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Old-age security in Bhutan: From lump-sum payments towards a pension scheme

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Winfried Schmähl

**Old-age Security in Bhutan
– From lump-sum payments towards a
pension scheme –**

ZeS-Arbeitspapier Nr. 6/02

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Summary

At present, Bhutan's old-age security still is mostly based on an extended family network. Formal old-age provision mainly is for civil servants, providing, however, only lump-sum payments. This paper analyses the present conditions and obvious deficits of the existing arrangements and outlines possibilities for introducing a pension scheme which provides regular (monetary) income in old age. Income in old age could be increased and costs could be reduced by transforming the existing Provident Fund totally or partially into a pension scheme. This can be combined with pay-as-you-go and funded elements.

1. Introduction

This paper deals with a subject – the present structure and possible future development in old–age security in Bhutan – the last (Buddhist⁰) kingdom in the Himalaya region. Up to my knowledge this never has been a topic of an academic paper.⁰ For many other Asian countries social security issues are discussed in publications, often also from a comparative perspective.⁰ In a recent impressive volume published by the ILO on "Social Security Pensions"⁰ there is also a chapter on "Asia and the Pacific". Although information on many countries are given there, Bhutan is not mentioned. Insofar this paper tries to fill an obviously existing gap, though to a limited extent.

In Bhutan up to now only a very small part of the whole population is covered by a formal system of social security in old age.⁰ Beside old–age provision for Buddhist monks living in monasteries also when they are old, for the vast majority of the Bhutanese population old–age provision exists still within the (extended) family.⁰ The focus of this paper is on the present *formal* arrangements for old–age protection which only exists in the public sector, describing its structure at the end of the nineties of the 20th century. The already obvious deficits as well as (future) problems resulting especially from structural changes for example in families and employment raise the question, how to react. Therefore, some ideas how to develop and restructure existing arrangements in Bhutan particularly for giving regular income in cash in old age. This has to take into account the specific conditions of this country. The paper starts with

⁰ In Bhutan it is the *Mahayana Buddhism* and not the Theravada Buddhism which is found e.g. in Myanmar (Burma), Cambodia, Laos, Sri Lanka or Thailand.

⁰ This paper is based on research done by the author between autumn 1997 and spring 1998 (including two visits to Bhutan). Information concerning the Bhutanese old–age security and especially model–calculations for reform–options are in Schmähl 1998. Many thanks go to Stefan Priesner (who was with UNDP in Bhutan at that time) who provided me with some insight into Bhutanese living conditions etc. and Karma Tshiteem who was very helpful in collecting information on old–age security aspects for Bhutan. – In the foreword to Rose (1977: 7) R.L. Park mentioned that "very little substantiated scholarly writings on contemporary Bhutan exists." At least for old–age security this has not changed until today.

⁰ See e.g. ISSA 2000 (covering People's Republic of China, Fiji, India, Malaysia, Philippines, Thailand), Hofmeister and Thesing 1999 (dealing with Japan, People's Republic of China, Taiwan, South Korea, Malaysia, Philippines, Singapore); Hort and Kuhnle 2000 (focused on the "eight foremost miracle territories in the region" (p. 165), namely Hong Kong, Indonesia, Korea, Malaysia, Philippines, Singapore, Taiwan, Thailand).

⁰ Gillion et al. 2000.

⁰ "Formal" refers here to a (public or private) old age security scheme not based on intrafamily transfers or arrangements by religious communities like living in a monastery.

⁰ "Most Bhutanese still live in villages in an extended family system or maintain strong links with their rural families", Ministry of Planning (1996b: 6).

some short remarks on the economic situation in Bhutan which is also important for redesigning old-age security.

2. Bhutan – some remarks on its economic and political structure

Bhutan, located between India and the Tibet region of China is about as large as Switzerland and has an estimated number of about 600.000 inhabitants.⁰ In contrast to its big neighbour countries the population density is low. Until the end of the fifties Bhutan was more or less isolated from the outside world. Topographical barriers were an important reason for this. Bhutan never was a colony, like for example its neighbour country India. The isolationism ended in the late fifties, when (after a visit of the Indian Prime Minister Nehru in 1958) Bhutan opened its southern border (to India) and a first road from India to Bhutan was built. At that time no national currency, no money economy existed and no paved roads; there were only two doctors for the whole country.⁰ Of major importance for a change in politics and in a strategy for developing the country – among other things its infrastructure – was also the unrest in Tibet in 1959 and the inflow of refugees from there. Bhutan became something like a buffer state between India and China. Close economic relations developed between India and Bhutan. Meanwhile about 70 % of all exports go to India⁰ and about 70 % of total imports come from India. The economy and the state budget is now heavily depending on hydropower, mineral, forest, and other natural resources.⁰

In Bhutan's development concept the preservation of cultural values⁰ and environmental endowments is of central importance. The development goal is labelled officially as "Gross National Happiness" in explicit contrast to the narrower concept of Gross National (Domestic) Product.⁰ This also points at the fact that comparing countries e.g.

⁰ There live several ethnic groups in Bhutan; see Pommaret 1997.

⁰ For references see Priesner (1996: 13). Rose (1977: 211) describes the situation at that time as follows: "Except for a minute proportion of the elite, the social structure, value system and life style of the Bhutanese did not differ very much from that of their ancestors around 1500."

⁰ Most important is hydro electricity; India provided financial and technical assistance to develop this important source of income for Bhutan and its government budget.

⁰ IMF (1999: 24).

⁰ For example – quite in contrast to Nepal – only a very limited number of tourists per year are allowed to travel within Bhutan. Receiving foreign television is not possible. The fact that (since 1964) English is the first language at school is nevertheless one channel for foreign cultural influences which can challenge the traditional native cultural values. For a short discussion of several types of tensions in the process of urbanization etc. see Ura 1997.

