their earnings and receive both basic pension (first tier) and benefits based on their past contributions (second tier). Second, dependents of employees are exempt from paying contributions, but entitled to basic pension. Third, others such as self-employed and unemployed people pay a fixed amount and receive the basic pension. Finally, Voluntary pension schemes provide the third tier of the system.

In 2004, the government embarked on a comprehensive reform including the introduction of an AAM and a gradual increase in pension contributions, the pension benefits are automatically adjusted to change in demographic, macroeconomic and financial development. Contributions rates gradually increases and replacement ratio go below 50%. The reform strengthened the financial sustainability of Japan's pension system by improving credibility and reducing reliance on tax revenue, the reformation options include using more prudent assumptions on key parameters and reasonable scenarios, making the AAM work better under a low price/wage and further raising the pension age, for example by introducing an automatic link to life expectancy at the age of 65.

## Korea

Despite population aging is expected to significantly increase Korea's fiscal burden in the future, Korea currently has one of the youngest populations among OECD countries. The lower fertility rates and higher life expectancy raise the speed of population aging in Korea which is one of the highest. Even though Korea is expected to encounter aging population problems, Korea's pension fund is one of the best pension systems in the world, it is the third largest pension fund next to Japan and Norway pension fund. The biggest pension fund in Korea is Korea's National Pension System (NPS), which is a social insurance system, was launched in 1988. Active members contribute 9 percent of income for taxes. Retirees received pension payments linked to average income of entire active participants, their own lifetime income averaged in present value terms and active participants periods, these make NPS a defined-benefit pension.

National Pension System (NPS) is partially funded and accumulated assets around 30 percent of GDP. Population aging is expected to worsen system's fiscal position for two reasons. First, higher dependency ratio increase the ratio of pensioners to active members. Second, pension payments per retirees are set to increase as the pensioner's average active participation periods become larger over time causing system matured. The absence of change in contribution rate or benefits formula worsen the system's primary fiscal balance. The Korean authorities forecast shows that NPS system will turn into overall fiscal deficit in 2044 and pension assets will fully depleted by 2060.

Korea implemented parametric reform to tackle with long-run sustainability. The 1998 reforms increase retirement age and reduced benefits level and the 2007 reforms involved further reduction in accrual rates or the final salary the you get each year as the member of the scheme. However, NPS still has larger size of unfunded liabilities. Incorporating AAMs in NPS could restrain the growth of unfunded liabilities more effectively. The fact that Korea's pension system has not yet matured is an advantage in incorporating AAMs since it provides members longer periods of behavior adjustment, the impact of these policies is distant.

Under the parametric reforms, the retirement age is set to increase to 65 by 2034. Adopting AAMs linking the retirement age to changes in life expectancy would continuously adjusted the retirement age without confined by outdated ceiling. It could allow sufficient pension benefits for various age cohorts in their retirement planning and it also minimize fairness issues, for example entitling less life-time average benefit payouts to newer retirees than older ones.

## China

In China, separate schemes provide old-age insurance for the salaried workers in the enterprise sector (UWS) and for the rest of non-salaried workers (Urban and Rural Residents, URR). UWS and URR are not integrated. The central government provides guidelines and financing, but the schemes are administered at the provincial level. The Pension Scheme for UWS functions on a pay-as-you-go basis; while, URR combines a funded, individual account component, with a flat pay-as-you-go basic pension.

In China, the old age dependency ratio is projected to increase from 13 percent in 2015 to near 40 percent in 2050. The combined deficits of the UWS and URR are projected to widen rapidly from 0.6 percent of GDP in 2015 to 5.8 percent of GDP in 2050. In present discounted value, the imbalance between expenditure and revenue over this period is estimated at 94 percent of 2015 GDP. Retirement age for Chinese is relatively low; 55 years for women and 60 years for men.

Introducing AAMs for retirement ages would enhance sustainability, but might not be sufficient to eliminate the projected imbalances. Life expectancy at age 60 is expected to increase by 5.3 years for men and 4.8 years for women in 2015-2050. Implementing an AAM, retirement age for men will be 65 years and 60 years for women. This would have an important impact in improving sustainability, but a large imbalance would remain—by just linking retirement ages to life expectancy, the projected pension system imbalance in 2015 to 2050 goes from 94 to 72 percent of 2015 GDP.

