SOCIAL INSURANCE FUNDING AND ECONOMIC DEVELOPMENT IN IRĀN

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Irān currently has a comprehensive social insurance programme which seeks to provide protection against many of the factors generating economic insecurity for individuals and families living in an urbanized society - industrial accidents, disablement or death of wage earners, general illness, and retirement.[1] While only a portion of Irān's non-agricultural labour force is currently covered by the social insurance programme, the number of workers now participating totals about half a million and continues to increase each year.

The continued expansion of the social insurance system in Irān requires that increased attention be given to the economic and social implications of its future development. As the number of persons and funds involved increases, so do the system's effects on economic incentives, economic stability, the monetary system, income distribution, and national saving.

This article will focus on saving and investment aspects of Irān's growing social insurance system. Specifically, the article will discuss the question of what should be the appropriate social insurance "funding" policy in Irān, given the existing economic situation and prospects under the new Fourth Plan.

Irān's social insurance law makes provision for programmes in all the traditional areas of social insurance legislation except unemployment compen-

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1. Varying terminology is used by different writers. We will adhere to the following usage: "Social security programs can be subdivided according to their general nature, as well as according to the particular risk with which they deal. Perhaps, four broad categories may be distinguished - social insurance systems, social assistance systems, universal benefit systems, and mandatory employer plans." See Robert J. Myers, *Social Insurance and Allied Government Programs* (Homewood, Ill. : 1965), Chapter 1.

sation. With regard to types of programmes, Irān compares favourably with other countries of the world. Table 1 shows the number of countries in 1967 with various types of "social security" programmes. Irān currently has all those listed in Table 1 except an unemployment programme and, in addition, provides a programme of "marriage benefits"

Table 1

Numbers of Countries with Various Types of Social Security Programmes - 1967

Programme	Number of Countries
Any type of programme	120
Old-age, invalidity, survivor	92
Sickness and maternity	65
Work and injury	117
Unemployment	34
Family allowance	62

Social insurance in Irān had its beginning with the introduction of occupational disability, medical, and death benefit legislation in 1943. The present Workers' Social Insurance Organization was established in 1952 and provides the wide range of benefits described above.

Table 2 shows the number of workers covered in various years by the present social insurance programme. In eleven years coverage has more than doubled, moving from 175,000 workers in 1956 to 455,000 workers in 1967. In addition to the covered workers themselves, their dependents are also eligible for health, retirement (spouse benefits), and death benefits. It is estimated that there are, on average, three eligible dependents for every covered worker. Thus there were estimated to be a total of 1,806,712 persons covered in 1967 by one or more of Irān's social insurance programmes.[2]

Coverage of Iranian workers by the social insurance system in 1967 represented approximately 13 per cent of the total non-agricultural work force and 27 per cent of the "industrial" work force.[3] Regarding the government's

2. Estimate of the Workers' Social Insurance Organization.
3. Based on data supplied by the Workers' Social Insurance Organization and data in the Fourth Plan.

Table 2

Social Insurance Coverage in Irān

Year	Workers Covered
1956	174,773
1957	192,954
1958	223,409
1959	263,864
1960	306,130
1961	312,614
1962	295,516
1963	309,596
1964	329,096
1965	387,916
August 1967	451,578

Source: Irānian Social Insurance Organization.

policy for the future, Prime Minister Hoveyda has stated:

> "The Government's policy on social welfare aims at extending its benefits from a charitable and limited stop-gap nature to much wider horizons, making social welfare a national and public duty. In this regard, extension of social insurance, family welfare, child and youth welfare, workers' welfare and farmers' welfare will receive full attention, taking into consideration available financial and human resources, as well as priorities".[4]

Social Insurance Saving in Irān and the World

The growth of social insurance systems throughout the world has meant that economists have paid increasing attention to the analysis of their economic effects. One of the questions which has received increased attention

4. Prime Minister Hoveyda, Policy Statement on the New Government Programme, text reproduced in *Kayhan International*, October 21, 1967, pp. 2 and 5.

in recent years is what role social insurance systems can play in mobilizing saving for developing countries.[5]

"If contributions are greater than benefits, long-term social insurance systems can mobilize a considerable amount of savings that otherwise would not be acquired by developing nations."[6] This assumes, of course, that saving through the social insurance system is not offset by a decline in other forms of saving and that, in the absence of a social insurance system, such saving would not be undertaken in some other way. The necessary empirical data to verify these assumptions are not now available. However,economists who have studied the question generally conclude that a significant portion of social insurance saving represents a net addition to national saving.[7] Reviglio has collected data for a large number of countries showing the amount of saving generated by each country through its social insurance system. Irān was not included in his published tables because of the unavailability of certain data. However, such data are now available and it is possible to compare social insurance saving in Irān with similar activities in many other countries of the world.

Table 3 shows the increase in social insurance reserves (gross saving) as a percent of gross domestic investment for various countries; an average of two or three years of a country's data is used. For Irān, the ratio is based upon data for the years 1961, 1962, and 1963.

Table 3 shows that Irān stands among those countries for which gross saving through social insurance is relatively insignificant. Social insurance saving equaled only 0.7 per cent of Irān's gross domestic investment.In contrast, a number of countries have accumulated social insurance saving close to or greater than 10 per cent of gross domestic investment.