⁰ "...economic welfare is seen within Buddhism as being instrumental in achieving spiritual advancement...; Buddhist economics...insists ...that economic development must cohere with Buddhist values...; economic development, in order to be sustainable and meaningful, needs to

by GDP per head is of limited value as an indicator for the real living conditions of the population.⁰ Although nearly half of the Bhutanese government budget is from foreign grant⁰ Bhutan seems to have had the possibility to choose among donors according to its domestic development plans. This for a long time prevented the country from economic dependency, such as on external loans (especially from international organisations like the World Bank) which are linked to realise specific proposals of the donor how to develop the country, reorganise its institutions etc.⁰

As can already be seen from Bhutan's balance of payment, India is of major importance for the economic conditions of Bhutan.⁰ For a long time, the Bhutanese economy was dominated by a subsistence agriculture.⁰ Concerning the formal economy, the state sector is dominant, but there is a growing private sector of the formal economy. The financial market is still in an infancy state. This is an important fact concerning the different strategies for old-age security, which is discussed world-wide, especially pay-as-you-go versus capital funding.

With regard to the political system, Bhutan is a kingdom. Until May 1998 the king was not only the head of the state but also head of government.⁰ In June 1998 a major change

take account of the value system within such developments are taking place" (Zadek 1993: 442). For a recent discussion of "income" and "happiness" from an economic perspective see Easterlin 2001. While "happiness" – "satisfaction with life as a whole" (Tatarkiewicz 1976: 16) was discussed by sociologists and psychologists, among economists Easterlin was one of the few who dealt with this topic, see Easterlin 1974.

⁰ Dasgupta (1999: 13) remarks, however: "It is hard to believe that at really low levels of income happiness isn't associated with income." It must be added that income has to be defined in broad terms, including e.g. also income in kind. The World Bank in its country economic memorandum (World Bank 1996: i) mentions a per capita GDP "of about US\$ 450, one of the highest in South Asia".

⁰ According to IMF (1999: 27) foreign grant in fiscal year (starting July 1) 1996/97 was 17.7 % of GDP, in 1997/98 14.7 % (provisional data). Of major importance is bilateral assistance, especially from India as the leading donor, followed by Japan but also from smaller countries like Denmark, Austria. In 1995 Austria's assistance amounted to 5.9 million US\$. This was more than from the most important multilateral donor, UNDP (5.1 million US\$). India by far outweighed all other donors with 20 million US\$ (not including a number of capital investment projects), that was more than a quarter of all official development assistance, see UNDP 1997.

⁰ An analysis of the development approach in Bhutan is given by Priesner 1996 with further references.

⁰ There exists free trade arrangements; the Bhutanese currency is linked to Indian Currency (1 Bhutanese Ngultrum (Nu) = 1 Indian Rupee (RS.).

⁰ There exist also the tremendous differences in the possibility to use e.g. infrastructure. While there is now a tendency that younger cohorts move to urban communities (especially the capital Thimpu, which now has about 35.000 inhabitants), the majority of people still lives in walking distance by more than one day from the next road used by motor cars (Ura 1997: 243).

⁰ There exist only one weekly newspaper (published in three languages, Dzongkha (the official language), Nepalese and English; local television was introduced recently; but there is – as already mentioned – no possibility to receive foreign television.

took place: the king now is no longer head of government. One of the (six) ministers becomes head of government for one year each. Bhutan is in the process of drafting a constitution.

3. The demographic and employment structure

A severe problem for analysing the existing conditions is the weak data base for many variables that are important in describing, evaluating and projecting aspects relevant for pension policy. This is a fact well known from many developing countries. The official estimate of the population number was around 600.000 in the middle of 1997.⁰ An important information concerning the design of old-age security arrangements is the age structure of the population. Bhutan has a very young population: about 42 % of the whole population are below age 15 and only about 7 % 60 years and older.⁰ About half of the total population (i.e. 300.000) is in their "working years" – if these are defined as years between age 15 and 60.⁰ The old-age dependency ratio if defined as old people (60+) to the absolute number of persons in their working years (DR 15/60) is around 14, i.e. 14 people are in old-age per 100 in their working age. If the working period is assumed starting at age 20 (instead of 15) then DR (20/60) is 17, while DR (15/65) – i.e. for a working period between 15 and 65 – is only 8. The assumed age brackets for beginning and ending the working phase obviously have a remarkable impact on DR-figures; in absolute terms, however, all are relatively low.

With regard to the future population development assumptions concerning fertility and mortality are particularly important, while migration seems to be of minor relevance.⁰ In 1997 the Total Fertility Rate⁰ was 5.32 and much above the replacement level of 2.1. In its population policy Bhutan is aiming at a remarkable reduction of the fertility rate, realising the replacement level already in 2012 or 2017.⁰ This is an extremely ambitious goal. Concerning mortality only information on (average) life expectancy at birth are available. For the future, an increase of about 5.5 years for males and 6.5 years for females within 20 years is assumed in population projections.⁰ For pension policy considerations, remaining life expectancy at retirement ages would be important as well.

⁰ There is a problem in getting exact information on the population concerning those who are Bhutanese citizens and those who are not. This refers especially to those who are "Nepalis", mainly living in the southern region of Bhutan. Those who lived there before 1958 got the Bhutanese citizenship. The last population census was in 1980.

⁰ Ministry of Planning 1996.

⁰ In the process of preparing a labour force survey for Bhutan, the working age was defined as 10 years and older.

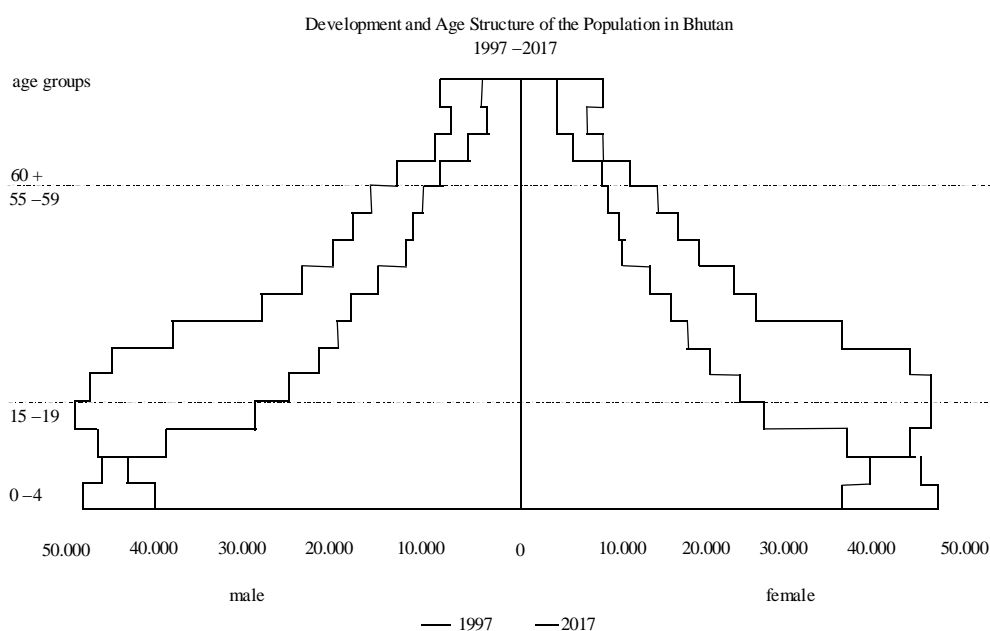
⁰ Although Bhutan is surrounded by countries with a high population pressure.