## Conclusions

Incorporating Automatic Adjustment Mechanisms (AAMs) can be a useful part of pension reforms in Asia. Asian economies are aging rapidly and face imbalance in pension funds system before others. Pension systems in Asia do not link life expectancy to retirement age yet. Furthermore, expected years in retirement of Asians are relatively high than others. AAM will link retirement age to life expectancy or other system sustainability indicators. This provides

important scope to use adjustments to retirement age to contain and reduce financial imbalances. Introducing retirement age based AAMs would be particularly relevant for countries with already low replacement rates and would also be useful for several countries in the region with defined contribution schemes in improving the adequacy of their systems.

AAMs are not meant to be a silver bullet. They can help slow down the accumulation of unfunded liabilities related to demographic and macroeconomic changes but their aim is not to fix pension systems that have large unfunded liabilities. AMM would have an important impact in improving sustainability, but a large imbalance would remain. AAM is helpful, but it can still improve its effectiveness and credibility through using more prudent assumptions in evaluating the soundness of pension finances and making the “macroeconomic indexing” work better under a low price/wage inflation or deflation environment.

### How Thailand’s pension system can be improved

Like many countries in Asia, Thailand is facing a demographic transformation. Thailand is faced with a rapidly aging population due to demographic transformation resulting from falling fertility rates and rising life expectancies. In 2005, the elderly accounted for 10% of the total population. This figure will probably rise to 20%, 20 years on. This means from a ratio of 6 working-age (15-59) citizens to 1 elderly in 2005 and 3 to 1 in 2025. But unlike other countries, Thai elderlies did not accumulate enough funds to live off during their retirement. The amount of pension funds they are or will be allocated will not be enough to support them. Compared to other countries, the pension budget of Thailand is low as a share of per capita income. The pension funds is only enough to serve elderlies as secondary income, not primary. The problem is particularly severe for those who are solely member of the Social Security Fund, their average replacement rate is only 38% of the last income. “Up to 36.7 per cent of elderly Thais need financial support from their children while some 33.9 per cent of the others have to continue working to support themselves,” said Dr Pan Ananapibut of the ministry’s Fiscal Policy Office. He added that only 5.4 per cent of the elderly could live on the income from their savings or the sale of properties, which is a very low figure. This is why Thailand’s pension system seriously need a reform.

In addition to aging population, factors such as low contribution rate and a high accrual rate are threatening the system's sustainability. According to a ranking by Allianz International, Thailand was ranked lowest in the Pension Sustainability Index. It also had one of the lowest rankings for retirement income adequacy (the percentage of retirement payments compared with final salary), along with a slow replacement rate. It stated that 'the country lack a comprehensive pension system and the risk of retirees falling into poverty is high. The population is expected to age quickly in coming decades, which is expected to weigh on public finances, especially as the retirement age is low. Thailand lack a comprehensive pension system and only a small share of the population is enrolled in a pension plan. The risk of retirees falling into poverty is elevated as the replacement rate is also low.'

We will now take a look at Thailand's pension system and see how it compares to Canada to see how Thailand could improve by inspiring from developed countries. First of all, the Thai Pension system is made of 3 main pillars. Those are the state provided, the compulsory saving and voluntary saving. The state provided system is an old civil service scheme and is a defined benefit scheme composed of a social security fund. The intent of this pillar is to secure basic needs. It prevents from elderly poverty and provides for a basic consumption smoothing. It is a public pension plan based on contributions from financial reserves and assets and it is only meant to be part of retirement income. This scheme provides around 3000 baht per month to citizen above the poverty line representing 11 Million in Thailand. The social security payments are reduced in function of higher incomes. The second pillar is the government pension fund. This one is also a defined benefit scheme. It is a public pension fund and like the social security fund, it is based on contributions from financial reserves and assets. This plan also aims to provide for consumption smoothing during retirement through a minimum pension and there is currently a population of 2 Million part of this scheme. The third pillar is the provident fund. This scheme is defined contribution. It means it is privately-financed personal provision and that it is voluntary. Provident Fund represents an occupational pension. It is incentivized with tax

advantages and can be used as a mean of closing pension gaps but it doesn't represent enough for most of citizens in Thailand. There are currently less than 3 Million Thais using this scheme.