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5. G. Lotan, *The Role of the Accumulation of Technical Reserves in the Creation of National Savings in Countries in Process of Industrialization* (Jerusalem: 1966); G. Tamburi, "La Sécurité Sociale et les Problèmes de Formation de Capital dans les Pays en Voie de Developpement", *Fourth International Conference of Social Security Actuaries and Statisticians* (Paris:,1966); Paul Fisher, "Social Security and Development Planning: Some Issues", *Social Security Bulletin*, vol. 30 (June 1967), pp. 13-25; Franco Reviglio,"Social Security: A Means of Saving Mobilization for Economic Development",*International Monetary Fund Staff Papers*, vol. 14 (July 1967), pp. 324-65.
6. Fisher, *op.cit.*, pp. 18-9.
7. See Reviglio, *op.cit.*, pp. 338-44; Fisher, *op.cit.*, p. 19. See,also,George Katona, *Private Pensions and Individual Savings* (Ann Arbor, Michigan, 1965) and Phillip Cagan, *The Effects of Pension Plans on Aggregate Saving* (New York: 1965) for two empirical studies of this question using U.S. data.

Reviglio uses another measure of the significance of social insurance saving in various countries. To take account of government subsidies to social insurance systems financed by borrowing rather than by taxation, he deducts "from the gross savings mobilized by social security the subsidies paid by the government when in the same year government borrowing (often foreign

Table 3

Average[*] Increase in Social Insurance Reserves (Gross Saving) as a Percent of Gross Domestic Investment, for Selected Countries

Country	Ratio
Dominican Republic	0.1
Mauritania	0.2
Argentina	0.2
Nicaragua	0.3
Guatemala	0.3
Burma	0.3
Columbia	0.6
El Salvador	0.7
IRAN	0.7
Bolivia	0.7
Paraguay	1.5
Uruguay	2.5
Israel	3.3
Mexico	3.5
Brazil	3.6
India	4.4
Panama	5.3
Ceylon	7.2
Turkey	7.3
Philippines	9.0
Malaya	10.0
Ecuador	10.5
Chile	13.1
United Arab Republic	20.3

urces: Iranian ratio based upon data provided by the Iranian Social Insunce Organization and published data in Iran's Fourth Plan. Ratios for other untries are found in Franco Reviglio, "Social Security: A Means of Savings bilization for Economic Development", *International Monetary Fund Staff pers*, Vol. 14 (July 1967), Table 1.

ranian ratio based on data for 1340 (1961-62), 1341 (1962-63) and 1342 962-63) Ratios for other countries based on a 2 or 3 year period between 59 and 1964, varying for particular countries. Ratios do not include vernment payments made with securities or overdue payments or employers.

financing) is larger than the amount of the subsidy.[8]" This Reviglio calls "social security net savings."

Since Iran does not subsidize its social insurance programme with government contributions, net and gross are the same. Table 4, therefore, shows the significance of social insurance saving in Iran relative to gross and *net saving in other countries*. Table 4 is based upon 1963 data for Iran and, for other countries, the most recent data available when Reviglio did his study. The relative position of Iran among the countries listed is similar to that in Table 3.

Still another method of measuring the significance of social insurance saving among countries is the ratio of social insurance gross saving to GNP. This measure permits inclusion of a number of countries for which gross domestic investment data are not available. Table 5 shows this ratio for Iran and various other countries. About two-thirds of the countries listed in Table 5 have a higher ratio than Iran.

A final measure of social insurance saving significance is the stock of assets accumulated by a social insurance programme over its history. Once again, data for Iran can be compared with data collected by Reviglio for other countries. Table 6 shows the total amount of assets accumulated by the social insurance programme and the relationship these assets bear to GNP. For Iran social insurance assets in 1965 totaled approximately 4.3 billion rials and represented about 0.7 per cent of GNP. Again Iran is among those countries with the lowest ratio.

Saving Potential

Given the relatively insignificant role presently played by the social insurance programme in the mobilization of domestic saving in Iran, what are the possibilities for greater saving through the system in the future? This section will present some estimates of potential saving through accumulation of social insurance reserves. The important question of whether saving mobilization by this method is desirable will be discussed in a later section.

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8. Reviglio, *op.cit.*, p. 335. "Subsidies are defined as the cash payments made out of the general fund to support benefit payments and operating costs of programs *financed* by contributors."

Table 4

Gross and Net Social Insurance Saving as a Percentage of Gross Domestic Investment, for Selected Countries

Country	Year	Gross Saving Ratio	Net Saving Ratio
Bolivia	1963	0.4	3.2
Columbia	1963	1.0	2.3
Dominican Republic	1962	0.6	0.6
Mali	1962	0.4	0.4
China, Republic of	1960	0.2	0.3
El Salvador	1960	0.8	0.1
Burma	1963-64	0.3	0.0
Mauritania	1961	0.2	0.1
Venezuela	1962	0.2	0.2
Honduras	1962	0.6	0.3
IRAN	1963-64	0.5	0.5
Guatemala	1964	0.7	0.7
Mexico	1963	3.4	0.7
Argentina	1963	0.9	0.9
Paraguay	1962	2.1	1.1
Nicaragua	1963-64	1.3	1.3
Dahomey	1962	2.0	1.3
Costa Rica	1962	4.5	1.5
Nigeria	1963	1.6	1.6
Brazil	1960	4.6	2.9
Congo (Brazzaville)	1963	3.4	3.0
Uruguay	1963	3.6	3.6
Panama	1962	5.4	3.7
India	1959-60	4.4	4.4
Turkey	1963	7.2	7.2
Ceylon	1961-62	8.2	8.2
Philippines	1963	8.8	8.8
Ecuador	1963	11.4	9.8
Chile	1962	18.2	14.7
United Arab Republic	1963-64	39.2	23.5

Sources: See Table 3.