⁰ Number of children of a woman at the end of her reproductive period.

⁰ See Ministry of Planning 1996a and 1996b.

Even under the assumption of a high reduction of fertility, the total population will increase by at least 1/3 or even more within the next twenty years.⁰ Overview 1 gives information on the age structure in 1997 and 2017. The percentage of the population in their working ages will increase, too. The DR (15/65) as well as DR (20/60) according to the population projection will, however, remain for the next twenty years nearly at the same low level of about 8.7 respectively 16.1 per 100 persons in working age as it is today.⁰

Overview 1:



These information are important for deciding which strategy in financing old-age security in a formal system seems to be attractive. Although today only a small part of the working age population is covered by formal old-age security arrangements (mainly civil servants), it will be interesting for the future, how many of the people in their working ages will be integrated into the formal labour market and how many of them will be covered by a formal old-age security scheme. It seems a plausible assumption that the number of people in private business – not only self-employed but also

⁰ For pension policy aspects information on the remaining life expectancy at "retirement" would be of special importance.

⁰ This is an important challenge for the country and its economic development, see also Ura 1997.

⁰ There will be, however, according to these projections a remarkable change in the child dependency ratio (under 15/15–59) going down from about 78 (in 1997) to about 40 (depending on fertility assumptions) in 2017. Therefore, also the total dependency ratio (old-age plus child dependency ratio) will decrease. The development of economic "burden" linked to these developments is affected by numerous additional factors and decisions; for a discussion see Schmähl 1990.

employees – will increase in absolute as well as relative terms. There will be an increasing interest or even need for formal old–age security possibilities, especially in case of a weakening of the "safety net" of the extended family.

Only about 1.140 regular civil servants were employed around 1997. Compared to the number of persons aged 20 to 60 (around 250.000) this is only 0.4 %. These civil servants are included in two formal schemes of old–age provision.

4. The existing old–age security schemes for civil servants

As already mentioned, up to now only few persons in their working age are integrated into a formal system of old–age security in Bhutan. It can, however, be expected that the need for such arrangements will increase, because in the process of economic development and restructuring of the employment system the role of family–based protection will decrease. In the future less employees, who for a long time lived in urban communities, will go back to their remote home villages and family farms. Therefore, the need for money income in old age to cover the cost of living – including costs for renting a flat or a house – will increase. Furthermore, because of rising life expectancy, one can expect that the number of years after retirement will increase.

At present the number of salaried employees outside the public sector is still negligible. Employees in principle are only in the public sector, mainly civil servants of the Royal Government, but also employees in public sector enterprises (corporations).⁰

For civil servants two schemes existed (in 1997): a *Provident Fund* and the *Gratuity Scheme*. Both give only lump–sum benefits (normally) in case of retirement, but no pension.

Such lump–sum–based schemes were very common in countries belonging as colonies to the British Empire in the past, and in these countries they were the major reason for not having a pension scheme. But there is now in some of these countries – like India⁰ – a tendency to shift from lump–sum payments to regular pension benefits in old age. It is well known – and increasingly acknowledged in many of these countries – that lump–sum benefits as the main instrument in old–age protection have severe disadvantages.⁰

⁰ There is a tendency towards privatising such corporations and private sector activities can now also be made in sectors that were a reserve of the public sector, e.g. in road transport. The development of the private sector, however, will be a gradual process and will take time. Hand in hand to this the size of local labour markets will increase.

⁰ Concerning India, which in 1995 partially converted its Employee Provident Fund into a defined benefit pension scheme see Gillion et al. (2000: 506–509).

⁰ See also Beattie 1997.

Beside this there are specific features of the Bhutanese schemes that result in disappointing results for the persons covered by these schemes.

4.1 The Provident Fund

The Provident Fund was established in 1976 as a compulsory savings scheme.⁰ It covers permanent staff members of the Royal Government. The contribution rate in 1998 was 16 %, paid in equal parts by employees and the government (as employer) from the basic salary.⁰ The money was invested by the Royal Insurance Corporation of Bhutan. There was, however, a guaranteed (nominal) interest rate of 10 % p.a., higher than the interest rate the Provident Fund was able to earn on the Bhutanese capital market *after liberalisation of interest rates –in 1997. Interest rates were before fixed by the Royal Monetary Authority.*⁰ In order to meet the guarantee, government subsidised the interest rate by 3 percentage points for four years (till 2000).

The accumulated individual fund (including interest on contributions) is paid out normally at retirement as a lump sum. Retirement ages are equal for men and women, however different according to the grade of civil servants.

The sum a retiring civil servant could claim was very "modest": The average lump–sum paid out in 1996 was about 50.000 Nu (in the years before even lower).⁰ Compared to the salary for a civil servant of middle grade or to the average earnings of all civil servants this was about seven monthly salaries.⁰ Only about 15 % of all payments (during the period 1962 to 1996) were higher than 50.000 Nu.

The main reasons for this highly disappointing outcome of the Provident Fund are the following:

The Provident Fund is a *defined contribution* scheme, the lump sum is calculated at retirement on the basis of the *absolute* former contribution payments and the contribution payments are based on the absolute amount of the salary. Salaries were in fact frozen between 1988 and 1993. In 1994 there was a uniform increase for all grades of 500 Nu per month. In real terms earnings were remarkably eroded. In 1996 real earnings were lower than in 1988.⁰ In (fiscal year) 1996/97 an ad hoc increase in earnings by about

⁰ The hypothesis seems plausible that the Indian influence was decisive for establishing such a scheme.

