Briefing Note

on

Replacement Rates

4 April 2017

TA 9010: Strengthening Specialized and Semi-Formal Financial Institutions to Support Financial Inclusion

Asian Development Bank

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Introduction

In this briefing note we will discuss the replacement rates that employees can achieve in case they complete a full career. Although in practice many people do not have a full career, the replacement rate in case of a full career is a good yardstick by which we can measure whether a pension system provides sufficient, but not excessive, pension levels.

What is deemed sufficient, and what is deemed excessive, is essentially a political decision. However, there are some international norms. For example, the International Labour Organization (ILO) advocates a pension level in case of a full career that is for most people at or above 40% of the average wage. On the other hand, in many countries where contributions to (private) pension plans are facilitated by tax incentives, the tax authorities usually allow deductions to take place up to a contribution level that gives rise to a pension level of 70% of average career wages in case of a full career. Therefore, roughly we can say that in case of a full career, pensions should be in the range of 40%-70% of the average career wage. The exact outcome of course depends on the characteristics of the individual career and on the frugality or generosity of the pension system and its parameters.

In the above we already used some pension terminology. In the next paragraph we will define these terms more precisely.

Scope

As a briefing note, this document is meant for selected ADB and FPO staff, who are working on pension reform in Thailand. Therefore, this document goes right to the heart of the matter, and does neither pretend to be comprehensive, nor to provide a full overview of the Thailand pension system or to treat the basics of pension reform. We assume the reader has a good grasp of pension issues in general and the current structure of the Thailand pension system in particular.

This document focuses on workers in the formal sector, who are not covered by the pension plans for Government employees. These workers are currently covered by the Social Security Fund (SSF) and in the future, are planned to be covered by the National Pension Fund (NPF).

In our analysis, we do not take into account payments under the Pay-As-You-Go (PAYG) Old Age Allowance, that is currently paid by the State to all pensioners, as this system may become means-tested, and there are no accrued rights under this system. If we would have taken this system into account, replacement rates for low paid, low career growth employees would have been relatively higher.

Objective

The objective of this briefing, is to assist FPO in advising the government on the design of the pension system for formal sector workers. This briefing does not have the objective to make certain forecasts or predictions. The objective is rather to provide insight into the effects of certain design decisions. The main insight we want to convey is in the way the combination of a Defined Benefit system with a capped pension base (SSF) in combination with a Defined Contribution (DC) system without such a cap, gives rise to very different replacement rates for individuals with different career patterns.

Definitions

Below we describe the main terminology used in this document.

Current design of the pension system for the formal sector in Thailand – with this we mean the SSF as it is currently constituted, plus the NPF as currently described in the draft law mandating the establishment of this institution. We note that (as is widely known and has been described by the ILO and by the SSF itself in its 2015 annual report) the SSF is no sustainable: contributions are not sufficient to fund the accrued rights. This means that in future significant contribution increases will be required, or accrued rights will have to be curbed, or the State will have to pick up part of the costs (or a combination of these). In this briefing we will assume that the current pension formula of this Defined Benefit plan will remain unchanged and that eventually someone (employers, employees and/or the State) will pick up the bill. We only assume that the retirement age will be moved from age 55 to age 60. We furthermore note that the NPF design is still in its early stages and rather sketchy. Nevertheless, for the purpose of this briefing the draft law provides enough information.

Replacement rate – for the purpose of this briefing, the replacement rate is defined as the monthly pension amount at retirement age divided by the average career monthly wage the individual enjoyed during his/her career. This means a few things:

- We compare pensions with gross wages. This means that we underestimate the replacement rate to a certain extent, as we understand that in Thailand pensions are not subject to income tax. To attain a "like with like" comparison, we should have compared pensions to net wages. However, as the income tax burden in Thailand for most people is either 0%, 5% or 10%, the error is negligible or limited.
- We compare pensions to the wage level that the individual him/herself enjoyed in the past. This as opposed to the "system replacement rate", which compares average pension to average wage in the formal sector, and is therefore not very informative for system design decision making purposes.

In one case, we will also compare the pension with the average final wage (the average wage over the last 60 months prior to retirement). However, this is an exception.

