Minimum Old-Age Pensions

II : Their Adequacy in Terms of Average Earnings, Minimum Wages and National Income, and Some Problems of Adjustment

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A RESOLUTION of the 48th Session of the International Labour Conference (1964) suggested " a comparative study of social legislation in member States, with particular reference to basic social security measures " and " a study of the actual experience of selected . . . industrialised and developing countries, in which . . . social security benefits are periodically adjusted to economic growth and/or increases in the cost of living . . .".[2] Recognising the important place of minimum old-age pensions in the various social security systems, an article published in these columns in July explored their adequacy in seventeen countries by relating them to the consumer expenditures, the public assistance benefits and the poverty standards of the aged.[3]

The present article first measures adequacy in terms of average earnings and the minimum wages of the active labour force, and analyses the relationship of minimum old-age pensions to nominal and real national income per head. The second part of the article discusses some of the issues involved in the adjustment of minimum old-age pensions to changes in prices, earnings and the level of economic activity. The conclusions recapitulate a few of the major findings.

The minimum pensions referred to in this article are as a rule those of a single, male, fully qualified beneficiary. Housing (rent) supplements, which are a feature of few of the systems surveyed, had to be

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[2] *Official Bulletin* (Geneva, ILO), Vol. XLVII, No. 3, July 1964, Supplement I, pp. 67-68.

[3] Paul Fisher: " Minimum old-age pensions. I: Their adequacy in terms of consumer expenditures, assistance benefits and poverty standards ", in *International Labour Review*, Vol. 102, No. 1, July 1970, pp. 51-78. There the assistance of various ILO branches and officials and of many social security experts was acknowledged. The author's gratitude carries over to this article.

disregarded in the interest of comparability, as did taxes. Hence benefits and earnings are compared before deduction of taxes and social security contributions.

The seventeen-country sample used here contains four developing countries—Chile, Mexico, the Philippines and Turkey; three with centrally planned economies—Bulgaria, Czechoslovakia and Yugoslavia; three with a flat-rate benefit—Israel, Sweden and the United Kingdom—which in the last two may be regarded as a minimum pension since it is supplemented by a wage-related benefit; and seven others—Austria, Belgium, France, Italy, Japan, Switzerland and the United States—whose systems differ among each other in a variety of ways.

I. Minimum pensions, average earnings, minimum wages and national income

In these seventeen countries as a whole, retirement pensioners receiving minimum old-age benefits form one-half of the total. This high proportion suggests that it may be useful to investigate the relationship of minimum old-age pensions to average earnings (as a stand-in for average incomes) and national income data.

Average earnings

To relate minimum old-age pensions to average earnings reveals the gap between the pensioner's level of living and that which the economy —continuing to grow after his retirement—affords the active labour force. Legislators are now under pressure to do more than simply protect pensions against falling purchasing power and to enable the retired to share in the improved living conditions of the active population.

One way to gain an insight into the effect upon minimum pensions of improved living conditions is to study their long-run relationship to average earnings.[1]

The method used in this article is necessarily crude. The earnings and wage rate data collected by the ILO refer as a rule to male manual

[1] Lack of data in many countries prevented a comparison of minimum old-age benefits specifically with the average earnings of likely future recipients of minimum pensions or of the insured in general. Data on average earnings of workers in manufacturing industry were in most cases readily available from issues of the ILO *Year book of labour statistics* covering the period 1955 to the present. Table 19A (" Wages in manufacturing—all industries ") presented a few problems. In some cases the wage series' sampling design was revised over the years so that the differently constructed parts of the series may not be strictly comparable. In these cases national sources—where available—were consulted. Where the ILO *Year book* reported rates rather than earnings, these were converted into earnings with the aid of its table 13A (" Hours of work in manufacturing—all industries "). Nor do the earnings data reported by the ILO all embrace the same universe. While most refer solely to the earnings of male workers in manufacturing, a few include family allowances, payments in kind, vacation pay and bonuses, and take in salaried employees as well.

workers in manufacturing, while in many countries the social security systems cover also females, white-collar employees, self-employed persons and persons engaged in economic activities other than manufacturing. The conversion of reported wage rates to earnings generally neglects to take account of overtime pay and bonuses. However, a reader acquainted with the statistics of his own country will not find it too difficult to correct the shortcomings of the simplified approach used here, and since similar corrections are likely to apply to most countries, the "rankings" established in the following tables may serve as a broad indication of their general order.

The ratios were computed annually and appear in the country tables at the end of this article. An inspection of these tables will disclose considerable variations of the ratio in several countries—mostly developing ones—over the years, depending to some extent on the frequency with which minimum old-age benefits were adjusted. In some cases the ratio remained surprisingly stable, regardless of whether the adjustment formula related pensions to wages (a rare occurrence) or not. Ratios differ, however, markedly between countries.[1]

Table I, which is based on the country tables, lists the average ratios of minimum pensions of single beneficiaries to average earnings during the period of observation, usually comprising the years between 1955 and 1968.

TABLE I. AVERAGE RATIO OF MINIMUM OLD-AGE PENSIONS TO AVERAGE EARNINGS IN MANUFACTURING, 1955-68

Country	%	Country	%
United States	9.0	Sweden	23.0
Switzerland	11.4 (23.9)	Czechoslovakia	27.0
Japan	11.6	Austria	29.3
Mexico	13.3	Belgium	31.8
Israel	13.7 (15.5)	Turkey	32.1
France	17.7 (27.2)	Yugoslavia	36.4
United Kingdom	17.8 (35.3)	Chile	38.4
Philippines	18.6	Bulgaria	41.5
Italy	20.0		

Notes: The percentages in parentheses relate to minimum pensions augmented by means- or needs-tested supplements.

Austria, Yugoslavia and *Japan.* In the absence of minimum pensions in these countries the ratios for the first two are based on "guaranteed" income levels reached by means-tested supplements to formula benefits, and for Japan on a hypothetical minimum benefit under the Welfare Pension Insurance Scheme assuming the lowest remuneration level and a (minimum) twenty-year period of affiliation.

[1] A similar attempt is made in table IX, p.104, of ILO: *Revision of Conventions Nos. 35, 36, 37, 38, 39 and 40 concerning old-age, invalidity and survivors' pensions*, Report V (1), International Labour Conference, 50th Session, Geneva, 1966 (Geneva, 1965). However, that table is geared not to minimum but to average old-age pensions, and in many cases uses benefits computed on the basis of the highest income subject to social security contributions.

No obvious pattern is discernible, but further analysis of the relevant data in the country tables—keeping in mind the different nature of the Austrian, Yugoslav and Japanese substitutes for minimum pensions—offers a number of insights.

(1) The ratio studied was affected by the fact that the various countries pursued different social security and wage policies. Countries which (i) relied heavily on supplementary private pensions, occasionally allowing insured persons to "contract out" of the statutory old-age scheme by making alternative private arrangements, and/or (ii) placed little emphasis on pensions, show ratios below 20 per cent. Of the eight countries with the lowest ratios, the United States, Switzerland, France, the United Kingdom and Israel are good examples of the first group, and Japan, Mexico and the Philippines of the second. The last-named countries also sought to restrict wages over most of the period, but labour market conditions pushed these up faster than minimum pensions. Where wages were controlled, as in the three centrally planned economies, sizable minimum pensions represented a high proportion of average earnings.

(2) Developed market economies, where the wage level is determined by economic forces but modified by institutional arrangements (for instance labour unions with varying degrees of bargaining power), experienced relatively full employment in the period covered by this paper, 1955 to 1968. Most of the developing countries in our sample also showed relatively satisfactory economic growth. The resulting increase in real earnings necessarily depressed the relative level of minimum old-age pensions in several of the countries surveyed, since as a rule pensions were not linked to wages. Instead they were either linked to price level changes or adjusted from time to time on an ad hoc basis by legal action. These adjustments, often made with a considerable time lag, account for the wide fluctuations of the ratio in several of the countries surveyed over the 1955-68 period.