In addition to the three main pillars can be added two other pillars. The first one represent a pillar zero which is a non-contributory pillar setted up by the Thai government. Under form of social pension or social assistance, it is 500-1000 baht per month just given to any Thai citizen, whether they are part or not of other retirement schemes, covering also people in informal sectors. The second pillar to add is the social capital pillar. This one represents other retirement schemes made out of someone's assets such as mutual funds and private pension funds. There are many ways to save for retirement but this pillar is only used by a very small portion of Thai people.

Now if we take a look at some of the best pension systems in the world we can notice some slight differences. For example, Canada's public pension system is made of 2 main schemes. The first one is the Old Age Security (OAS). The OAS is a social pension available for any canadian citizen over 65 years old that has an income of less than 114,815\$ a year. Pension is given with monthly taxable payments of 570.52\$ and the amount can be adjusted 4 times a year since OAS follows the Canadian consumer price index. If the salary exceeds 71,592\$ canadians must repay a portion of the OAS at a 15% rate. This serves as basic needs as it's enough for grocery with Canada prices but never close to pay for lodging. The second part of the public system is the Canada Pension Plan (CPP) and it is a contributory earnings-related social insurance program. The CPP investment board manages over 287.3 billion canadian dollars in investment assets for the Canada Pension Plan on behalf of 19 million Canadians, making it among the ten largest state-owned wealth funds in the world. The CPP program is available to all employed Canadians who are at least 18 years old and who contributes a portion of their income to a federal administered pension plan. For almost all provinces, the plan is administered by Human resources and social development Canada except for Quebec province, that has it's own pension plan, which is actually very similar to the CPP. All contributors can benefit of full pension benefit payments at the age of 65. Payments currently represent 25% of earnings

contributed to the CPP over the contributor's working life. However, by 2025, the pension benefit is supposed to rise to 33% of earnings on which contributions were made, bringing the maximum amount of covered by the CPP from \$54,900 to about \$82,700 a year.

In addition to the two main public retirement pillars, there are many different voluntary ways in Canada to plan for retirement. The point is that financial planning education is much stronger in Canada than it is in Thailand. Most employers in Canada offer an employer-sponsored retirement plan in which both the employer and employee contribute for retirement planning. This type of plan can easily provide up to 60% of the contributor's income in payments. There is also a very common tax-deferred savings retirement plan that is encouraged for workers all around Canada. It is called a registered retirement saving plan (RRSP) and offers the opportunity for people to accumulate savings for retirement in a very convenient way. This plan offers many different tax advantages comparing to tax-preferred accounts. Most people put money into their RRSP automatically from their income every week. They have money going automatically from their paycheck to their employer-sponsored plan and also put money aside every week or every month into their own RRSP. Usually the RRSP are composed of saving accounts, guaranteed investment certificates, bonds, mortgage loans, mutual funds, income trust, corporate shares, foreign currencies etc.. The advantage with these methods is that people don't even realize they are saving and they are not tempted to spend the money they never received.

You can then add all individuals investments and financial assets on top for the key to a very sustainable retirement planning. Canada has one of the most efficient retirement systems in the world. We think that Thailand could look up to countries such as Canada and try to inspire from their system. The main issue is that very few people are part of the actual public system in Thailand because so many people are working in informal industries. Government needs to get those people to contribute in the public schemes so they have a basic security retirement revenue. These plans are worth the investment and that's why the income is taxed as high as 35% in Canada. We realized that the main reason why Canada is so successful with its pension system is

that that has variety of pension funds but especially that everyone is aware of all options. Financial education and savings awareness is much more important and the state is not afraid to tax at high rates if it allows to provide with such amazing retirement security services.

There are three main reasons why people have not saved enough for retirement which can be explained by behavioural economics. Thai government has not given enough importance to the theory and the current schemes are not designed to solve the bias behaviour problem. For the first point, people usually decide to become member of a pension fund too late in their life. For Thailand, one part of this can be attributed to the fact that the system was only comprehensively restructured in 1990. Before that, it was mainly a pay-as-you-go defined benefit scheme funded by the annual government budget and was based on the last month salary for almost a century. Nonetheless, that restructuring is not enough and further improvements should be made now. In general, people are unaware of the importance of pension schemes and have present bias. Savers prefer to spend their money today than to put aside their money into a scheme. The schemes in Thailand has not addressed this problem. The problem can be tackled by inserting an **automatic enrollment** clause into the scheme. People have inertia, they tend to go with the default option. So inserting the auto-enrollment clause will consequently increase the number of people enrolled in a pension plan and increase the coverage rate. This automatic enrollment policy should be applied to workers in the informal sector that are not part of the social security scheme. About 25 million people work in the informal sector and most workers in the informal sector do not have appropriate social insurance for their old age. These people who are the ones in risk most of not having enough to save for retirement so the government should fast track the National Savings Fund scheme to quickly make it functional as time as running out for informal workers to save before reaching retirement.