⁰ Not including a variety of allowances.

⁰ *Deposit rates e.g. in October 1996 for deposits of 1 year were 10% and 11% for deposits of up to 3 years (World Bank 1996: 5).*

⁰ The exchange rate of Nu to US Dollar was in June 1996 35 Nu for 1 US \$.

⁰ More informative, however, would be individual data for lump–sum payments according to the rank of the retiring civil servants.

⁰ For details see World Bank (1996: 13–14).

50 % on average took place within two years, but with a relatively higher increase for lower grades and lower increase for higher grades.

Because of this stagnation in earnings and afterwards erratic increase the basis for contributing to the Provident Fund and for calculating the lump sum at retirement is much lower than the present salary level at retirement. In addition the guaranteed interest rate (of 10 %) was in some periods lower than the inflation rate, i.e. the real interest rate was negative. The effect of these developments are very low lump-sum benefits compared to the present salary level.

While the benefit calculation is based on low former absolute contribution payments (respectively earnings), the present contribution payments to the fund are based on the much higher present salaries. This is the main reason for a high and growing surplus of the fund (beside the fact, that the fund only has been existing for about 20 years and is not mature). There are, however, limited possibilities for investing these budget surpluses on the very narrow national capital market.

4.2 Gratuity Scheme

This scheme was already introduced in 1962 (together with the first 5-year-plan in Bhutan). It is fully financed from the general public budget and shall honour the service of the employee for his employer. The benefit calculation is like an employer's financed (occupational) scheme based on final earnings. When leaving civil service, the lump-sum benefit is calculated as

$0.7 * \text{last (monthly) salary} * \text{number of years of service.}$

There is, however, a ceiling for gratuity payments of 100 000 Nu. This maximum amount is not indexed; it remained unchanged since 1988.

The ceiling has two important effects:

(1) For civil servants with higher salary as well as in case of salary increase a lower number of years of service is in fact used for calculating the benefit.

(2) The higher the last monthly salary before retirement, the shorter is the time span (e.g. defined as months) a retiree can finance the level of living that before retirement was financed by his earnings. Because of the ceiling the Gratuity scheme has a redistributive effect towards lower salaries. The maximum gratuity benefit (in 1997/98) was about 10 monthly salaries of a civil servant of middle grade.⁰

⁰ 2/3 of all civil servants are in grade 10 or lower. For grade 10 the maximum ceiling equals 14 times the monthly salary.

The average gratuity payment, however, was much below the ceiling of 100.000 Nu: at the end of 1997 it was 30.000 Nu. Obviously such payments are much too low for covering the costs of living in retirement for a longer period.

When the schemes were introduced a guiding idea was that lump sum payments allow for some investment that could become the base for regular income in old age. The relatively low benefits, however, are far from being sufficient for this purpose.

Summing up, the existing lump–sum benefits in Bhutan as source of income in old age are an insufficient instrument. There are general as well as country–specific reasons for this result, like the design of the schemes and the erratic salary development for civil servants. Concepts based on lump–sum benefits are no adequate instrument for old–age security. In general, there is a risk of outliving one’s income. Under Bhutanese conditions this would be the case very quickly. The lump–sum benefits of the Provident Fund as well as of the Gratuity scheme are not only low but lack dynamic components. This does not fit into an economic environment with increasing real income and rising prices.

The relatively low amounts as well as the possibility that the money could be spent very quickly for consumption^o – and leaving people without regular monetary income in old–age – may result in social problems if the family ties become weaker compared to the past as to the still existing conditions.

There exists no means–tested social assistance in Bhutan. At present, the family seems to be the last major "safety net".^o In addition, generally there is the possibility to apply for "*kidu*" from the king.^o This is a grant by the king, often in form of granting farm land – important in an economy where subsistence farming was a dominant type of activity by the population.^o But in case of a rising number of elderly without adequate income in

^o The Employee’s Provident Fund in *Malaysia* for example in 1995 had benefits that were in most cases "exhausted within three years of receipt at age 55" (Gillion et. al. 2000: 509).

^o Intrafamily transfers as an important source of elderly households is not only resulting from Buddhist thinking but also from Confucian ethics. In a study on South Korea and Taiwan Kwon (1999) mentions "that Confucian ethics is working in the sense that private transfers contribute to the income of elderly households...Confucian ethics, however, failed to secure the living standards of the elderly households in the sense that the levels of private transfers in most income groups failed to reach the half of the relative poverty line. It is also worth noting that the importance of children as the main income source for the elderly has been weakened" (p. 20), Kwon concludes: "What should now urgently be called for is not Confucian ethics but state action for the elderly. Confucian ethics are still working but it alone cannot work, while the rapid ageing process in East Asia has put increasing strain on the family" (p. 21).

^o Prior (1991: 18) mentions as an example for income redistribution in Buddhist thinking as one of the rules for "ideal kings" (in Theravada Buddhism) "to give their gifts to all who are poor."

^o There is, however, a tendency to give subsidised loans instead of *kidu* (Priesner 1996: 50 with references).

old-age and without adequate coverage by family members this seems not to be a sufficient instrument.

Taking into account the present effects of both schemes described, the already starting changes in family structures, the development of urban centres (which will be the main places for taking up employment) and more regional mobility, the expected growth of the private formal sector of the economy, but also a capital market in an early stage of development, it is not astonishing that ideas come up for regular pensions and for reforming the old-age security arrangements. Such reform proposals have to take into account the country-specific conditions. The experience with the Provident Fund also stresses the fact, that for civil servants not only the design of a scheme for old-age provision is important but level and development of salaries during the working period as well – also in comparison to income in private sector activities.⁰ Taking into account the fact that in the process of an increasing life expectancy there will be more years of living after retirement in the future (even in case of rising retirement ages). This underlines the need for regular monetary income in old-age. This can be realised by schemes with regular pension benefits. The question can be raised, whether the Provident Fund and/or the Gratuity Scheme should be substituted or supplemented by a pension scheme. There are, however, different options for designing pension schemes.