(3) In most market economies full employment and economic growth were accompanied by some degree of inflation which accentuated the problems connected with the adjustment of minimum pensions. Low ratios were concentrated in those countries where retail prices rose more than 50 per cent above the level in the base year (1955).[1]

(4) The centrally planned economies in our sample (Bulgaria, Czechoslovakia and Yugoslavia) did not have to face this problem.

[1] Computed from the country tables. Among the high-inflation countries which conform to this finding are Israel, Mexico, Sweden, the Philippines, the United Kingdom and Japan. Chile and Turkey are the exceptions. In these two cases a very vigilant social security policy, and in Chile the linking of pensions to the cost of living (and before 1964 to the wage index), prevented a deterioration of the ratio.

Wage and price controls seem to have been sufficiently effective. Although their social security systems differ widely, they all have a relatively high ratio of minimum pensions to earnings.

(5) The " age " of the social security system did not prove to be very significant in the relationship between minimum pensions and average earnings. The " age " of the system was measured both from the date of establishment of the system currently in force, and from the date of enactment of the country's very first old-age pension scheme.[1] Although " older " systems (before 1940) tend towards lower and younger towards higher ratios, exceptions are too numerous to permit any generalisation on the basis of this small sample.

Similar reservations apply to using the extent of coverage as a yardstick. There is a hint that old-age pension schemes which cover only a relatively small proportion of the insurable labour force (less than 50 per cent), can afford to provide this small number with relatively more generous minimum pensions (measured against average earnings) but the evidence is again too contradictory to permit any generalisation on the basis of our data.

(6) The state of economic development as measured by national income per head offers a somewhat better fit. In general, developing countries maintain a higher ratio of minimum pensions to average earnings than the industrialised countries.[2] This may be the result of deliberate policy to provide high minimum benefits, or it may be caused by, among other things, the paucity of family savings, the absence of sufficiently developed private supplementary schemes, or an ideology which favours state rather than private action.

The factors mentioned here interact. Some of them reinforce, others offset one another.

Minimum wages

If minimum old-age pensions are viewed as a floor below which the income of the retired is not to fall, and minimum wages are considered to be a floor below which the income of the active labour force is not

[1] The latter yardstick was preferred by Henry J. Aaron in his " Social security: international comparisons ", in Otto Eckstein: *Studies in the economics of income maintenance* (Washington, DC, The Brookings Institution, 1967), pp. 14-46. The table of " Years of enactment of first major legislation for old-age, disability, and survivor insurance programs " given in Joseph A. Pechman, Henry J. Aaron and Michael K. Taussig: *Social security: perspectives for reform* (Washington, DC, The Brookings Institution, 1968), p. 276, differs from that given by Guy Perrin: " Reflections on fifty years of social security ", in *International Labour Review*, Vol. 99, No. 3, Mar. 1969, pp. 285-287.

[2] Felix Paukert: " Social security and income redistribution: a comparative study ", in *International Labour Review*, Vol. 98, No. 5, Nov. 1968, p. 432, comes to a similar conclusion with regard to cash sickness benefits.

to sink, the inter-relationship between the two becomes a proper subject of investigation. They face common problems. For instance, their purpose is to assure the beneficiaries of " a suitable standard of living " [1], which is sometimes fixed in terms of " basic needs " [2] and in other cases represents a given fraction of the standard of living enjoyed by the " normal " wage earner.[3] Both also face the problem of adjustment to changing price and income levels and use similar means to achieve this goal.[4] Both appear in some countries not as a single flat rate but as multiple rates varying according to class of worker, sex, family size, occupation, region, industry or enterprise. The minimum old-age pension and minimum wage rates selected for purposes of comparison were as a rule those payable to a single male, manual, urban industrial or commercial worker. The task of selecting the appropriate corresponding minimum wage level was complicated in so many instances by the paucity of data covering the entire period of observation that the results must be viewed with great caution. In addition, the reservations already made in respect of the Austrian, Yugoslav and Japanese substitutes for minimum pensions have to be kept in mind.[5]

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[1] Cf. paras. 45-51 of the Report of the Meeting of Experts on Minimum Wage Fixing and Related Problems, with Special Reference to Developing Countries, in ILO: *Minimum wage fixing machinery and related problems, with special reference to developing countries*, Report VII (1), International Labour Conference, 53rd Session, Geneva, 1969 (Geneva, 1968), p. 81, and Report V (1), International Labour Conference, 50th Session, op. cit., pp. 51-52.

[2] For a discussion of " basic needs " see ILO: *Minimum wage fixing and economic development*, Studies and Reports, New Series, No. 72 (Geneva, 1968), pp. 59-65, and N. N. Franklin: " The concept and measurement of 'minimum living standards' ", in *International Labour Review*, Vol 95, No. 4, Apr. 1967, pp. 271-298. See also the definitions by Chile and Mexico—" basic needs of the worker and his family ", " indispensable needs of the worker ", a " budget necessary to satisfy the material, social and cultural needs and educational expenses of the family "—cited in Report VII (1), International Labour Conference, 53rd Session, op. cit., pp. 11, 15 and 17.

[3] Legislators are sometimes advised to set the minimum wage level at not lower than two-thirds and not higher than three-quarters of normal wages for similar work payable to workers of comparable skill in the area. For a fuller discussion see *Minimum wage fixing and economic development*, op. cit., pp. 69-74.

[4] See Report VII (1), International Labour Conference, 53rd Session, op. cit., pp. 39-45, *Minimum wage fixing and economic development*, op. cit., pp. 107-121, and Report V (1), International Labour Conference, 50th Session, op. cit., pp. 63-65. In particular the same methods—automatic linkage to price levels, periodic reviews, reviews upon request of aggrieved parties, and ad hoc adjustments—are used. See also George F. Rohrlich: " Legal aspects of the calculation of social security (social insurance) benefits, in particular as regards changes in the cost of living and the level of wages ", in *Proceedings of the Sixth International Congress on Labour Law and Social Legislation* (Stockholm, Almqvist & Wiksell, 1968), Vol. I, pp. 48-49.

[5] A particular problem was posed by countries which rely upon collective bargaining to establish minimum wage rates, which acquire the status of a legal minimum wage if the collective bargaining agreement is extended. In some cases only index numbers were available. In other instances there was no indication whether these collective agreements had been extended. Since, however, only the approximate magnitude of the ratio of minimum pensions to minimum wages was to be ascertained, the minimum wage rates specified in collective agreements and obtained by correspondence were taken as a basis (Switzerland,

A further difficulty results from the fact that while minimum pensions are treated as incomes, minimum wages are as a rule expressed in hourly rates. To bridge the gap, the minimum wage rates had to be translated into earnings. This was usually accomplished by reference to the indication of actual hours worked given in the ILO *Year book of labour statistics*. Where this method failed, a standard working year was used which may have led to an overstating of minimum (and low) earnings.

Neither minimum wages nor minimum pensions can be considered as more than " one of a battery of measures in the strategy of an attack on poverty ", or " one of a number of possible ways of reducing inequalities in living standards ".[1] Nor should one expect to find the two devices used in equal dosages. The relative emphasis placed on each is shown in table II which lists in ascending order the averages of ratios computed annually, usually from 1955 to 1968, as they appear in the attached country tables.

The ratios range from below 20 to above 100 per cent, i.e. from countries which differentiate sharply between the minimum incomes of the active and the retired worker, to those which keep them on about the same level. Apart from the three countries with the highest ratios, the remaining twelve are equally divided into those which assure the lowest class of retired beneficiary of about one-quarter and those which provide about one-half of the income the lowest-paid active worker receives. Since minimum wages tend to move in the same direction [2] as average earnings, many of the observations made in connection with the latter also apply here. If anything the concentration of lower ratios in the developed, and of higher ratios in the less developed countries is more pronounced.

Belgium and Turkey) without regard to their legal status or the representative nature of the industry. Similarly in the case of the United Kingdom, only one of sixty wages council rates was selected to represent " minimum wages ". In the two cases where only index numbers had been communicated (Italy and Austria), accuracy was further sacrificed by accepting as substitutes for minimum wages one of the lower rates of " hourly wages of adult wage earners in selected occupations " which the ILO compiles annually as part of its " October inquiry " (published in the *Year book of labour statistics* up to 1958 and since then in the *Bulletin of Labour Statistics*). The use of the same source in the case of Sweden and Israel is even more questionable, since neither of these countries has a recognised minimum wage system. All these reservations are more fully explained in the footnotes to table II, which include a special warning regarding the Japanese entry.