Table 5

Ratio (in per cent) of Social Insurance Gross Saving to Gross National Product

Country	Year	Ratio (in per cent)
Brazil	1963	0.15
Mali	1962	0.08
China, Republic of	1960	0.05
Malagasy Republic	1960	0.00
El Salvador	1963	0.01
Columbia	1963	0.01
Venezuela	1962	0.04
Ghana	1960	0.04
Burma	1963-64	0.05
Dominican Republic	1962	0.05
Bolivia	1963	0.06
Honduras	1962	0.08
Guatemala	1964	0.09
IRAN	1963-64	0.09
Upper Volta	1960	0.10
Mauritania	1961	0.16
Argentina	1963	0.18
Nicaragua	1963-64	0.20
Nigeria	1963	0.28
Paraguay	1962	0.34
Dahomey	1962	0.34
Algeria	1964	0.43
India	1959-60	0.43
Uruguay	1963	0.45
Mexico	1963	0.49
Libya	1962	0.63
Costa Rica	1962	0.73
Congo (Brazzaville)	1963	0.82
Panama	1962	0.91
Turkey	1963	1.01
Philippines	1963-64	1.06
Israel	1962-63	1.11
Ceylon	1961-62	1.23
Ecuador	1963	1.60
Chile	1962	1.85
Malaya	1964	2.00
United Arab Republic	1963-64	4.19

Source: See Table 3.

Table 6

Assets of Social Insurance Programmes and their Relationship to Gross National Product

Country	Year	Assets (in millions of national currency)	Per cent of GNP
Burma	1963	22.2	0.3
Honduras	1964	3.5	0.4
Nigeria	1963	4.3	0.4
Mauritania	1961	82.6	0.4
Venezuela	1962	147.9	0.6
El Salvador	1963	10.5	0.6
Guatemala	1964	8.3	0.7
IRAN	1965-66	4,300.0	0.7
Dominican Republic	1963	6.7	0.8
Senegal	1960	1,739.0	1.3
Nicaragua	1962-63	63.5	1.9
Libya	1962	2.0	2.4
Mexico	1963	6,107.9	3.2
Paraguay	1964	2,007.6	4.2
Israel	1963	357.4	4.3
Philippines	1963	1,119.0	6.5
Costa Rica	1962	211.7	6.7
India	1963	12,441.0	7.2
Ceylon	1964	543.9	7.4
Argentina	1963	132,400.0	7.8
Turkey	1963	5,348.0	7.8
Brazil	1960	195.300.0	8.3
Bolivia	1960	398.0	8.9
Chile	1962	626.5	9.5
United Arab Republic	1963	240.8	12.8
Malaya	1964	1,018.2	14.5
Uruguay	1963	4,331.6	19.3
Panama	1964	114.0	19.8
Ecuador	1963	3,470.5	20.6

Source: Irānian asset data provided by the Financial Division of the Irānian Social Insurance Organization. Data for other countries are from Reviglio (see Table 3.)

Estimation of the saving potential of Irān's social insurance system can be divided into three aspects: (a) saving potential from *better compliance* with social insurance laws, (b) saving potential from *extension of programme coverage* to more workers and (c) saving potential from social insurance *tax rate increases*. Unfortunately the data required for reliable actuarial studies in Iran are not yet available. The estimates presented below, therefore, should be considered exploratory and subject to large error. First the factor of better tax compliance will be considered.

A. Social Insurance Tax Compliance

Even though the Social Insurance Organization in Irān maintains a staff of inspectors with legal power (Article 32 of the Social Insurance Law) to inspect employers' accounting documents, it is unreasonable to expect- given Irān's social and economic environment - that all earnings subject to the tax will, in fact, be taxed.[9] Violation is difficult to detect, and there is great incentive for employers to report lower wage and salary schedules than are actually paid in order to lower the burden of social insurance taxes.

It is impossible to estimate accurately how much under-reporting takes place. However, we can get some indication of the magnitude through indirect examination. Since earnings data are not available for Irān, a study was made of the relationship between gross domestic product (GDP) and total non-agricultural earnings for certain other developing countries. The necessary data are available for twelve countries. Examination of the ratio of GDP (in current prices) to total compensation in those countries reveals relatively little variation in the ratio among them (See Table 7). The average ratio is 0.4

9. There is a long tradition in Irān of employers keeping multiple sets of books for tax avoidance and other purposes. But this problem is not unique to Irān; it also exists in other countries. For example, "it has been estimated that in Argentina the combined effect of non-compliance with the obligation to insure and evasion of contributions or delay in paying them...resulted in a loss of earnings for those social insurance funds of 42 per cent of their expected income during the year 1960-61." (International Labour Organization, *The Role of Social Security and Improved Living and Working Standards in Social and Economic Development*, Report III, Part 1, Eighth Conference of American States Members of the ILO Ottawa, September 1966 , p. 33).

10. Data were from U.N. Department of Economic and Social Affairs, *Yearbook of National Account Statistics - 1965* (New York, 1965). Compensation of employees is defined as "all wages, salaries and supplements, whether in cash or in kind, payable to normal residents employed by private and public enterprises, households, private non-profit institutions, and general government," (p. xiv).

Table 7

Ratio of Gross Domestic Product to Total Compensation for Selected Countries

Country	Year	Ratio
Brazil	1960	2.7
Ceylon	1964	2.3
National China	1964	2.7
Columbia	1963	2.6
Ecuador	1964	2.5
Greece	1964	3.0
Japan	1964	2.3
Malaysia	1963	2.7
Philippines	1964	2.8
Puerto Rico	1964	1.8
Uruguay	1963	1.9
Venezuela	1964	2.4

Source: U.N. Department of Economic and Social Affairs, *Yearbook of National Account Statistics - 1965* (N.Y., 1965).