5. Options for designing a pension scheme in Bhutan

If the existing schemes are looked upon as insufficient and inadequate as only or dominating means of old-age security for civil servants, a concept is needed as guideline for reforming the present schemes as well as to introduce a new one respectively to transform old into new schemes.

Beside some basic questions for designing a pension scheme (among other things dominating objectives like avoiding poverty in old age or income and consumption smoothing over the life cycle; defined benefit or defined contribution schemes: a close contribution-benefit link or more interpersonal redistribution; the financing method – namely pay-as-you-go and capital funding; the design of benefit – flat-rate, means-tested, earnings related – as well as financing instruments – social insurance contributions, taxes)⁰ it is obvious that a dynamic system is needed. Taking into consideration that salaried employment in Bhutan at present is concentrated in the public sector, a basic question is, whether a (pension) reform should aim at a specific scheme for public employees (civil servants and employees in public corporations) or whether

⁰ A topic relevant in general but especially on developing countries to avoid corruption. Salary and pension claims are the most important elements of the remuneration package.

⁰ For a short overview see e.g. Schmähl 1999, for an extensive debate Gillion et al. 2000.

the (new) scheme shall be designed in such a way that in principle coverage can be extended to other groups of the population and specifically to employees in the private sector of the economy (and possibly later to self-employed, too).

There are good reasons to design the (basic) scheme⁰ in such a way that it is possible to extend coverage to the private sector, which in the future can be expected to grow. Otherwise mobility of labour could be hampered.⁰ Beside this argument sector-specific schemes can have financing problems in case of structural changes in the economy concerning sectors of groups or the working population.

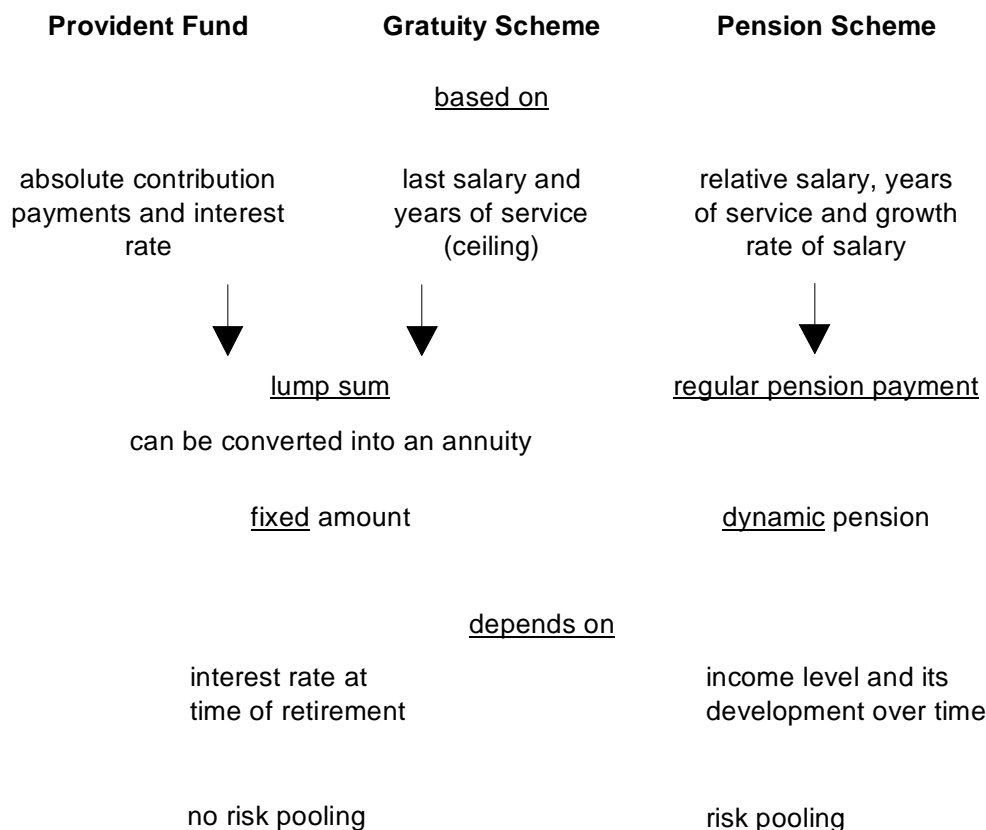
An important question is, whether the conditions in old-age for present civil servants shall be improved within the near future or whether such an improvement is scheduled only for a more distant future (for example for now young civil servants or those who start their career now). Looking at the above mentioned shortcomings of the present rules it seems appropriate that improvements should also become effective for present civil servants, also those already near retirement age.⁰ In this case, only a pay-as-you-go pension scheme (PAYGO) would make this possible. Therefore, it must be a mandatory scheme and – taking the conditions in Bhutan into account – a public scheme. This must not be the only element for old-age provision, but it should become an important part of it.

Overview 2 gives a stylised comparison of Provident Fund , Gratuity Scheme and an earnings-related (dynamic) pension scheme.

⁰ That points to the fact that it is possible to have additional – for example occupational – schemes on top of the basic (general) scheme. The gratuity scheme could for example serve as an additional scheme for civil servants.

⁰ This has direct consequences for example for designing an earnings-related pension formula. In civil services with clear rules for promotion etc. pension calculation could in principle be linked to last earnings of the employee. But this cannot be a pension scheme with a close-contribution-benefit link (insurance type). Linking pension benefits to last earnings, however, cannot be a general rule because of the big problems concerning manipulating "last" earnings. The fact cannot be discussed here that for creating a pension scheme there are limitations in combining different instruments although in practice there exists a broad variety of possibilities to design a pension scheme.

⁰ In principle it could also be possible to think about improving the conditions for those already retired. But they received benefits according to the rules of the Provident Fund. This possibility will not be discussed here.