[1] Report VII (1), International Labour Conference, 53rd Session, op. cit., p. 77, paras. 14 and 17.

[2] Moving in the same direction does not imply complete parallelism. For instance, minimum wages increased between 1955 and 1967 in all but four of the countries surveyed (Belgium, Mexico, the Philippines and Sweden) at a slower rate than average earnings. Although minimum pensions also increased over the same period, there was no reason to expect in this case any conformity either. As a matter of fact, minimum old-age benefits in all but three countries (Belgium, the Philippines and Sweden) rose faster than minimum wages (see table VII).

TABLE II. AVERAGE RATIO OF MINIMUM OLD-AGE PENSIONS TO MINIMUM WAGES, 1955-68

Country	%	Country	%
Switzerland	15.3 (34.7)	Italy	46.5
United States	18.8	Mexico	46.5
Sweden	22.5	Japan	48.3
Israel	23.4 (30.4)	Turkey	59.4
Philippines	23.9	Austria	70.0
France	24.6 (37.9)	Chile	79.5
United Kingdom	38.0 (75.6)	,,	92.9
Belgium	42.2	Yugoslavia	115.4

Notes: The percentages in parentheses refer to minimum pensions augmented by means- or needs-tested supplements.

In *Switzerland, Belgium* and *Turkey* minimum wages are fixed by means of collective agreements. The rates taken as representative, and based upon data provided by correspondents, are those applying to bookbinding in Switzerland, the metal, metallurgical and electrical industries in Belgium, and Istanbul textile workers in Turkey.

The same holds true for *Italy, Austria, Sweden* and *Israel.* For Austria and Italy it was only possible to obtain indices, which did not permit the computation of ratios. In consequence, minimum old-age pensions were compared with the lower rates of " hourly wages of adult wage earners in selected occupations " compiled by the ILO as part of its annual " October inquiry ". The minimum wage rates used here—those of female sewing-machine operators in Italy, unskilled textile workers in Austria and Israel, unskilled labourers in printing and publishing in Sweden—are not fully adequate substitutes for minimum wage rates but do yield some insight into the magnitudes involved. As regards Austria, see also the appropriate footnote to table I.

For the *United States*, the *Philippines, France* and *Chile* a single national minimum wage standard was used. In the case of the United States, this meant sole reliance upon the Fair Labor Standards Act rates, disregarding interim rates, rates for agricultural workers on large farms and state minimum wage statutes. Similarly in France only the interoccupational guaranteed minimum wage (SMIG) rates were considered, while differentials in wages zone (of which there are three at present) were disregarded. As for the Philippines, the minimum wage rates applicable to industrial and commercial workers were used, those for agricultural workers and the workers and salaried employees in the sugar industry were left out of account. In the case of Chile the first entry relates to the minimum wage of salaried employees and the second to that of manual workers.

The wage board system in the *United Kingdom* leads to different minima in the various industries. The ratio given here is based on the wage rates applying to male laundry workers since data for this category were readily available for the entire period governed before 1959 by the Trade Boards Act of 1909 and thereafter by the Wages Councils Act of 1959. No " national " minimum wage could be meaningfully used. One observer has expressed some doubt about the use of any wages council rates for our study, since all workers are covered by more generous agreements negotiated by the trade unions. However, the National Prices and Incomes Board clearly attaches importance to the effect of wages council rates, even though the councils have jurisdiction over less than 20 per cent of wage and salary earners (Report VII (1), International Labour Conference, 53rd Session, op. cit., p. 42).

Mexico established instead of one nation-wide, uniform rate, a multitude of minimum wage levels differing by townships (now geographical economic zones), category of workers, size of establishment, branch of industry and skill level (see *Minimum wage fixing and economic development*, op. cit., pp. 82 and 183-187). The table uses a national average computed by the Mexican Minimum Wage Commission for Urban Workers.

Japan has no uniform national minimum wage, but establishes for non-permanent daily-paid workers a minimum wage which differs from industry to industry, as well as by size of establishment (number of persons employed). The computation had to be based upon *average* wages of such workers in 1967 in finance and insurance (572 yen) and the toys and sports goods industry (495 yen). Furthermore, without substantial evidence supporting

National income per head at current prices

AVERAGE RATIOS

Relating old-age pensions to national income over time may throw some light on the degree to which the retired population shared in economic growth. Where, as in our sample, minimum pensions represent one-half of all pensions paid, an analysis of the changing relationship of minimum old-age benefits and national income per head could reveal to what extent an increased social output was channelled to the lowest strata of old-age beneficiaries, what the impact of rising income on minimum benefits was, and whether these kept pace with the rise of real income.

An inspection of the country tables reveals a rather perplexing situation. Over the years, the annual ratios of minimum old-age benefits to national income per head increased in five, decreased in six and remained relatively stable in six other countries [1] without any obvious pattern being distinguishable.

Table III lists in ascending order the averages of the annual ratios, as a rule for the years 1955-68, appearing in the country tables.

While the more developed countries tend to have the lower ratios, and vice versa, a few countries half way down the table seem to owe their position to prevailing national attitudes with regard to the function of minimum old-age benefits (and of statutory old-age pensions in general) more than anything else. As is to be expected, because of the interdependence of average earnings and national income per head, this table bears a close resemblance to table I. With the exceptions of France, Mexico and the Philippines, all the other countries appear in about the same position as in table I (although the exact order differs). Most of the observations made there apply here too.

A glance at the annual ratios of minimum pensions to national income per head in the country tables reveals that the ratio varied only slightly over time in most of the mature systems. They appear to have declined in countries with sluggish adjustment of pension rates (the

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it, a 300-days-a-year level of employment had to be assumed, which yielded ratios of 44.8 and 51.7 per cent. The arithmetic average—48.3 per cent—which appears in the table must, therefore, be used with great caution, the more so since the minimum pension figure does not represent an actual but only a hypothetical minimum (see footnote to table I).

Since 1961 *Yugoslavia* has had a system of minimum wages which differ according to industry, enterprise and region. Minimum personal income figures have been published by the Central Government since 1965. Between 1965 and 1967 the individual republics were authorised to set these figures at a 20 per cent lower level, and since 1968 have been able to set them 20 per cent higher. See also the appropriate footnote to table I.

No data were available on *Czechoslovakia* and *Bulgaria*.

[1] Increased: Chile, Italy, Mexico, Turkey and the United Kingdom. Stable: Austria, Belgium, Czechoslovakia, Sweden, Switzerland and Yugoslavia. Decreased: Bulgaria, France, Israel, Japan, the Philippines and the United States. See also tables V and VI.

TABLE III. AVERAGE RATIO OF MINIMUM OLD-AGE PENSIONS TO NATIONAL INCOME PER HEAD AT CURRENT PRICES, 1955-68

Country	%	Country	%
France	16.3 (24.1)	Mexico	37.1
Switzerland	16.3 (34.5)	Belgium	46.8
United States	17.6	Austria	50.5
Japan	23.8	Chile	52.1
Israel	26.8 (28.0)	Yugoslavia	62.5
Sweden	33.2	Bulgaria	72.5
United Kingdom	34.6 (68.5)	Philippines	73.2
Italy	35.9	Turkey	85.6
Czechoslovakia	36.8 *38.8*		

Notes: The percentages in parentheses refer to minimum pensions augmented by means- or needs-tested supplements.

In the case of the three centrally planned economies, national accounts data refer to net material product (NMP), i.e. the total net value of goods and productive services including turnover taxes produced by the economy in the course of a year. NMP data have been used in the *Bulgarian* case. Correspondence regarding *Yugoslavia* referred to the NMP data to be found in the United Nations *Yearbook of national accounts statistics* as national income data. In the *Czechoslovakian* case, the second, italicised entry is of that nature. The first refers to gross domestic product per head minus production consumption.

For reservations regarding the minimum pension constituents of the entries for *Austria Yugoslavia* and *Japan* see the appropriate footnote to table I.