Multiplying this ratio by Iran's gross domestic product in 1965 produces an estimate of gross earnings equal to 282 billion rials. If we assume that 13 per cent of the non-agricultural labour force (i.e., the proportion covered by social insurance in 1967) received 13 per cent of the earnings, the social insurance wage bill should have been about 37 billion rials.[11] Instead it actually amounted to about 16 billion rials.

B. Extension of Coverage

It is possible to make estimates of what social insurance saving would

11. Actually, total compensation (as defined in the ratio) includes wages to *agricultural* wage earners; this biases the measure of social insurance earnings upward. However, we would expect that earnings of workers covered by social insurance would tend to be above the average because much of the coverage is in factories of "growth" industries; this tends to bias the estimate of earnings of workers covered by social insurance downward.
12. The estimate is based on social insurance tax revenue for that year and the tax rates in effect for various groups.

be if social insurance coverage were extended to all the non-agricultural labour force, i.e., 100 per cent coverage. The combined employer-employee contribution tax rate in Irān is currently 18 per cent of earnings for most workers.[13] By estimating (as in the previous section) total earnings for the non-agricultural labour force, one can calculate the potential contribution revenue of the social insurance system. Multiplying the earning-GDP ratio times the value of gross domestic product in 1961, one gets an estimate of total non-agricultural earnings in that year equal to approximately 342 billion rials. Subtracting out the estimated earnings of government employees (who are covered by their own pension system) gives an estimate of the social insurance tax base.[14] With 100 per cent coverage *and no tax evasion* such a tax base would produce about 54 billion rials of social insurance contribution revenue.

Irān's social insurance law requires that at least 15 per cent of each year's gross annual revenue be added to the "technical" and "contingency" reserve funds.[15] This would result, therefore, in about 8 billion rials of social insurance saving, *excluding funds going into land and new buildings*. Actually, however, the amount of total revenue going into the reserve funds during the past decade has averaged 21 per cent. Using this higher percentage, we find a saving potential of nearly 11 billion rials. (With large scale tax evasion, both estimates would be substantially lower).

Similar calculations can be made using the *targeted* gross domestic product for the year 1972 specified in the Fourth Plan. They result in estimates of social insurance saving potential of approximately 9 billion and 12 billion rials for 1972, using a 15 per cent and 21 per cent reserve percentage respectively.

In contrast to the 8 billion rials of social insurance saving potential, actual social insurance saving in 1966 was a little less than 1 billion rials (excluding funds going into land and buildings).[16] Thus by expanding social

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13. Certain workers, principally seasonal government construction workers, are not covered by all aspects of the social insurance programme and do not pay as high contribution rates.
14. Earnings of government employees not covered by social insurance are estimated by multiplying the percentage these employees are of the total non-agricultural work force times total non-agricultural earnings.
15. The value of land purchased, and buildings (offices and hospitals) constructed by the Social Insurance Organization, are not creditable for purposes of meeting this requirement.
16. Based on preliminary estimates of the Social Insurance Organization.

insurance coverage, aggregate saving could have been increased, potentially, by 7 billion rials - assuming that increased saving through the social insurance sector was not offset by a corresponding decrease in saving in some other sector.

In reality, of course, it is probably not possible to expand social insurance coverage on such a wide scale. Problems of administration, of tax compliance, of economic disruption to business, and of providing sufficient medical facilities, present major obstacles to the rapid expansion of the system. The Fourth Plan calls, however, for extending social insurance coverage so that one million workers will be covered by the year 1972. Given a Fourth Plan projected non-agricultural work force of 4.3 million workers in 1972, and assuming government employees not covered by social insurance number about 560,000, realization of this Fourth Plan coverage target would mean that about 27 per cent of the non-agricultural work force would be covered by the social insurance programme.

If we assume that this 27 per cent of the non-agricultural labour force will receive 27 per cent of total "compensation" in 1972 (a conservative assumption), we can again use the 0.4 ratio to estimate earnings subject to social insurance taxation. This results in a projected 24 billion rials of contribution revenue (in 1972) and about 3.5 billion rials of social insurance saving -- assuming that the 15 per cent reserve requirement governs the amount going into the reserve. If the amount going into reserves were higher, for example 20 per cent, social insurance saving would equal slightly less than 5 billion rials. Again, it is necessary to point out that the above estimates assume minimal social insurance tax evasion.

Increase in Contribution Rate

It is informative to also look at the saving potential from increases in the social insurance contribution tax rate. Social insurance contribution rates vary considerably around the world. The rate for each country is influenced or determined by a number of factors -- including the demographic situation in the country, the *scope* of the country's programme, and the "funding" philosophy guiding the operation of the system.

The present tax rate in Irān of 18 per cent was instituted in 1955; prior or to that time the rate was 12 per cent. This 18 per cent rate,as was indicated in the previous section, is adequate to meet current programme expenses and, in addition, to build up the reserve funds.

Considering the total of contributions paid to the Social Insurance Organization (about 2.4 billion rials in 1965), the social insurance earnings tax base can be estimated by dividing total revenue by the tax rate. This procedure indicates that the tax base in 1965 was approximately 15.9 billion rials.[17] Thus, for every one per cent increase in the social insurance tax, there would have been a 159 million rial increase in social insurance revenue and, assuming no increase in expenses, a 159 million rial increase in reserves.

Estimating additional revenue for future years from increased tax rates is much more difficult. Using the Fourth Plan targets for social insurance coverage and gross domestic product in 1972, we can estimate that a one per cent higher contribution rate would increase revenues in that year by over one billion rials. This estimate is made using the 0.4 ratio and is, therefore, subject to over-estimation because of tax evasion. If our estimate of evasion in the section above is correct, this could mean that the one billion rials estimate above should be cut by as much as 50 per cent.