Overview 2:

Source: Schmähl 1998: 75

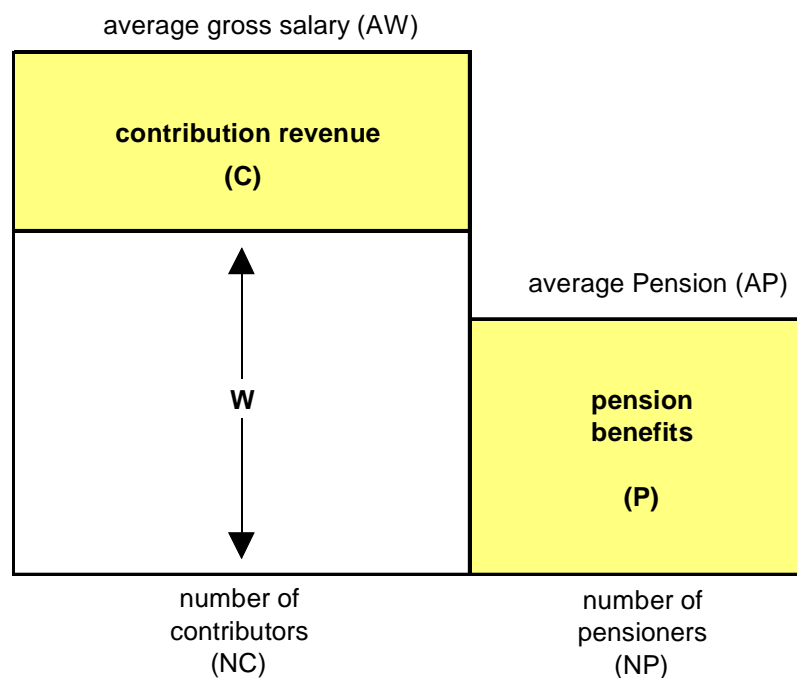
6. A pension scheme for Bhutan – some illustrative calculations

Calculating possible fiscal and distributional effects of a new pension scheme – in case the Provident Fund is substituted totally or partially by a pension scheme – is no easy task because of the data limitations. Only some illustrative provisional information shall demonstrate the superiority of a (dynamic earnings-related) PAYGO-financed public pension scheme compared to the existing Provident Fund in Bhutan by at the same time even lower (financial) costs. Because of the weak data base political actors have to be careful in introducing a new scheme. Adaptations may be necessary in figuring out for example the proper parameters of a new scheme – especially when designing the scheme in such a way that it could (later) be extended to other groups of the population. It is also not possible to deal here with problems of the transition process from Provident Fund to a new public pension scheme or the adequate level of pensions.

First, some illustrative calculations for a PAYGO–financed public pension scheme for Bhutan in general are given. Starting from a simple budget equation for a PAYGO pension scheme with contribution payments (from salary) as the only source of revenue and pension benefits as the only type of expenditure, the contribution rate for balancing the budget depends on the pensioner ratio (number of pensioners to number of contributors) and the average pension level (defined as average pension to average salary); see Overview 3.

Overview 3:

Pay-as-you-go financed Pension Scheme



$$\begin{aligned}
 C &= P \\
 C &= c \cdot NC \cdot AW \\
 W &= NC \cdot AW \\
 P &= NP \cdot AP \\
 c &= \frac{NP}{NC} \cdot \frac{AP}{AW}
 \end{aligned}$$

$$\begin{aligned}
 c &= \text{contribution rate} \\
 W &= \text{sum of wages, salaries} \\
 \frac{NP}{NC} &= \text{pensioner ratio} \\
 \frac{AP}{AW} &= \text{average pension level}
 \end{aligned}$$

Source: Schmähl 1998: 35

If the contribution rate to the Provident Fund of 16 % should be used totally for financing the pension scheme, we need information on the pensioner ratio as well on the affordable average pension level.

Information on the pensioner ratio are lacking.⁰ One could start by using an old–age dependency ratio as proxy for the pensioner ratio. As already mentioned, the numerical values of dependency ratios are highly sensitive depending on their definition. If we use DR (20/60), i.e. 16, it is obvious that then a pension could be financed by the contribution rate of 16 % that is on average equal to average earnings of civil servants. Taking into account that according to the population projection the DR (20/60) will remain in principle constant during the coming 20 years, this illustrates that a PAYGO element in old–age security would be a favourable alternative to the existing model.

This illustrative example is based on the population structure of the *whole* population and on the average salary of civil servants. For a more realistic evaluation of the possibilities for introducing a PAYGO pension scheme a simulation approach was used by Schmähl (1998) which allows for several variations of assumptions and to illustrate the potential impact e.g. on the contribution rate also by changing several parameters. Such sensitivity analysis is useful concerning existing data limitations and can also be helpful in deciding on the relevant parameters of a new scheme (like pension level, contribution rate, retirement ages). A starting point is the present age structure and number of civil servants. Taking into account different retirement ages, assumptions concerning life expectancy after retirement, (gross) pension level, growth rate of newly recruited civil servants concerning age (as a proxy for qualification) as well as widow’s pensions, a set of simulation results can be derived.

A base–line scenario (not to be mixed up with a most realistic scenario) started from the following assumptions:

- retirement age 60
- life expectancy after retirement 15 years
- (gross) pension level 50 %
- growth rate of number of civil servants 2 % p.a.
- 30 % of newly recruited civil servants are aged 20, 70 % are aged 30.

The contribution rate necessary to balance the budget in a pure PAYGO scheme (without buffer stock and not taking into account already accumulated reserves in the existing

⁰ Information on the remaining life expectancy at retirement is not existing as well. Here it would e.g. be important whether the life expectancy of civil servants significantly differs from other groups of the population. A question relevant when thinking about extending the scheme. In Schmähl (1998) calculations are done for civil servants, starting from their present age structure and calculating how many will retire in the future. Using assumptions on remaining life expectancy, the number of pensioners in coming years can be calculated. Concerning the development of the number of civil servants this will depend on the strategy to recruit new employees. This will have effects on age structure as well as on the structure according to grade. It can be assumed that persons with higher qualification will enter civil service at higher age compared to the present structure. A simulation model was developed to take into account several variables and was used for sensitivity analysis for the years up to 2030.

Provident Fund) was only 0.5 % in 1998, will be 2.4 % in 2010 and 7.7 in 2020.^o Even under the assumptions of a very uneven age structure of civil servants (and not extending coverage to other sectors of the economy) the necessary contribution rate for a new scheme only after about 20 years after the start of the scheme would only be half of the existing contribution rate to the Provident Fund. But it would be sufficient to finance a (dynamic) pension of 50 % of average gross salary (for the average earner), i.e. 3.300 Nu per month.^o As mentioned before, the average lump-sum benefit from the Provident Fund in 1996 was 46.000 Nu. This would allow to finance 14 months of 3.300 Nu.