Philippines and Bulgaria), as well as in those with rapid rates of growth (e.g. Israel). More of the national income seems to have been channelled into minimum old-age benefits in countries which started the period of observation with low pension rates (Italy), or pursued a high minimum pension policy (Turkey and the Swedish universal flat-rate pension).

RATIOS IN OLD AND YOUNG POPULATIONS

The ratios listed in the country tables also show to what extent a recent finding relating the size of *average* pensions to national income per head would apply to the size of *minimum* benefits. Henry J. Aaron found that the adequacy of old-age benefits is inversely related to the proportion of the total population over retirement age. He concluded that " in countries with a relatively large aged population, one reaction apparently has been to reduce benefits per aged person in comparison with per capita income ".[1]

Table IV, which takes the ratio of minimum (not average) old-age benefits to the national income per head and relates it to the percentage of the population over retirement age, shows that the Aaron thesis holds good for minimum pensions, as the term is used in this paper, in only

[1] Pechman *et al.*, op. cit., p. 295. See also Aaron: " Social security: international comparisons ", op. cit., pp. 36, 37 and 46.

TABLE IV. RATIO OF MINIMUM OLD-AGE PENSIONS TO NATIONAL INCOME PER HEAD, AND PERCENTAGE OF POPULATION OVER RETIREMENT AGE

Country	Year of most recent population data	Retirement age	% of population over retirement age	Minimum pension as % of national income per head
France	1965	60	18.0	14.7 (24.1)
Czechoslovakia	1962	60	14.2	37.9
Italy	1962	60	14.0	38.1
Sweden	1965	67	12.9	35.0
Belgium	1961	65	12.3	48.0
Austria	1961	65	12.3	49.4
Bulgaria	1963	60	12.3	48.0
United Kingdom	1961	65	11.9	34.1 (68.5)
Switzerland	1960	65	10.2	15.4 (34.5)
Yugoslavia	1961	60	9.9	65.7
Japan	1965	60	9.7	30.7
United States	1960	65	9.2	17.2
Turkey	1965	60	7.5	136.7
Israel	1961	65	5.2	27.4 (28.0)
Chile	1960	65	4.3	66.0
Philippines	1963	60	4.2	74.1
Mexico	1960	65	3.7	76.6

Sources: The percentages of population over retirement age are taken from United Nations: *Compendium of social statistics: 1967*, Statistical Papers, Series K, No. 3 (New York, 1968), table 2, pp. 40-67; idem: *Demographic yearbook, 1967* (New York, 1968), table 5, pp. 132-205. The ratios of minimum pensions to national income per head are from the country tables for the respective year.

Notes: The percentages in parentheses refer to minimum pensions augmented by means- or needs-tested supplements.

For reservations regarding the minimum pension constituents of the entries for *Austria, Yugoslavia* and *Japan* see the appropriate footnote to table I.

six of the seventeen countries.[1] This discrepancy is due to the difference in the functions of minimum and average benefits. The income guarantee function of the former as a rule forces the legislator to keep the minimum pension rising faster than the growth of average pensions.[2]

[1] Turkey, Mexico, the Philippines, Chile, Yugoslavia and France. Minimum pensions achieve fairly high ratios as measured against national income per head at current prices, in spite of the high percentage of the population over retirement age, in Austria, Bulgaria, Belgium, Italy, Czechoslovakia, Sweden and the United Kingdom, and a low ratio in a country with a relatively young population, Israel. The evidence in Japan, the United States and Switzerland is inconclusive.

I could not resist the temptation to see whether other findings, this time relating social security outlays to national income, could be correlated with the size of minimum benefits. Aaron (*Social security: perspectives for reform*, op. cit., pp. 294 ff.) found an inverse relationship between government contributions and social security outlays as a fraction of national income. For reasons similar to those stated in the text above, no clear-cut relationship became discernible. If anything, the size of minimum pensions seems to be directly

(Footnote continued overleaf)

Pensioners' minimum requirements in the poorer (developing) countries are seemingly so close to output per head that the ratio of minimum pension to national income per head in these cases is consistently higher than in the rich countries. In other words, the lower the national income per head at current prices, the greater is the relative size of the minimum pension.

GROWTH RATES COMPARED

Average ratios of minimum pensions to national income per head do not reveal to what extent the former have shared in economic growth.

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related to that of government contributions. France and the United States, which did not finance minimum retirement benefits *per se* during the period under observation, rank first and third in table III. In these two cases the minimum pension represents only a small proportion of national income per head. On the other hand, countries whose governments contribute at least one-quarter of the cost of the old-age pension scheme (see ibid., tables C-8 and C-9, pp. 290-293) show high ratios: Austria, twelfth in rank; Italy, eighth; Mexico, tenth; Sweden, sixth; the United Kingdom, seventh.

Another Aaron thesis—that " social security outlays are larger in wealthy than in poor countries, but the response of these outlays to higher income is less than proportionate " *(Social security: perspectives for reform*, op. cit., p. 294)—suggested an exploration of the correlation between the size of minimum old-age benefits and national wealth. I fully expected to find no correlation at all. I found instead, using Felix Paukert's amended version of the Aaron thesis (" Social security and income redistribution: a comparative study ", in *International Labour Review*, Vol. 98, No. 5, Nov. 1968), as well as his method of presentation in the following table, a significant degree of correspondence between these magnitudes in an opposite direction to the outlay theses, but in accord with the findings shown in table III.

RATIO OF MINIMUM PENSIONS TO NATIONAL INCOME PER HEAD AT DIFFERENT LEVELS OF NATIONAL INCOME PER HEAD, 1965

Income group (US $)	Country	National income per head (US $)	Ratio of minimum pension to national income per head (%)	Group average (%)
200-499	Philippines	219	73.2	
	Turkey	244	85.6	
	Mexico	412	37.1	65.3
500-999	Chile	515	52.1	
	Japan	696	23.8	
	Italy	853	35.9	
	Austria	970	50.5	40.6
1000-1499	Israel	1 067	26.8	
	Belgium	1 406	46.8	
	France	1 436	16.3	
	United Kingdom	1 451	34.6	31.1
1500 and over	Switzerland	1 928	16.3	
	Sweden (GDP)	2 201	33.2	
	United States	2 893	17.6	22.4

Source of the national income data: United Nations: *Yearbook of national accounts statistics, 1966* (New York, 1967), table 7B, pp. 730-734, and table 7A (Sweden), p. 728.

Some light on this question may be obtained by comparing the rates by which minimum pensions and national incomes per head at current prices increased over the entire period of observation (table V).

There are eleven countries where minimum pensions rose at a faster, and six countries where they rose at a slower rate than national income per head. In the first group, the deviations between the percentage increases of minimum pensions and of national income per head in the first three entries (Yugoslavia, Czechoslovakia and Belgium) are small and may be disregarded. It is conceivable that, at least in the first two, social policy deliberately sought to keep the rates of increase more or

TABLE V. PERCENTAGE INCREASES IN MINIMUM PENSIONS AND NATIONAL INCOME PER HEAD

Country	Period	Minimum pension	National income (or net material product) per head	% of deviation [1]
Group I : Minimum pensions increased faster than national income per head				
Yugoslavia	1955-66	501.4	481.4	4.2
Czechoslovakia	1955-67	74.0	70.8	4.5
Belgium	1955-67	97.8	89.1	9.8
Austria	1956-67	132.2	113.5	16.5
Switzerland	1955-66	108.3	91.5	18.3
Sweden	1955-67	164.0	135.6	20.9
United Kingdom	1955-67	120.0 (132.7)	85.8	39.8 (54.7)
Mexico	1955-67	200.0	132.0	51.5
Italy	1955-67	290.0	162.0	79.0
Turkey	1955-67	650.0	200.9	223.5
Chile	1955-67	7 554.0	2 084.0	262.5
Group II : National income per head increased faster than minimum pensions				
United States	1955-67	46.6	64.7	38.8
France	1955-67	101.3 (119.0)	165.0 (139.8)	62.9 (17.5)
Japan	1955-67	178.3	321.1	80.1
Israel	1957-67	74.5 (28.0)	192.0 (9.7)	157.7 (28.9)
Philippines	1957-67	20.0	68.1	240.5
Bulgaria	1956-66	33.3	134.0	303.6

Note: The percentages in parentheses refer to minimum pensions augmented by means- or needs-tested supplements, and show the increases recorded between 1956 and 1967 in *France* and between 1965 and 1967 in *Israel*. See appropriate footnote to table I in regard to *Austria*, *Yugoslavia* and *Japan*.