In summary, therefore, we have shown that expanded social insurance coverage, lower contribution tax evasion and/or higher social insurance tax rates will result in greatly expanded social insurance saving in the future. In order to forecast these changes more accurately, detailed actuarial projections must be carried out. To make these projections reliable requires data which are not now available. Fortunately, the general requirements of economic planning also necessitate such data, and programmes have been formulated to begin the collection process.

Should Reserve Funding Be Expanded? The preceding section discussed the possibilities of mobilizing saving through the social insurance system. If expansion of social insurance coverage continues, Iranian social insurance reserves will continue to increase and to provide additional saving to the economy (under the assumptions discussed above). In addition, the possibility exists of providing even more saving through social insurance tax increases and prevention of social insurance tax evasion. Whether such policies are

17. An adjustment was made in making this estimate to take account of tax rates lower than 18 per cent for some covered workers.
See footnote.

desireable is a matter for consideration.[18]

The desirability of greater mobilization of saving through the social insurance programme of a particular country depends to a large extent (s)upon how such saving is utilized, (b) upon whether such mobilization is compatible with the basic objectives of the social insurance system, and (c) upon equity considerations in general. This section discusses the latter questions; the next section discusses the matter of utilization.

A. Objectives of Social Insurance

It is generally agreed that the basic reason for establishing a social insurance programme in a country is because it is a politically and economically feasible method for dealing with large scale "economic insecurity".The term economic insecurity is sufficiently vague to mean different things to various people; however, social insurance programmes generally attempt to at least combat certain, but not all, economic insecurity arising from (a) the incapacitation of wage earners, (b) involuntary separation from employment, and (c) the need for individuals to gain access to goods and services during "non-productive" periods of their life.

People since earliest times have attempted to mitigate or eliminate such economic insecurity by banding together in groups - families, tribes,associations, guilds, etc. - to "share" income and goods. But as Kenneth Boulding has succintly observed:

> It is when the "sharing group" becomes too small to ensure that there will always be enough producers in it to support the unproductive that devices for "social insurance" ... become necessary. When the "sharing group" is small there is always a danger that sheer accident will bring the proportion of earners to non-eerners to a level at which the group cannot function properly...[19]

Such a situation typically arises as a by-product of industrialization and/or urbanization in a country.[20] The need for social insurance is then

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18. Clearly the prevention of tax evasion is desirable to prevent different and, consequently, inequitable tax burdens among employees and employers.The discussion which follows will, therefore, focus on the issue of tax rate increases.
19. Kenneth E. Boulding, *Principles of Economic Policy* (Englewood Cliffs,N. J.: 1958), p. 236.
20. See, for example, W.J. Goode, "Industrialization and Family Change," in Bert F. Hoselitz and Wilbert E. Moore (eds.) *Industrialization and Society : Proceedings of the Chicago Conference on Social Implications of Industrialization and Technical Change,* 15-22 September, 1960, UNESCO (Mouton:1963),pp. 239-47. For a discussion of the Iranian family (urban, rural, and tribal)and the changes occurring, see A. Reza Arasteh, *Man and Society in Iran* (Leiden: 1964).

increased in part, as a result of smaller family groupings and communications difficulties - in a broad sense - among more widely scattered family units. The resulting inability of individuals and small groups to deal adequately with their economic insecurity may motivate a political decision to institute government programmes.[21]

Thus the basic objective of any social insurance programme is to provide systematic and reliable protection for covered individuals from economic hazards coming within the scope of the programme. In general, it would seem that increased accumulation of funds in a social insurance reserve would not operate counter to this objective. Quite the contrary, some such accumulation has been traditionally considered necessary to help maintain the confidence of the people in the financial integrity of the social insurance programme and to help finance future long-term obligations of the programme.

The programme must be operated, however, in a manner which will maintain the confidence of the people in its continued operation. In attempting to build up reserves, there is the danger of establishing insufficiently liberal qualification and benefit standards.

> Higher payroll taxes become unacceptable politically ... if they reach a level in relation to benefits that substantially overcharges the insured worker. Such action has been taken quite openly, as in a Latin American country that recently considered adopting a social security proposal under which a part of the social security contribution was to have been designated as "compulsory saving". Not merely the pension scheme but the acceptance of the concept of social security as well would be endangered if the qualifying period for old age benefits were lengthened to such an extent that only a small percentage of contributors would live long enough to draw benefits.[22]

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21. "One suspects that the motivation has come from above rather than below ... In no country does there seem to have been strong pressure from the electorate for the specific plans that were put into operation." (Boulding, *op.-cit.*, p. 234). See, also, Boulding, *op.cit.*, pp. 237-40, for an excellent summary of the arguments regarding voluntary versus compulsory insurance and private versus public insurance organizations.

The text statements regarding the justification for social insurance should not be interpreted as excluding the need for various programmes to combat rural economic insecurity. The motivations for such programmes are usually different, but the need for them may be very great.

22. Fisher, op.cit., p. 20.

Aside from this qualification, large reserve funds appear quite compatible with the basic aim of social insurance.

As the next section will discuss, *the size of the reserve fund "required" to finance a particular social insurance programme is not fixed but can be almost any size.* The choice of size depends essentially on economic stabilization, growth, and equity considerations.