Average career monthly wage – this is the average wage the individual enjoyed during his/her career in terms of constant purchasing power. This means that it is corrected for inflation

between the moment a wage was earned and retirement date. In practice, when making the calculations underpinning this briefing, we assumed inflation is equal to zero. This does not limit the applicability of our conclusions.

Average career pension base – this is the average career wage, corrected for a deductible in case part of the wage does not give rise to pension, and capped at the level of the maximum wage under the plan.

Retirement age – we assumed a retirement age of 60 years of age for both men and women. For NPF this is the currently planned retirement age, for SSF currently the retirement age is 55, but we assumed this will also be increased to 60.

A full career – we assumed a full career to span a total of 40 years: from age 20 to age 60.

Assumed benefit entitlement under SSF

- The system is a DB system. Therefore, to assess replacement rates we only need to look at the benefit formula, and we can ignore contribution levels.
- Monthly pension = 20% x average pension base for the last 60 months + 1.5% x average pension base for every year that the insured person made contributions beyond 15 years.
- Pension base is wage between 1,650 and 15,000 Baht / month.

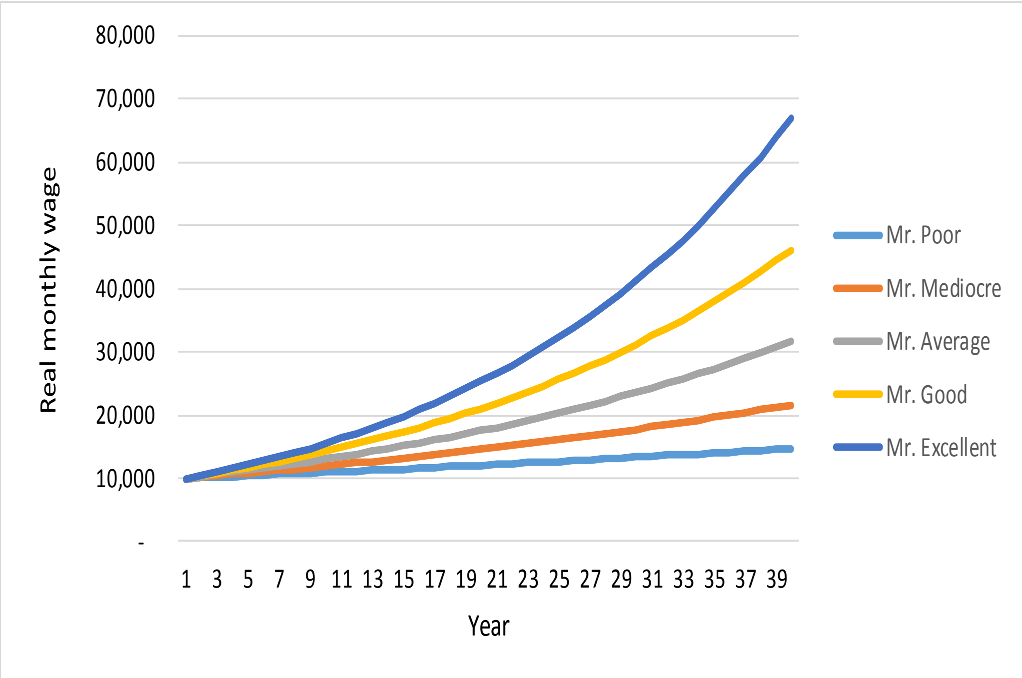
Assumed benefit entitlement under NPF

- The system is a DC system. Therefore, to assess replacement rates we need to look at contributions made, investment returns and the way these are converted into pension entitlements.
- Monthly pension is based on a conversion of pension accumulations at retirement into a 20-year annuity. In case of death before or after retirement age, the unused accumulations will be inherited by the heirs of the deceased participant.
- Contributions are as follows (counting from the inception of the system):
    - Year 1-3: 3% each from employee and employer
    - Year 4-6: 5% each from employee and employer
    - Year 7-9: 7% each from employee and employer
    - Year 10 and further: 10% each from employee and employer
- Pension base is wage up to 60,000 Baht / month.