Overview 4 gives an idea of the sensitivity of results if assumptions are varied. Here the (necessary) contribution rate in 2015 is calculated taking into account changes in two of the assumptions.

Overview 4:

Contribution rate in 2015 –Impact of variations in up to two assumptions of the basic scenario

life expectancy after retirement (in years)			newly recruited civil servants (in %)		pension level (in %)		newly recruited civil servants aged 20 (share in %)					
13	15	17	2	3	50	60	50	30	20	0		
7,3	7,7	8,0	7,7	6,4	7,7	9,2	7,7	7,7	7,7	7,7	56	retirement age (in years)
5,6	5,9	6,0	5,9	4,9	5,9	7,1	5,9	5,9	5,9	5,9	58	
4,5	4,6	4,7	4,6	3,9	4,6	5,5	4,6	4,6	4,6	4,6	60	
3,3	3,3	3,4	3,3	2,8	3,3	4,0	3,3	3,3	3,3	3,3	62	
			4,5	3,8	4,5	5,4	4,5	4,5	4,5	4,5	13	life expectancy after retirement (in years)
			4,6	3,9	4,6	5,5	4,6	4,6	4,6	4,6	15	
			4,7	3,9	4,7	5,6	4,7	4,7	4,7	4,7	17	
					4,6	5,5	4,6	4,6	4,6	4,6	2	newly recruited servants (in %)
					3,9	4,6	3,9	3,9	3,9	3,9	3	
							4,6	4,6	4,6	4,6	50	pension level (in %)
							5,5	5,5	5,5	5,5	60	

Source: Schmähl 1998: 50

^o But in 2030 it would be already 15.9 %. This steep increase between 2020 and 2030 is not due to the demographic development but to a very skewed present age structure of civil servants resulting in a high number of retirees in this period. In 1997 more than a quarter of all civil servants was in the age group 26–30. There is no assumption made in the calculations concerning mortality during years of service and all service contracts exist up to retirement age. It can, however, be expected that there are attempts to change the age structure in order to increase the qualification within the group of civil servants as well.

^o In 1997 average monthly earnings for civil servants are assumed to amount to approximately 6.600 Nu.. In an earnings-related scheme taking into account (relative) earnings during the whole working career this would be 50 % of (individual) average earnings position during working life.

Without discussing the findings in detail one can see that the contribution rate will remain much below the present contribution rate to the Provident Fund. Even if an average retirement age of 56 (instead of 60) is assumed, the contribution rate will remain clearly below 10 %.

Reviewing such figures one can for example think about a mix of PAYGO financing and (pre)funding. Even if the existing accumulated "capital" of the Provident Fund is neglected, such a mix could be realised by fixing the contribution rate above the level necessary to balance the budget in a pure PAYGO scheme. This would allow to build up a stock of assets in the pension scheme which can be used later to keep the contribution rate on a lower level than otherwise necessary to balance the budget.⁰ This would be a combination of PAYGO and partial capital funding. But even this can be realised by a total contribution rate lower than the existing 16 %. This will be shown below. A lower contribution rate would increase take-home pay of the employees and would reduce the fiscal burden for the public budget (via lower employer's contributions). Although contribution rate would be reduced, income in old age would considerably be improved.

Only one variant of such a simulation exercise shall be mentioned, based on the following assumptions:

- retirement at age 56 (on average),
- remaining life expectancy at age 56 is 17 years,
- growth rate of contributors (either as civil servants or as covered employees in corporations or in the private sector) 2 % per year,
- 30 % of the newly recruited employees are of age 20 and 70 % of age 30,
- (gross) pension level 60 %,
- introducing a widow's pension (assuming a frequency of 80 %) with 60 % of the pension of the insured person and a remaining life expectancy of 6 years after death of the spouse⁰,
- the (real) interest rate for accumulated funds is 4 %

The contribution rate shall be fixed (in the beginning) at 8 % (half of the present contribution rate to the Provident Fund). This is much above the rate necessary to balance the budget. An increase of the contribution rate shall become effective, if otherwise there would be a deficit in the pension scheme. Only half of the deficit (calculated on the basis of the contribution rate of the previous year) is financed by reducing the accumulated assets. The other half shall be covered by an increase in the contribution rate.

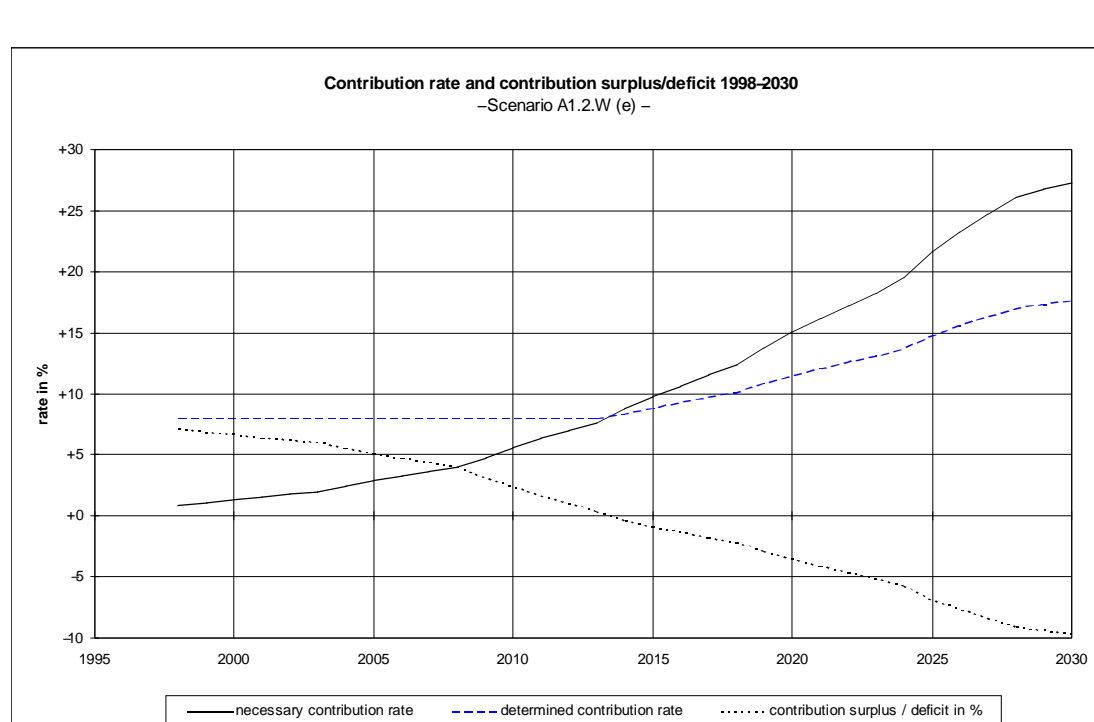
⁰ In addition the already accumulated reserves of the Provident Fund can be used for this purpose.