B. *Funding and Equity Considerations*

There is now a vast literature dealing with alternative methods of financing social insurance programmes, particularly long-term risk programmes such as retirement pensions. A large part of the discussion in this literature has centred around the question of the extent to which public insurance programmes require financing practices conforming to the traditional tenets of "actuarial soundness" associated with private insurance.[23]

The term "actuarial soundness" refers to the ability of long-term insurance (or benefit) programmes to provide sufficient, i.e., legally obligated payments, to eligible recipients at the time they come due. A private insurance company, for example, "must necessarily operate on the basis that it will not sell any new policies in the future. Therefore, it must always have sufficient funds on hand to meet its obligations for existing policy-holders", even if they all surrender their policies at once.[24] Similarly, private pension plans generally maintain reserve funds sufficient to meet current contracted obligations but, at the same time, often amortize the cost of benefits provided for employee services rendered *before the pension plan began operation* over a period of 10 or more years.[25]

There seems to be widely accepted agreement among pension specialists around the world that public insurance systems which include long-term risk programmes do not require the accumulation of reserves to be actuarially sound. Given satisfactory growth of a country's population and its national product, it is usually possible to finance all or a large amount of current benefit payments with the revenue received from employed workers'current con-

23. See, for example, Myers, *op.cit.*, Chapter 5 and Joseph A. Pechman *et.al.*, "The Objectives of Social Security," in U.S. Joint Economic Committee, *Old Age Income Assurance*, Part III: Public Programs (Washington, D.C.: December 1967), pp. 5-20.
24. Robert J. Myers, *Actuarial Report on Civil Service Pension Plan of Irān*, Submitted to the Irānian High Council on Administration (Tehrān: September 1962), p. III-1. (mimeographed)
25. Myers, *loc.cit.*

tributions. The future benefits of these currently employed workers can then be similarly paid, under such a system, with the contributions of future workers. A government programme can operate this way because, unlike programmes of private organizations, it can be assumed (a) that the government and, hence, the programme will operate into perpetuity and(b)that in the unlikely event of the programme's cancellation, the general taxing powers of the government can be used to meet already existing obligations (legal or otherwise) of the programme.

If a "pay-as-you-go" system of financing is used so that the contribution rate is set to provide only sufficient money each year to meet current expenses, then contribution tax rates will be very low initially, and no reserves will be accumulated. If the private insurance funding practice (i. e. 100 per cent funding) is followed, tax rates will be much higher, and extremely large reserves will be accumulated. Most countries, like Irān at present, follow practices which are somewhere in between the two extremes.Table 8 for example, illustrates the contribution schedule designed to meet Nicaragua's estimated expenditure for invalidity, old age and survivors'pensions.

> The total rate of contributions for the initial stage was 5.5 per cent of the wages of the insured persons. This guarantees financial equilibrium for more than 25 years, and during this stage the national economy is burdened with less than half the contribution that would be necessary under the system of the level premium, calculated at 11.8 per cent...Furthermore, it produces large surpluses during the first phase,which are available for investment.[26]

Table 8

Nicaragua Pension Scheme

Year of scheme	5	10	15	20	25	State of Equilibrium
Expenditure as a percentage of insured persons' wages	1.0	1.9	2.9	4.1	5.5	28.9

26. International Labour Organization, *op.cit.*, p. 60.

Thus we see that "financial soundness" is not a primary criterion for determining the reserve fund policy of a country. Programmes can be financially sound with or without a large reserve if a country understands and accepts one of the required tax schedules associated with a particular funding policy. The major arguments for and against a large reserve fund are summarized below.

Arguments in favour of large scale funding include:

1. Reserve funding is a source of additional saving (i.e., saving mobilization) for investment and can thereby promote economic growth.
2. Reserve funding "encourages more honest accounting concerning the cost of proposed benefit increases."[27]
3. Accumulation of little or no reserve is inequitable to future generations who must pay at higher contribution tax rates while earlier generations receive, on average, benefits larger than contributions.[28]

Arguments against the accumulation of large reserves include:

1. Reserve saving which does not result in increased capital formation through investment may result in lower output and unemployment.
2. The existence of a large reserve encourages "excessive" increases in benefits and the lowering of eligibility requirements.
3. The insurance aspects of social programmes are largely illusory, and consequently reserve funds are unnecessary complications in the administration of public pension institutions.[29]

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27. John G. Turnbull, *et. al.*, *Economic and Social Security*, 3rd edition(New York: 1967), p.156

28. This issue has dominated, and continues to dominate, much of the writing concerned with the question of reserve funding. Some writers have argued that the value of contributions will eventually exceed the value of benefits for some future generation as pension rates are increased. Other Writers have generally countered this argument by pointing out that the argument is based upon essentially static analysis which fails to allow for dynamic changes in the economy and the pension system. This writer agrees with those observers who argue that it is in no way inevitable for the value of contributions to exceed benefits in a pension system. However, it is true that the ratio of contribution to benefit value is almost certain to increase over time. See the various articles in U.S. Joint Economic Committee,*Old Age Income Assurance*, op.cit., for an up-to-date discussion of the issues involved in this question.

29. Barbara Wootton, "The Impact of Income Security on Individual Freedom," in James E. Russell (ed.), *National Policies for Education, Health and Social Services* (Doubleday: 1955).

4. Large scale government funding operations result in excessive government accumulation and control of the country's financial assets.