[1] To portray the extent to which the rates of growth of minimum pensions and national income per head diverge, the difference between their percentage increases over the total period is expressed as a percentage of the lower of the two figures (national income per head in group I, minimum pensions in group II). This ratio is called " deviation " for short in this article.

less in line. Our interest centres upon the cases showing large deviations—Mexico, Italy, Turkey and Chile in the first group, Bulgaria, Israel, Japan and the Philippines in the second. We shall then turn to the three cases with smaller but still significant deviations—the United Kingdom in group I and the United States and France in group II.

The Bulgarian case is easily understood; while the annual net material product per head increased steadily, minimum pensions remained unchanged for long periods. After six years they were raised by only one-third and remained at that level for another six years. In contrast, average monthly earnings were permitted to increase twice as fast as minimum pensions, but still lagged behind net material product increases. A similar situation prevailed in the Philippines. The Chilean data suffer from the fact that a very high rate of inflation seriously affects the comparability of data in our time series. If instead of 1955-67 a shorter and more easily comparable period were considered, for instance 1960-67, minimum pensions would also be seen to have risen faster (686 per cent) than national income per head (599 per cent) but the deviation would be very small (14.5 per cent). This is a more likely result in a system that up to 1964 adjusted all old-age benefits for manual workers to wage and price changes.

Israel and Japan were among those with the highest growth rates over the period of observation. Gross domestic product per head increased in Japan between 1953 and 1960 by an average of 6.4 per cent a year, between 1960 and 1965 by 8.5 per cent; the figures for Israel were 5.4 (1950-60) and 5.7 per cent respectively.[1] Government income policy did not favour in either case corresponding increases in pensions or average earnings.

The Mexican, Italian and Turkish cases in group I have a number of features in common. In all three countries minimum pensions started at the beginning of the period at rather low rates compared with average earnings, and a relatively large percentage of old-age beneficiaries received the minimum pension (Turkey, 75.8 per cent; Italy, 50 per cent; Mexico, 46.5 per cent). The need to raise the pension floor having been recognised, the ratio of minimum old-age benefits to national income per head more or less doubled during the period of observation in all three cases (Turkey, from 52.3 per cent in 1955 to 111.9 per cent in 1967; Italy, from 26.8 per cent in 1955 to 45.8 per cent in 1965; and Mexico, from 20.4 per cent in 1956 to 46.6 per cent in 1960).[2]

The United Kingdom's concern for old-age pensioners and hence for more adequate minimum benefits forced the flat-rate pension up faster than the rate of increase in the cost of living, the rise in average

[1] United Nations: *Yearbook of national accounts statistics, 1966*, op. cit., table 4A, pp. 707-710.

[2] See country tables.

earnings and the growth of gross domestic product per head, which during the period of observation showed a rather sluggish increase (2.4 per cent a year).[1] The corresponding rate of growth in the United States was not much better (1950-60: 1.5 per cent; 1960-65: 3.1 per cent) [1], but legislation kept the minimum old-age benefit for relatively long periods of time at a fairly low level compared with average earnings. France on the other hand experienced a rather healthy growth rate of domestic product per head (1950-60: 3.6 per cent; 1960-65: 3.7 per cent) [1], and neither wages nor minimum pensions reached the same rate of expansion as national income per head.

A more precise idea of the extent to which minimum old-age benefits have kept pace with the rise in income may be had by comparing the movement of ratios year by year in the country tables. These refer to national income data at current market prices.

Increases in minimum pensions, gross domestic product and average earnings at constant prices

To see how minimum pensions fared in real terms, table VI compares the increases in real (deflated) minimum pensions with the increase in real (deflated) gross domestic product per head and real average earnings.

If we were to reconstruct the groups appearing in table V but using the constant prices of table VI, seven [2] of the eleven countries listed in group I and all six in group II would remain in the same groups.[3] The difference in the Austrian growth rates is so small that it can be disregarded. Otherwise only Belgium, Yugoslavia and Czechoslovakia would switch to the group with higher rates of growth in gross domestic product per head, but the divergence is relatively small, at least in the case of the first two. Group II would now include all three centrally planned economies.

In nearly half the countries listed the growth of minimum old-age pension rates exceeded or fell very little short of the growth of gross domestic product per head.

Minimum old-age benefits rose faster in real terms than average earnings in eight countries [4], more slowly in eight more [5], and at the same rate in Belgium. Sharp discrepancies are revealed in the Italian, Turkish and Bulgarian growth rates. On the whole, however, the deviations

[1] United Nations: *Yearbook of national accounts statistics, 1966*, loc. cit.

[2] Chile, Italy, Mexico, Sweden, Switzerland, Turkey and the United Kingdom.

[3] An almost identical result was reached by comparing total annual rates of growth of minimum pensions at constant prices with the corresponding rates of growth of gross domestic product per head, computed on the basis of data in United Nations: *Yearbook of national accounts statistics, 1966*, op. cit., table 4A, pp. 707 ff.

[4] Austria, Chile, Italy, Mexico, Sweden, Switzerland, Turkey and the United Kingdom.

[5] Bulgaria, Czechoslovakia, France, Israel, Japan, the Philippines, Yugoslavia and the United States.

TABLE VI. PERCENTAGE INCREASES IN REAL MINIMUM OLD-AGE PENSIONS, REAL GROSS DOMESTIC PRODUCT PER HEAD AND REAL AVERAGE EARNINGS

Country	Period	Real minimum pensions	Real GDP per head	Real average earnings
Austria	1956-67	69.8	70.8	56.6
Belgium	1955-67	49.2	59.8	49.2
Bulgaria	1955-67	38.8	165.8	68.8
Chile	1960-67	63.0	20.1	46.7
Czechoslovakia	1960-67	−2.1	37.9	10.0
France	1955-67	25.5	96.1	37.9
Israel	1959-67	5.3	37.6	36.4
Italy	1955-67	163.5	72.5	55.7
Japan	1955-67	79.6	182.8	86.0
Mexico	1955-67	91.4	37.9	67.7
Philippines	1957-67	−58.7	30.7	−50.0
Sweden	1955-67	65.9	54.6	37.1
Switzerland	1955-67	69.1	51.0	44.1
Turkey	1963-67	74.0	20.5	31.5
United Kingdom	1955-67	52.8	29.4	31.5
United States	1955-67	17.7	27.8	21.4
Yugoslavia	1955-66	98.8	123.7	126.8

Note: See appropriate footnote to table I in regard to *Austria*, *Yugoslavia* and *Japan*.

are smaller than in the case of the corresponding GDP figures, suggesting a closer affinity of minimum pensions with average earnings.

Significant lags in real minimum pensions vis-à-vis real GDP per head appear in countries which experienced exceptional rates of economic growth. Major deviations in one direction or the other are also to be found in countries which either started new schemes with—if compared with average earnings—very low minimum pensions, or delayed adjusting them for long periods of time. National attitudes in regard to the proper place of the statutory social insurance programme (and minimum pensions) as well as incomes policies affected the outcome in several instances. On the whole, minimum pensions did not fare too badly. As a rule their share of economic growth was at least as large as that taken by average earnings.

II. The adjustment of minimum pensions to changes in prices, earnings and minimum wages

The adjustment process

Minimum old-age benefit rates are established by statute and apply to newly awarded pensions. Once the award is made, minimum pensions, like all other pensions in the course of payment, may be adjusted to

changes in prices, wages, the views of society as to what constitutes a desirable pension level, and other considerations.[1] The specific rules governing the adjustment of all current pensions may (e.g. Belgium) or may not (e.g. France) apply to minimum old-age benefits or guaranteed incomes (Austria and Yugoslavia). The flat-rate pensions used in our sample, whether they are supplemented by wage-related or welfare-type additional pensions or both (Sweden, the United Kingdom and Israel) are also in need of adjustment from time to time and similar methods are used. Since neither statutory minimum pensions nor flat-rate pensions are by definition wage-related, the problem of revaluing the earnings base does not arise.