Other assumptions

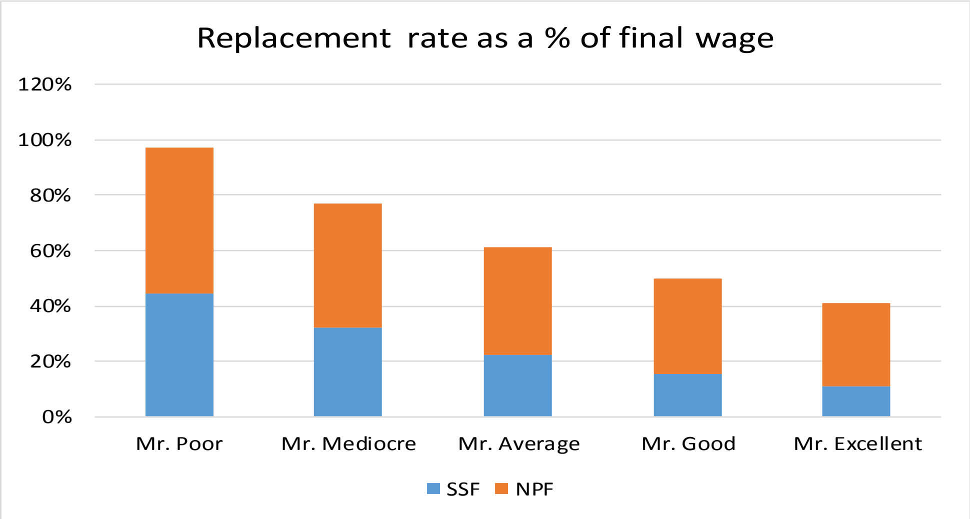
- Real return on investment equal to 2% per annum
- Initial monthly wage at start of career of each employee is 10,000 Baht
- We look at five individuals with different wage growth levels. To make the results easier to comprehend intuitively, we gave these five individuals the following names:
  - Mr. Poor: 1% wage growth / annum
  - Mr. Mediocre: 2% wage growth / annum
  - Mr. Average: 3% wage growth / annum
  - Mr. Good: 4% wage growth / annum
  - Mr. Excellent: 5% wage growth / annum

The careers of these individuals look as follows:



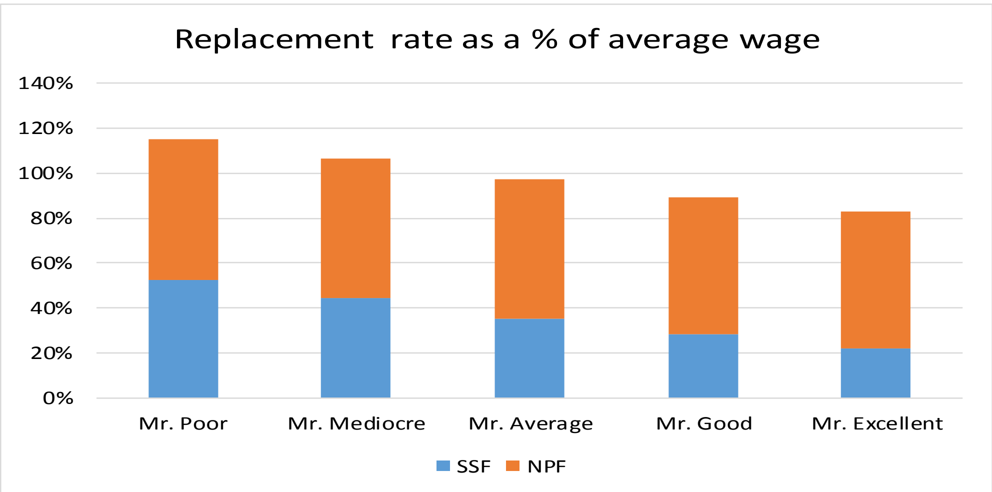
Replacement rates under current system design

When we (as an exception) compare pension levels for these five individuals to the final wage (the average wage enjoyed during the last 60 months prior to retirement), we arrive at the following picture:



What is immediately clear is that replacement rates are lower when careers are steeper. For the part of wages covered by SSF, this is caused by the low ceiling in the SSF plan. For the NPF, this effect is absent, as the ceiling in NPF is projected to be our times as high as the ceiling in SSF. However, in NPF the replacement rate also decreases when the career growth is higher. The reason is that we compare the pension here with the (60 month average) final wage, whereas contributions were based on the average wage over a whole career spanning 40 years.