⁰ There could also be planned a pension for orphans up to a certain age as well as a disability pension.

Under these (cautious) assumptions the contribution rate could remain at 8 % up to 2013, increasing over time to 11.5 % in 2020).⁰ In 2020 the contribution rate would therefore be much below the present level of the contribution rate required for the Provident Fund (16 %).

Overview 5 illustrates how much the contribution rate will be reduced after 2013 because of using part of the formerly accumulated budget surplus.⁰

Overview 5:



Source: Schmähl 1998: 101

7. Some concluding remarks

Although the simulation results are based on weak data, the assumptions used in total do not seem to be optimistic. Even then the results show that if in Bhutan a defined benefit pension scheme would be introduced, this would improve the conditions for civil servants in old age remarkably. The pension of the new scheme would be much higher

⁰ Under the very specific conditions of the present skewed age structure of the civil servants (see footnote 48) the contribution rate in 2030 would be 17.7 %. This figure is not realistic, especially if taking into account an extension of coverage.

⁰ Even in 2030 the accumulated surplus in the pension scheme would be high enough to cover pension expenditure for one year.

than the money which can be expected from the Provident Fund (the lump-sum payment can for example be annuitised).^o Although the benefits would be improved a lot, the costs for employees as well as the employer would be much lower than in the formerly existing Provident fund.

There are many options for designing the pension scheme. And there are several options for combining a PAYGO defined benefit pension scheme and for example a (mandatory) saving scheme (defined contribution scheme) like a Provident Fund^o, if for example the present 16 % contribution rate should be kept for the future

It is obvious that from a *financial* point of view the transition from one scheme to an other would be without problems in Bhutan. There are statistical and administrative aspects to solve. It seems appropriate to design the scheme relatively simple in the starting phase. This would also increase transparency and acceptance and makes it relatively easy to administer. The pension scheme should be a separate institution with a separate budget. This seems favourable also in case the scheme is extended to the private sector later. For the (pre)funded elements of the old-age security arrangements there are requirements concerning the banking system and the capital market. This underlines that pension policy is linked to many aspects of fiscal and economic policy and requires careful institution building.

If the (total) contribution rate is reduced compared to the 16 % for the Provident Fund, this would give employees higher take-home pay during employment and lower costs for the public budget, money that could e.g. be used for other (public) expenditure. This underlines that decisions have to be made concerning the priorities and objectives concerning public expenditure.

There are good arguments to establish a (defined benefit) pension scheme for periodic benefits in old-age as a substitute or a supplement for a reduced Provident Fund (or some other type of defined contribution scheme). The pension scheme is, however, not an alternative to the Gratuity Scheme (whether in its existing form or improved). The Gratuity Scheme could be used as an additional (supplementary) element of old-age protection for civil servants based on financing by the employer. The Gratuity scheme would be an occupational social benefit depending on the length of service and could become a second-tier element of old-age protection for civil servants in Bhutan.^o There

^o In Schmähl (1998) there are comparisons based on earnings careers of employees for a defined pension scheme and the rules of the Provident Fund showing the superiority of the pension scheme with pensions linked to former earnings as well as to the development of earnings during years in retirement compared to e.g. (fixed) annuities based on accumulated savings in the Provident Fund.

^o In addition there is the money already accumulated in the Provident Fund.

^o The constant ceiling of the Gratuity Scheme is inadequate and should be replaced by a dynamic ceiling taking into consideration the development of earnings. The implications for the general public budget has to take into account also the employer's contributions to the

seem to be vested expectations to receive a lump-sum payment after leaving civil service. This could be realised by such a scheme. It could also be an instrument for restructuring the composition of the civil service in making it easier for some persons to leave the public sector and to take up another occupation.

Summing up, there seem to be good possibilities for a substantial improvement of old-age protection in Bhutan, which can be realised by lower costs. A pension scheme (with a close contribution-benefit link, which would improve the acceptance of such a new scheme) as the basis for old-age security could be designed in such a way that it starts by covering public employees but can later be extended to the private sector on equal terms. While in the past the public sector absorbed qualified employees, in the future the increasing number of (better) qualified people need jobs in the private sector. Taking into account the young population and the increasing number of salaried employees in the (growing) private sector this is a quite attractive basis for a pension scheme, even if an ageing of the population is taken into account. A general pension scheme for the public and the private sector could also simplify mobility of labour between the sectors.^o A mix of PAYGO financing and capital funded elements seems appropriate also under conditions of Bhutan. The proper mix of both financing methods has to be co-ordinated with the (expected) development of banking and financial market infrastructure. A careful (but relatively simple) design of the rules, a cautious implementation based on realistic assumptions for future development^o seem to be a prerequisite for a successful reform strategy . In general, the conditions for substantially improving old-age protection in Bhutan look favourable. It will be interesting to see what will happen.

pension scheme and eventually to a (reformed) Provident Fund as well as other tasks and alternative use for public spending.

^o Contributions should be collected by the public employer and later also by private employer. Concerning revenue collections see McGillivray 2001.

^o Improvement of statistics, particularly concerning demographic data, labour force development as well as income and expenditure of (private) households seems important. The development of legal rules, for example for activities in the private sector will have great influence on the possibilities to develop a private sector in the formal economy.

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