Of the two major methods of adjustment, automatic linking of pensions to prices or wages, and ad hoc adjustments, the latter, which sometimes follow in the wake of periodic or specially requested reviews (with or without statutory criteria for adjustment), predominates in the seventeen countries in the sample. Only Belgium, Chile, Israel and Sweden offer clear cases of automatic adjustment. Even there the link may be broken: when the operation of the automatic link presented a threat to Israel's anti-inflationary incomes policy in 1967, its operation was suspended by freezing a part of the pension increase.

Regardless of the method used, countries which take retail price or wage level changes into consideration in adjusting pension rates in general may apply quite different criteria to *minimum* pensions. The need for improving the lot of aged persons has prompted some programmes to raise minimum old-age benefits at a higher rate than other pensions (e.g. France and the United States) independently of price and wage movements.

The changes in the annual ratios of minimum old-age pensions to average earnings, minimum wages, cost of living and national income per head shown in the country tables bear out the traditional view of the strengths and weaknesses of each adjustment method.[2] This study is more concerned with the long-run effects. There is a strong indication that between 1955 and 1967 ad hoc methods of adjustment led to larger increases in minimum old-age benefits than the automatic link with cost-of-living changes. Since all upward adjustments in social security programmes depend on the availability of financial resources, an increase in benefits, including the minimum pension, is in funded systems often dependent on increases in the reserve fund resulting from an excess of fund revenues over current benefit payments. Such adjustments may even be automatic as in the Italian scheme. Systems financed on the pay-as-you-go principle (assessment method) are

[1] See the report on the findings of the Actuarial Subcommittee of the ILO Committee of Social Security Experts in Report V (1), International Labour Conference, 50th Session, op. cit., pp. 63-65.

[2] See Rohrlich, op. cit., pp. 61-67.

compelled to match an increased pension burden by raising contributions from all sources.[1] Such programmes can also anticipate benefit increases by automatic increases in revenues which, in turn, may persuade the legislator of the feasibility of increasing pensions, including the minimum benefit. The persuasive force is enhanced, when, as in the fully contributory schemes, such increases can be made without encumbering general revenues and without fear of thereby encroaching on the general budget.[2]

Minimum pensions and changes in the cost of living, average earnings and minimum wages

The comparison of the behaviour of minimum old-age benefits over time with that of national income per head at current prices can be usefully extended to changes in the cost of living, in average earnings and, where time series are available, in minimum wages, if the reservations already made concerning certain entries are kept in mind (table VII).[3]

This compilation permits three generalisations:

(1) Minimum old-age benefits increased in all but one country, the Philippines, at a greater rate than the cost of living.

(2) In ten of the seventeen countries their rate of increase was greater than that of average earnings.[4]

(3) Only in three countries, Belgium, the Philippines and Sweden (low wages for unskilled workers in printing and publishing), did minimum wages, as the term is used in this paper, increase faster than minimum old-age benefits.

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[1] Since a benefit increase forces a funded scheme to raise—in addition to the funds necessary to cover the increase in benefit payments—also those necessary to bring up the reserves to the appropriate level (which in turn increases the contribution rate beyond the level necessary under the assessment method of financing), a system based on funding has been considered less able to respond quickly to upward pension adjustments, for instance in an inflationary situation. In fact, the existence of sizable reserve funds seems to invite benefit increases at their expense. Continued depletions of reserve funds slow down capitalisation and may, unless corrected, hasten the replacement of funding by assessment.

[2] This is the tenor of Robert J. Myers's proposal to link the ceiling on incomes subject to social insurance contributions to wages (covered earnings) and/or the cost of living (" A method of automatically adjusting the maximum earning base under OASDI ", in *Journal of Risk and Insurance* (Bloomington (Illinois)), Vol. 31, No. 3, Sep. 1964, pp. 329-340). A government proposal to this effect is now before the United States Congress.

[3] For a comparison of *average* old-age pension rates with cost-of-living indices and indices of the general level of wages see Report V (1), International Labour Conference, 50th Session, op. cit., table X, pp. 106-107.

[4] Austria, Chile, Czechoslovakia, Italy, Japan, Mexico, Sweden, Switzerland, Turkey and the United Kingdom. In this respect the results of tables VI and VII are fairly similar, in spite of the fact that the latter compares minimum pensions and average earnings at current prices, the former in real terms. Only Czechoslovakia and Japan appear in different " groups " in these two tables.

TABLE VII. PERCENTAGE INCREASES IN MINIMUM PENSIONS, COST OF LIVING, AVERAGE EARNINGS AND MINIMUM WAGES

Country	Period	Minimum pensions	Cost of living	Average earnings	Minimum wages
Austria	1956-67	132.2	39.0	116.9	75.8
Belgium	1955-67	97.8	32.7	102.4	109.3
Bulgaria	1955-66	33.3	−4.2	50.0 *79.0*	n.a.
Chile	1960-67	686.0	383.0	607.0	450.0
Czechoslovakia	1955-67	74.0	−3.9	27.1	n.a.
France	1956-67	83.0 (119.0)	57.0	121.1	68.7
Israel	1957-67	74.5	65.9	110.2	71.0
Italy	1955-67	290.0	47.9	130.0	127.5 *112.5*
Japan	1955-67	178.3	63.3	172.6	n.a.
Mexico	1955-65	200.0	45.9	136.9	168.6
Philippines	1957-67	20.0	90.0	45.2	50.0
Sweden	1955-67	164.0	59.1	118.0	170.0
Switzerland	1955-66	108.3	30.3	79.3	49.6
Turkey	1955-67	650.0	194.2 *134.0*	263.9	150.0
United Kingdom	1955-67	120.0 (132.7)	44.4	89.4	48.8
United States	1955-67	46.6	24.5	51.2	39.0
Yugoslavia	1961-67	214.6	129.3	245.2	57.9

Notes: The percentages in parentheses refer to minimum pensions augmented by means- or needs-tested supplements.

For reservations regarding the minimum pension entries for *Austria*, *Yugoslavia* and *Japan* see the appropriate footnote to table I.

Bulgaria. The first entry for average earnings is based upon ILO data, the second, italicised, entry is derived from data provided by ILO correspondent Mr. A. Mintchev.

Italy. The first entry for minimum wages is based on computations using a national index in *Rassegna di statistiche del lavoro* (Rome), the second, italicised, entry was computed on the basis of the (low) earnings of female sewing-machine operators in Rome taken from the ILO " October inquiry " series.

Turkey. The first cost-of-living entry is based on data in the ILO *Year book of labour statistics*, the second, italicised, entry was computed on the basis of data provided for Ankara by Mr. N. Selamoğlu.

United States. Saul Waldman came to the conclusion that average benefits awarded in 1954 and 1959 under the Old-Age, Survivors, and Disability Insurance (OASDI) programme lagged by 1966 substantially below parity with prices and wages: " OASDI benefits, prices, and wages: 1966 experience ", in *Social Security Bulletin* (Washington, DC), Vol. 30, No. 6, June 1967, p. 10. Pechman *et al.* (op. cit., p. 99) believe that the enactment of Medicare and the 13 per cent increase in OASDI benefits in 1967 probably restored the purchasing power of the 1954 awards.

Listed below are the percentages by which the increases in minimum old-age pensions shown in table VII exceeded those in the cost of living.