It is much more useful in system design to compare pensions with the average career wage, and this is what we will do from this point forward. Based on the current system, the results are as follows:



Now a few things become clear. In the first place, for low-wage, low-career staff ("Mr. Poor"), the SSF pension is far from insignificant. Actually, it is (almost) fully sufficient, providing a replacement rate of 53%. Once more we see that as careers become steeper, the SSF loses some of its significance, due to the ceiling, capping the pension base at a modest level. However, even for Mr. Excellent, with the steep career, the replacement rate from SSF is still 22%, which is something we cannot afford to ignore when designing a pension system.

We see now that the replacement rate from the NPF is rather uniform (varies between 60% and 63%), which is logical as contributions are on average levied over the average wage.

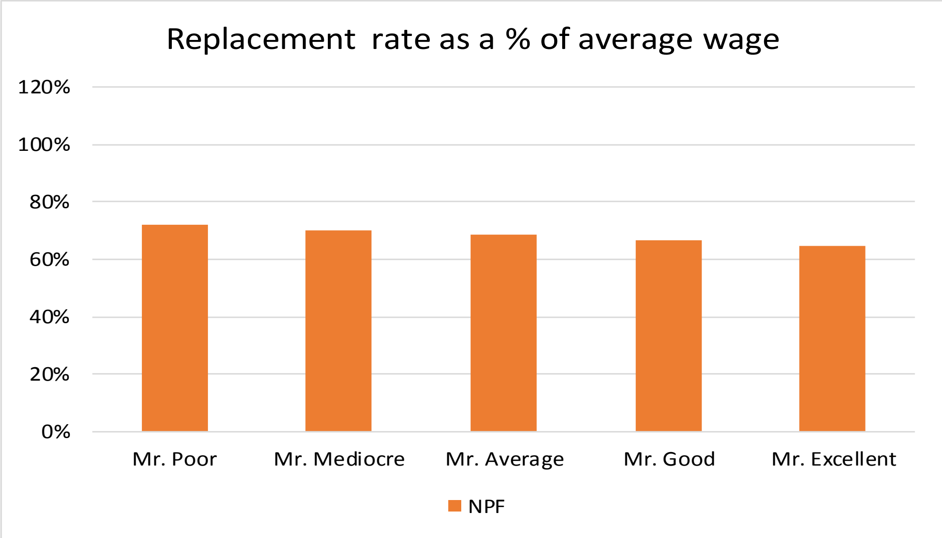
We see that resulting total replacement rates are excessive: varying between 90% and 115%. This may make Thai industry uncompetitive and shift a disproportionate share of income beyond retirement. The notion that replacement rates from SSF are insignificant is clearly flawed[1]. The other side of the same coin is that the contribution level planned for NPF is 20% of pension base, and that for SSF a sustainable level would also be between 12% and 18%. This would make a total contribution rate of around 35% of pension base, which is extremely high in an international perspective. A reasonable contribution rate would be between 15% and 20% of pension base.

This immediately suggests a solution: to dismantle SSF (dividing the assets over individual participants, pro-rata to their pension reserve), and going forward have only one pension solution: NPF. We will explore this option now.

Replacement rates under NPF only

Now we assume a future where the NPF system is fully up and running and the contribution percentage is 20% for all years. For example, consider participants working between 2030 and 2070. This means that we can also ignore legacy effects from the SSF system. Then the picture becomes as follows:

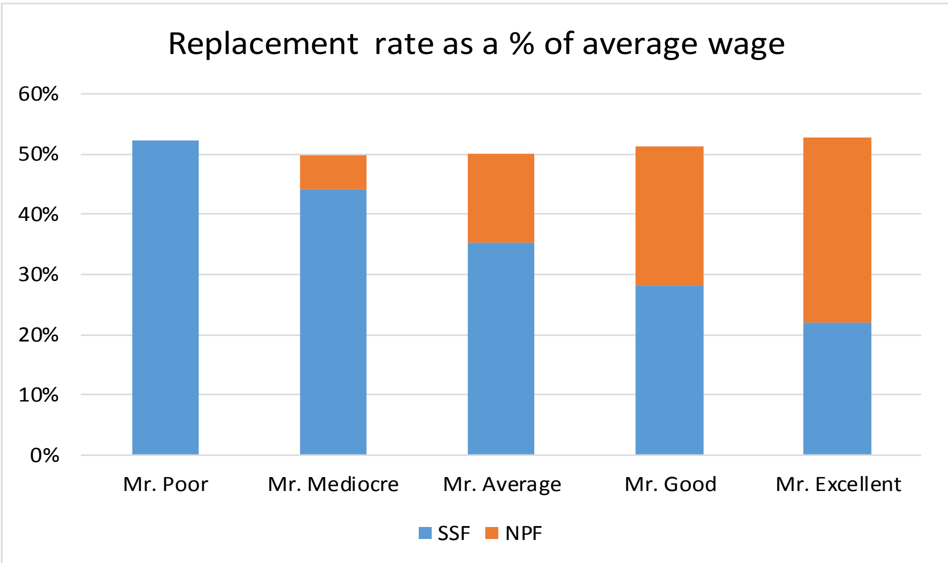
[1] Most likely this impression was based on the system replacement rate which reportedly is 19%, most likely as a result of start-up effects and the incidence of many incomplete careers.



Now we see that replacement rates are quite good. What we want to illustrate with this picture is that a DC system such as NPF, with a planned contribution of 20% of wages, provides sufficient pensions. Any major addition to this is likely to result in excessive replacement rates and/or unsustainable contribution levels. In other words: NPF, as currently planned, crowds out other pension systems such as SSF. If SSF stays in place, NPF will need to take a step back and be set up more modestly. This is the subject of the following section.

Replacement rates when NPF “cohabitates” with SSF

Such “cohabitation” can, given the current structure of SSF, be easily implemented by seeing NPF as a “top up” (for middle and higher incomes) to SSF. This can be done by removing all wage components up to 15,000 Baht from the NPF pension base. SSF would then cover incomes up to 15,000 Baht, and NPF would kick in above that level. In other words: the NPF would have a deductible of 15,000 Baht. This would give the following results:



We see that "Mr. Poor" will have no relationship whatsoever with NPF. His retirement needs are fully taken care of by SSF. Furthermore, we see that as people have steeper careers, they will be less and less reliant on SSF (with its low ceiling) and rely more and more on NPF.

This is a so-called "hybrid" system, having a DB character for the lower wage bracket and a DC character for the higher wage bracket.

Of course, this solution can only work when the deficiencies in the design of SSF are addressed. The SSF contributions should be increased to a sustainable level, and governance and investment policy should be improved and made more transparent. If this is not done, then a situation could arise where regarding the lower wage brackets there is not sufficient certainty that the pension will actually materialize instead of being a "pie in the sky". At the same time (as a mirror image of this problem), employers would pay 6% contribution regarding the lower wage bracket and 20% regarding the higher bracket. Thus, the system would be "limping" along.

Isn't 20% too high a burden?

One can ask whether 20% is not too high a level for employers and employees to bear. This of course is a political question. It depends on the extent to which Thailand perceives itself as a developing economy, reliant on offering low prices to compete on world markets, and the extent to which Thailand perceives itself as a developed economy, which can compete on quality and technological advances.

If we look at the apparent difficulty to increase contributions to SSF, then maybe it will be better to plan for a contribution level of around 12% - 15% for both SSF and NPF. The exact level should of course be decided based on actuarial calculations and informed discussion.

How to get more value for money from the contributions?

A final issue is the design of the NPF benefit, in the form of a 20-year financial annuity, with inheritance of account balance upon death. This seems a suboptimal solution. By making use of standard actuarial annuity techniques, replacement rates can be improved and cover can be extended beyond age 80. We will dedicate a separate briefing to this issue.