Since argument (1) in favour of extensive reserve funding is the primary topic of this article and since arguments (2) and (3) are clearly compatible with the mobilization of saving through the social insurance programme, we will focus on the arguments against funding. Argument (1) against large scale funding - lower output and creation of unemployment - is based upon the now familiar Keynesian proposition that "intended" saving does not necessarily and automatically equal "intended" investment. This argument is usually not relevant to a developing economy where there is typically a large need for additional saving to support investment activities. Argument (2) encouragement of excessive benefit liberalization - is essentially a question of the nature of political control over the programme and cannot be proven a priori. Argument (3) - the non-necessity of reserves - is based on the basic economic fact, explained above, that public insurance systems do not require reserves to be "actuarially sound." While the usefulness of and the need for social insurance reserves are probably greatly misunderstood by the public, it is argued by many that the illusion of "financial security and integrity" created by these funds helps maintain public confidence in the social insurance system.[30] Furthermore, the added administrative costs arising out of the operation of a reserve are not likely to be at all large. Finally, argument (4) - excessive asset accumulation - is of concern only in countries fearing government control and only when reserves are unusually large and invested in private financial assets.

There is in addition to the above considerations an important question not connected with funding which must be taken into account. Instead of mobilizing saving through the social insurance system, public saving can be increased if some alternative tax is instituted or if one or more existing tax rates are raised. Unfortunately, many developing countries find it very

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30. The danger of trying to inspire confidence with such half truths is that opponents of social insurance can often use the weakness of such arguments to their advantage. In the United States, for example, a recent article appearing in the widely read magazine *Reader's Digest* used the fact that the U.S. Social Security system was not funded on private insurance principles to create widespread distrust of the system. ("How Secure Is Your Social Security?" *Reader's Digest*, October 1967).

difficult to significantly increase tax revenues in the short run and are usually anxious to find new methods of overcoming tax resistance. In this regard, Reviglio has listed two advantages of social insurance taxation.[31]

1. Social insurance taxation is likely to encounter less political resistance than other kinds of taxes because of the associated benefits.
2. The ratio of the percentage change in social insurance tax yield to the percentage change in national income (i.e., income elasticity) is high during early stages of development.

On the other hand, there is an important equity problem connected with saving mobilization through social insurance taxation. Since the bulk of social insurance taxes are collected from the middle and lower income groups, the new saving mobilized comes mainly from those people less able to pay. This is an important fact which cannot be overlooked in development policy because of political expediency. In evaluating this equity consideration, however, it must be remembered that "it is impossible for the government to play the roles it needs to play in economic development unless it taxes all classes more heavily than they are taxed at present."[32] In any event, the social insurance tax level should not be set in isolation of other tax policy-even though a special kind of expenditure programme is involved.

Utilization of Reserves

Saving mobilized through the social insurance system can be used for alternative investment purposes. The social insurance law, the institutional operation of the system, and the political attitudes toward social insurance in a particular country will determine how the reserve will be invested within a particular economy. One criterion, therefore, for judging the merits of greater saving mobilization through the social insurance system is to evaluate whether the savings would be used effectively for economic and social development.

On the question of the use of social security reserves, several conflicting viewpoints emerge. Many government planners would like to see these funds used for investment in economic develop-

31. Reviglio, *op.cit.*, 345-6.
32. W. Arthur Lewis, *The Theory of Economic Growth* (London, 1955), p. 401.

ment projects according to planned priorities and, as a rule, turned over to the national treasury. Social security administrators, on the other hand, are primarily concerned with the protection of the reserve funds for present and future beneficiaries - that is, their safety, the maintenance of their purchasing power, and the highest possible yield compatible with liquidity and safety.[33]

It might be argued that it makes little difference how the surplus going into social insurance reserves is used. Either the funds will go to finance investment traditionally financed by other means - freeing these other sources to finance new investment. Or the funds will be used to directly finance new investment. In either case, as long as the funds are not held idle and consumption expenditure financing is avoided, net investment will usually increase and economic growth will be encouraged.

There are several qualifications that need to be made to the above reasoning. First, investment can take place in essentially "unproductive" outlets such as housing or ostentatious government buildings, while consumption (as traditionally defined) includes certain expenditures, such as for education, which directly contribute to economic development. Second, private funds "freed" by public investment activities may not find productive outlets because of market imperfections and inflexible investor outlook.[34] Third, investment of social insurance funds without regard to national investment priorities, is likely to result in inefficient resource utilization and a consequent loss of growth potential.

A strong case can therefore be made for co-ordinating reserve fund investment policy with general economic development policy. This co-ordination need not necessarily be "tight" (i.e. highly planned) but should at least examine the nature and magnitude of social insurance investment policy and its consistency with general development.

The available information regarding the utilization of social insurance funds by various countries of the world indicates three broad uses or outlets for these funds: (a) aiding government finance through purchases of public debt, (b) financing of public and, to a lesser extent, private capital formation, and (c) "social investment" in housing and health facilities. In most industrially developed countries, public debt holdings dominate social

33. Fisher, *op.cit.*, p. 22.
34. For example, if public funds are used to finance housing, private funds which traditionally consider this type investment safe and profitable, may seek outlets abroad.

insurance organization holdings. In contrast, more than one fourth of the total investments of the state economic enterprises in Turkey are financed through the social insurance system.[35] Many countries hold a mixture of assets falling under all three of the categories listed above.

In Irān, the social insurance law does not specify how the accumulated reserves are to be invested except to state that "the Organization shall invest its reserves through the intermediary of the Workers Welfare Bank..."[36] The charter of the Workers Welfare Bank (Bānk Refāh Kārgarān) states, however, that the principal functions of the bank are to include granting loans to workers and worker co-operatives and granting assistance to establishments whose work is concerned with housing and other needs of the workers. Consequently, a basic philosophy underlying the bank's operations is to use the social insurance reserve to directly aid those workers who are covered by the programme. In the year 1965 - partly as a result of limited investment outlets for accumulating funds under current investment policies - this philosophy was modified and the investment policy broadened to permit extending housing loans to "low-income employees of government and other organizations" not covered by the social insurance programme.[37]

Table 9 shows how the reserves of the Social Insurance Organization were distributed among physical and financial assets at the end of November 1967. Financial and physical assets totaled almost 5 billion rials. The bulk of these reserves, as the table shows, were held as deposits in the Workers Welfare Bank.