(Philippines	−350.0)	Belgium	199.1
Israel	13.2	Turkey	234.7
France	45.6	Austria	239.0
Yugoslavia	66.0	Switzerland	257.4
Chile	79.1	Mexico	335.7
United States	90.2	Italy	505.4
United Kingdom	170.3	Bulgaria	892.8
Sweden	177.5	Czechoslovakia	1 997.4
Japan	181.6		

The size of the deviations suggests that in many countries the minimum old-age benefit which existed at the beginning of the observation period was considered to be unduly low and that, if public opinion and the beneficiaries' expectations were to be satisfied, minimum pension adjustment had not merely to keep pace with rises in the cost of living but to exceed them. The minimum pension had to be brought into an acceptable relationship with the earnings of the active labour force and its improved standard of living. The deviations were small in those pension systems which link the benefits to price changes (Israel, Yugoslavia, Chile, Sweden and Belgium). Except in countries which, at the beginning of the observation period, had smaller-than-average minimum old-age benefits in relation to average earnings or national income per head—and in which the heavy reliance placed upon minimum pensions accounts for the relatively large percentage increases in the level of such pensions—the linking of benefits to cost-of-living changes seems to have limited the upward trend. In other words, the recipients of minimum pensions as a whole [1] fared somewhat better in the long run in those countries which relied upon ad hoc rather than some form of automatic, linked adjustments.

Below are listed the percentage deviations of the increases in minimum pensions and those of average earnings shown in table VII.

Group I: Minimum pensions increased faster than average earnings

Japan	3.3	Sweden	39.0
Chile	13.0	Mexico	46.1
Austria	13.1	Italy	123.0
United Kingdom	34.2	Turkey	146.3
Switzerland	36.6	Czechoslovakia	173.1

Group II: Average earnings increased faster than minimum pensions

Belgium	4.6	Israel	47.9
United States	9.9	Bulgaria	50.2
Yugoslavia	14.3	Philippines	126.0
France	45.8		

A striking difference between the two series of deviations listed above is that, while the deviations between the growth rates of minimum pensions and the cost of living fluctuate widely (from 13.2 to 1,997.4 per cent), those between minimum pensions and average earnings move in a far more limited range.

[1] The improvement of the first award level does not, by itself, improve the lot of the individual beneficiary of a minimum pension. He may find the purchasing power of his own pension eroded by price increases and the status he enjoyed in the income hierarchy before his retirement deteriorating. He may not live long enough to benefit from the rate adjustments which specifically favour minimum pensions in across-the-board percentage increases, which do not differentiate pensions by size. Furthermore, lengthy adjustment delays may leave newly awarded pensions at very inadequate levels, sometimes for years.

More important, deviations from the cost of living are as a whole so large as to suggest that once minimum pensions passed the cost-of-living mark, the latter ceased to have much influence on the level at which such pensions are fixed. In contradistinction, the relatively small deviations from the growth rates of average earnings indicate that in the prosperous 1955-67 period minimum pensions were adjusted with an eye to keeping them in line with the increasing monetary rewards of the active labour force. Since average earnings in all cases but one (the Philippines) increased substantially more than the cost of living, it follows that old-age pensioners drawing the minimum benefit were able to enjoy a higher standard of living too.[1]

Summary

(1) The relationship of minimum old-age benefits to the level of earnings of the active labour force is primarily determined by the stage of economic development. The ratio of minimum pensions to average earnings is substantially higher in developing countries. Within the developed countries the ratio is significantly affected by what society considers to be the proper place of state social insurance vis-à-vis private savings, occupational private pension plans and public (social) assistance. Wages and incomes policies, as well as labour market conditions, play their part in determining the ratio in both cases. Inflation may affect pensions and earnings to a different extent, a problem which did not arise in the three centrally planned economies in our sample.

(2) Measured in terms of national income per head, minimum old-age benefits show consistently higher ratios in the developing countries. The size of the minimum pension is not clearly related either to the percentage of the population over retirement age, or to the percentage of social insurance revenues derived from government contributions. Over the period of observation the rate of increase of minimum old-age benefits seems, in the majority of cases, to have equalled or exceeded the national growth rate, and that of average earnings.

(3) The analysis of the adjustment process yielded three major findings.

[1] Table VII also permits us to reach some tentative conclusions as to the development of minimum wages, with due regard to the somewhat free use of this term in the present paper. With the exception of the Philippines and Yugoslavia, minimum (and low) wages increased in all the other countries of the sample at a considerably faster rate than the cost of living. In ten out of fourteen countries average earnings increased faster than minimum wages. The four exceptions are Belgium, Mexico, the Philippines and Sweden. Deviations range from 2 per cent (Italy) to 323.4 per cent (Yugoslavia), with an average of 65 per cent, or if the Yugoslav entry is discounted 42 per cent. The relatively narrow margin would confirm the view that average earnings are one of the factors determining minimum wage rates, which in turn affect wage levels as a whole (see *Minimum wage fixing and economic development*, op. cit., pp. 13-21, 59 and 69-74).

(a) In a period of rising real income, the automatic linking of minimum pension adjustments to changes in retail prices operates initially as a brake on the increase of minimum old-age benefits. Over a longer period of time such automatic links are unable to limit pension increases to the amount by which the cost of living has risen. In the long run, minimum social security benefits increase faster under ad hoc adjustments than under a system of automatic adjustment to the cost of living. There were not sufficient data available on the countries in our sample to compare the long-run effects of ad hoc adjustments with those linking minimum pension increases automatically to changes in the wage level.

(b) Although the correlation between changes in minimum old-age benefits and those in the cost of living, average earnings and the gross domestic product at constant prices is high in all cases, it is highest in regard to average earnings. It seems that, in periods of substantial economic growth, the level of living made available through higher real wage incomes determines the level of living to be made available to the retired members of the labour force on minimum pensions to a greater extent than any other economic factor.

(c) As indicated above, minimum pensions in the developing countries of the sample differ in behaviour from those in the industrial countries. They appear to have been set as a rule at a higher rate—in relation to average earnings, minimum wages and national income per head at current prices—than those in most developed nations. Such factors as paucity of individual savings, inadequate supplementary private insurance arrangements, a different view as to the role of the State as guarantor for the income needs of the retired, lead in these cases to a different emphasis upon the income guarantee as distinct from the income replacement function of the social insurance system. Over time, minimum pensions in the developing countries seem to have grown less rapidly than national income per head at current prices. There is also in the developing countries a lower correlation between minimum old-age benefits and gross domestic product per head at constant prices. This may result from the fact that, so far, minimum old-age pensions in the relatively new programmes of the developing countries have not yet reached a level at which the ability of the economy is taxed to sustain them.

(4) One lesson I learned from this study was to respect the uniqueness of each programme in the light of its historical antecedents, social policy, and economic and political constraints. International comparison, difficult anywhere, faces additional institutional problems in the field of social security. None the less, I believe that the task set by the Inter-

national Labour Conference resolution of 1964 led to a useful study. Crude and limited as the analysis had to remain, it may help the reader to see his own system in clearer perspective. And it may encourage further research into other social security cash benefits.

Appendix: Country Tables

General Note

Minimum pensions

Minimum pensions comprise, where not otherwise stated, statutory minimum pensions for eligible single beneficiaries. In the case of Israel, Sweden and the United Kingdom the statutory flat-rate pension is used. The entries for Austria and, since 1 April 1956, for Yugoslavia do not represent minimum old-age benefits but statutory " guaranteed " minimum incomes attained by adding to the formula benefit a supplement subject to a means or needs test. In the case of Switzerland (since 1965) these supplements are listed separately. Similarly, means- or needs-tested supplementary pensions in France and the United Kingdom are presented separately. The Israeli table lists separately the sum of flat-rate and supplementary (social) benefit in force since 1965. For Japan a hypothetical minimum pension under the Welfare Pension Insurance Scheme was constructed.

Changes in the size of minimum pensions during a year are taken into account by reporting the annual average of the periodic (annual, monthly, or weekly) pension payment.

Average monthly earnings

The usual source of average monthly earnings is ILO: *Year book of labour statistics*, various issues, referred to in the footnotes as *ILO Year Book*.[1] In general, the entries refer to the earnings of male manual workers in manufacturing. In a few cases the ILO data refer to weighted averages of male and female earnings or to earnings in manufacturing, mining and quarrying, include the earnings of salaried employees and/or family allowances, and differ in periodicity (monthly, weekly, daily) or are quoted as hourly rates. In some, where national data provided by correspondence (as for Austria and Bulgaria) offered additional insights, these are also recorded.