Second, savers put too little money into pension funds. They often have a loss aversion mindset, viewing the money put into pension fund as a loss in present income. The contribution rate for Thais are lower than the average in the rest of the world or even in Asian countries with similar level of economic development. The policymakers should address this mindset by putting **automatic escalation** condition into the scheme. This means the saving rate increases gradually

as the saver's income increases. For example, the Save More Program in the US, the first year the contribution rate is 3% and then the rate is increased 1% per year until it eventually reaches 6%. The model should be applied with the Thai pension system, such as the Provident fund or Government Pension Fund. This way, savers will not view funds allocated to the pension as a loss because proportionally, they will have the same, if not higher, money for spending. Automatic escalation condition is suitable for schemes where default contribution rate is low because if the default contribution rate is high and this condition is inserted, it could cause a distortion in the labour market. In Thailand, this condition is suitable to the Government Pension Fund since the current contribution rate is low (3%) and this scheme is a financial burden to the government.

Third, people do not allocate enough of the saving funds into risky assets. They have status quo bias, preferring to stick to the given choice and reluctant to make a change. The default investment policy of Thai schemes has a conservative approach with only a small portion being allocated to investing in risky assets. In 2013, it is reported that only 13% of investments are into stocks which is relatively low compared to developed countries. Accordingly, the funds only provide a low return back to investors and is a factor that contributed to Thai retirees not having enough saving to live off. In order to solve this problem, policymakers can set default investment policy as **life cycle investment**. This means what type of assets the funds are invested in depends on the life cycle of the saver. If the saver is still young, his/her funds should be invested in riskier assets and as he grows older less portion of the savings are invested in risky assets. Currently for Government Pension Fund, the Ministerial Regulation stipulated that GPF shall invest its asset of not less than 60 percent in high secure asset. This regulation should be reviewed in order to allow for the possibility of young savers investing in riskier assets and getting higher returns from the funds.

Another solution to solve the unsustainability issue of the pension fund issue is to **increase the retirement age**. Thailand retirement age is too low (55 years old) below average in ranking of countries given that life expectancy (75 years old) is ranked in the middle in the rankings. This means that, the government will have to pay for pensions for 20 years. Increasing the

retirement age will also increase the number of worker in the labour force that contribute to pension funds as well as reducing the number of those who receive pension from pension funds. The dependency rate of retirees to those in the labour force will decrease. Increasing retirement age could spark a backlash from the labour unions. For the adjustment process, initially, Thai government should encourage Thais the voluntarily work beyond the retirement age with incentives, say those who work longer will receive higher accrual rate (applied in France, Germany and Finland etc.).

Also, to apply AAM, longevity indicator could be setup to determine a new retirement age meaning that the retirement age in Thailand can be adjustable. The criteria that can be used to readjust it could be the improvement in life expectancy at the retirement age. This way, the retirement age can increase as the life expectancy increase resulting a more efficient and sustainable pension system.

Another issue for savers in the short and medium term is the low interest rate. This situation affected pension funds members because their return depends on interest rate. The low rate poses further problem for them not having enough money for retirement.

The suggestions for this problem proposed by the senate are include investing in assets, bonds, stocks with higher risk to get higher return. Additionally, savers have to diversify risk by invest in many investment assets. Third, government should set the organization to encourage more people to give importance to pension funds and help providing information about investments and help them with retirement planning.

Reference:

[http://projectm-online.com/app/uploads/Allianz\\_2016\\_Pension\\_Sustainability\\_Index.pdf](http://projectm-online.com/app/uploads/Allianz_2016_Pension_Sustainability_Index.pdf)  
<http://www.nationmultimedia.com/news/business/EconomyAndTourism/30273718>  
[http://www.sec.or.th/TH/Documents/Information/ResearchesStudies/research\\_retirement.pdf](http://www.sec.or.th/TH/Documents/Information/ResearchesStudies/research_retirement.pdf)  
<http://www.fpo.go.th/S-I/Source/Article/Article146.pdf>  
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