Table 10 shows the assets of the Workers Welfare Bank in March 1964, 1965, and 1966. In March 1966, 29 per cent of the bank's assets were held in highly liquid form - mainly deposits in other banks. The rest (71 per cent) were in less liquid investments, mostly housing loans to workers and loans to workers co-operatives.

Without attempting to fully assess the operations of the Workers Welfare

35. Reviglio, *op.cit.*, p. 348.
36. Article 38 of the Social Insurance Law.
37. Bānk Refāh Kārgarān, *Summary of Report of the Directors* (Tehrān: 1965), p. 12. "These loans ... served the dual purpose of (1) helping low - income employees of government and other organizations solve their housing problems and (2) circulating funds which would have otherwise remained idle."

Table 9

Reserves of Irān's Social Insurance Organization
(end of November, 1967)

Assets	Rials
Capitalization of Workers Welfare Bank	500,000,000
Deposits in Workers Welfare Bank	2,702,500,000
Government Securities	318,000,000
Agricultural Bonds (Ministry of Agriculture)	701,000,000
Land and Buildings	647,174,000
Total	4,868,674,000

Source: Financial Division, Social Insurance Organization.

Table 10

Assets of Workers Welfare Bank
(March 1964-66)

Assets (in Rials)	1964	1965	1966
Cash in Hand	24,117,130	30,780,173	29,804,140
Deposits with Central Bank			
Statutory Balance	74,246,351	228,455,804	302,654,015
Other Balances	11,921,687	145,065	382,327,782
Balance with Banks	28,542,045	15,796,046	122,754,919
Time Deposits with Banks	300,000,000	70,000,000	40,000,000
Treasury Bills	10,000,000	4,210,000	100,000,000
Bills Discounted	64,959,807	57,011,831	47,190,480
Loans and other Claims	1,129,274,883	2,330,879,705	2,489,084,109
Miscellaneous	16,155,002	31,518,372	60,356,943
Total	1,659,216,908*	2,768,797,001	3,548,344,391

Source: Yearly balance sheets of Workers Welfare Bank.

* Columns do not sum to total due to rounding.

Bank, a number of comments can be made regarding the relation of the bank's investment policy to general development policy. First, extensive loans for worker housing can be questioned. Housing finance, except for "low income housing," is usually one of the first areas where private sector banking can adequately meet existing need. Besides, another special government bank (the Mortgage Bank) exists to provide people with housing funds. Finally, the philosophy of investments for the direct benefit of contributors can be questioned; no private insurance company feels any obligation to invest in activities directly benefiting policyholders since these persons are paying for insurance protection and not other services.

Second, the conservative investment policy of the Workers Welfare Bank, in part a result of prior "bad investment" experiences and earlier administrative inadequacies, does not emphasize growth producing investments. Many writers on private and public pension systems, however, have pointed out that funds from pension programmes are ideal for long term, growth investments, because the available funds tend to grow continuously and rapidly and because outflows to meet obligations coming due are usually more even and more predictable than in other financial operations.

Third, the handling of social insurance reserves in a relatively autonomous organization which is apart from development policy, may result in funds being used in low priority areas. With an independent source of revenue, administrative autonomy, and traditional ties to covered workers there is no direct incentive or means for the bank to co-ordinate its activities with development policy.

Concluding Observations

Having surveyed social insurance in Irān with special reference to aggregate saving and development policy, a number of concluding observations can be made.

1. The early history of developing social insurance systems throughout the world was characterized by misunderstanding and debate about the role of social insurance reserve funds. Widespread consensus now exists that any of a wide variety of funding policies are consistent with responsible administration of a social insurance programme. It remains, therefore, for a country such as Irān to choose on the basis of relevant criteria a particular

policy appropriate to the interests of the country.

2. In choosing and executing a particular funding programme, it is necessary to develop as quickly as possible (and on a regular basis) actuarial estimates of the revenue and expenditure outflows which can be expected for present and alternative programmes.

3. It is possible to increase aggregate saving in Irān by appropriate social insurance policies. An increase in such saving would permit a reduction in foreign borrowing now used to finance development expenditures, or it could be used to support an expansion of total investment in capital stock. Whether such a policy is desirable depends upon the many issues discussed above. Most important is the question of how well such additional saving would be utilized.

4. There is increasing need to reconsider the role of the Workers Welfare Bank in utilizing the increased social insurance reserve funds which will become available to it in the future. If the reserve grows rapidly, it may be difficult to find sufficient outlets for funds in the bank's current lending areas. Whether primary emphasis on worker loans, as is current policy, is desirable needs additional study. And if the bank's investment policy is broadened, the question should be raised as to whether adequate administrative staffing can be provided to handle the more complex operations-given the well-known scarcity in Irān of trained and effective banking staff and given the existence of many competing private and public banks.

5. The growth of social insurance coverage (and, hence, social insurance saving) in Iran is slowed by administrative difficulties connected with insuring workers of small-scale productive units. It is however, also limited by the time required and resources available to furnish the doctors, hospitals, clinics, etc. necessary for the medical benefit portion of the social insurance programme. Consideration should be given to the feasibility of providing only some social insurance benefit programmes to more people. For example, disability, retirement, maternity, and/or death benefits could be provided for large numbers of people with little utilization of physical resources. There is already a precedent for this in the exclusion of certain types of benefit coverage for some groups of persons currently covered by the Social Insurance Organization.