Minimum (or low) earnings

For details concerning minimum (or low) earnings data see text and footnotes to the tables.

National income per head

Annual national income per head is shown in all cases at current prices. It was generally computed from data in United Nations: *Yearbook of national accounts statistics, 1966*, and its *Demographic yearbook, 1968*, both up-dated with the assistance of its *Statistical Bulletin*. In the case of the centrally planned economies the data on net material product (Bulgaria and Yugoslavia) or gross domestic product minus production consumption (Czechoslovakia) were taken from the same sources.

[1] Page references are to the 1968 edition.

Consumer price index

The usual source of the consumer price or cost-of-living indices is ILO: *Year book of labour statistics*, various issues, referred to in the footnotes as *ILO Year Book*.[1] Where national data submitted yielded additional insights (Turkey), these are also recorded.

Gross domestic product per head at constant prices

As a rule annual data on gross domestic product (GDP) per head were culled from the same sources as the data on annual national income per head (see above). In a few cases (Israel, Italy, Japan, the United Kingdom, the United States), expenditures per head on gross national product (GNP) were substituted. Other variations, of minor importance, will be apparent from the headings used.

Signs and conventions

The figures in **bold-face type** in the ratio columns indicate the average ratio over the period.

At the foot of each table the lines in *italic type* show the percentage changes for the periods indicated. Except where otherwise indicated all these changes are positive.

Horizontal breaklines in columns indicate interruption of series owing to change of sample, classification, etc. Wherever the data divided in this way have been or could be linked, averages and growth percentage have been computed as if the series had not been interrupted.

[1] Page references are to the 1968 edition.

(In Austrian schillings)

Year	A Monthly minimum pension [1]		B	C	D	E	F	G	H	I	J	K
	1 Single	2 Family of two	Average monthly earnings in manufacturing [2]	Ratio (%) A1 : B	Average wage index (1945 = 100) [3]	Low wage index (1945 = 100)	Hourly unskilled wage rates, cotton textiles [4]	Ratio (%) 14×A1 : 2162×F	National income per head	Ratio (%) 14×A1 : H	Consumer price index [5]	GDP per head at 1954 factor cost
1956	460.0	510.0	1 743	26.4	692.2	827.9	5.12	58.2	13 306	48.4	83.3	13 995
1957	550.0	750.0	1 764	31.2	717.7	852.4	5.25	67.8	14 686	52.4	86.7	14 858
1958	550.0	750.0	1 878	29.3	725.4	852.9	5.25	67.8	15 285	50.4	87.4	17 174
1959	587.5	806.3	1 976	29.7	764.2	906.3	5.50	69.2	15 797	52.1	88.4	17 536
1960	613.3	854.1	2 156	28.4	812.1	960.9	5.50	72.2	17 735	48.4	90.0	19 012
1961	680.0	1 000.0	2 344	29.0	863.7	1 011.5	6.25	70.5	19 289	49.4	93.3	19 754
1962	735.0	1 060.0	2 496	29.4	906.9	1 053.5	6.75	70.5	20 154	51.1	97.4	20 056
1963	766.7	1 101.7	2 647	28.9	957.4	1 112.5	7.25	68.5	21 598	49.7	**100.0**	20 915
1964	840.0	1 185.0	2 890	29.1	1 006.0	1 154.6	7.25	75.0	23 253	50.6	103.8	22 037
1965	895.8	1 244.2	3 141	31.2	1 113.5	1 285.7	8.25	70.3	25 086	50.0	109.0	22 467
1966	979.0	1 354.0	3 514	30.4	1 185.0	1 347.8	9.00	70.4	26 861	51.0	111.4	23 320
1967	1 068.0	1 483.0	3 781	30.0	1 276.8	1 449.7	9.00	76.9	28 404	52.6	115.8	23 897
1968	1 136.0	1 578.0	4 018	28.3	—	—	10.10	72.8	—	—	119.0	—
				(29.3)				**(70.0)**		**(50.5)**		
1956-67	*132.2*	*190.8*	*116.9*	—	*84.4*	*75.1*	*75.8*	—	*113.5*	—	*39.0*	*60.8*

[1] A " guaranteed " minimum income. If not reached by formula retirement benefits, means-tested supplementary pensions fill the gap. Pensions are granted 14 times a year. Information provided by Dr. Gerhard Weissenberg, President, Central Association of Austrian Social Insurance Funds. Wage data provided by Austrian Institute for Economic Research. [2] Includes earnings in mining and quarrying. *ILO Year Book*, p. 527. The ratio in column C is based on the assumption that custom and collective bargaining agreements provide as a rule for the equivalent of two monthly bonuses, i.e. that annual average earnings equal 14 × average monthly earnings. The average ratio (%) of 14 × A1: 12 × B amounts to 33.7. [3] Index of collective bargaining wages for Vienna workers without family allowances, provided by Dr. Stiglbauer of the Austrian Central Office of Statistics. [4] " October inquiry: I. Hourly wages of adult wage earners in selected occupations, October 1968 ", in *Bulletin of Labour Statistics* (Geneva, ILO), 2nd quarter, 1969 (and previous years); hours computed on the basis of *ILO Year Book*, p. 457 (52 × 41.6 (hours per week) = 2162). [5] *ILO Year Book*, p. 651.

Belgium

(In Belgian francs)

Year	A Annual minimum pension [1] 1 Single manual workers	A Annual minimum pension [1] 2 Married manual workers	B Average daily earnings, male workers in manufacturing [2]	C Ratio (%) A1 : 300×B	D Average minimum hourly wages [3]	E Ratio (%) A1 : 2400×D	F National income per head	G Ratio (%) A1 : F	H Consumer price index [4]	I GDP per head at 1963 prices
1955	18 700	28 000	203.7	32.7	17.94	43.4	42 287	44.2	87.6	53 416
1956	18 700	28 000	215.5	28.9	19.64	39.7	44 700	41.8	89.5	54 236
1957	19 557	29 280	229.4	28.4	21.21	38.4	46 880	41.7	93.1	55 201
1958	21 090	31 600	233.4	30.1	23.45	37.5	46 824	45.0	94.1	60 974
1959	24 050	36 075	242.1	33.1	23.64	42.4	47 342	50.8	95.3	62 280
1960	24 600	36 900	249.9	32.8	24.63	41.6	50 071	49.1	95.6	65 334
1961	25 150	37 300	259.2	32.3	26.10	40.3	52 395	48.0	96.5	68 380
1962	29 300	40 415	275.0	35.5	27.57	44.3	55 818	52.5	97.9	71 684
1963	29 785	41 080	296.8	33.5	28.96	42.9	59 526	50.0	**100.0**	74 596
1964	30 750	39 920	328.5	31.2	31.18	41.1	66 325	46.4	104.2	79 015
1965	32 850	45 495	359.0	30.5	33.28	46.3	71 957	45.7	108.4	81 255
1966	36 035	49 420	389.6	30.8	35.95	41.8	75 987	47.4	112.9	82 914
1967	37 000	50 745	412.2	29.2	37.55	41.0	79 949	46.3	116.2	85 377
1968	47 447	59 310	432.2	36.6	38.91	50.8	—	—	119.4	—
				(31.8)		**(42.2)**		**(46.8)**		
1955-67	*97.8*	*81.2*	*102.4*	—	*109.3*	—	*89.1*	—	*32.7*	*59.8*

[1] The minima affect pensions awarded before 1 January 1962. Information provided by Mr. Rappe, Service des relations internationales, Ministère de la prévoyance sociale, Brussels. Rates adjusted automatically (2.5 per cent) with change of 2.75 per cent in retail price index. For white-collar employees a similar schedule of minimum pensions (at higher rates) is provided by law. [2] *ILO Year Book*, p. 527. [3] These rates, established by a nationwide agreement, are being applied by the National Joint Wage Commission in the metal, metallurgical and electrical industries. Source: Direction de l'Etude des problèmes de travail. For 1969 the rate is likely to go up to 40.78. [4] *ILO Year Book*, p. 651.

Bulgaria

(In leva)

Year	A Monthly minimum pension [1]	B Average monthly earnings [2]	C Ratio (%) A : B	D Average annual wages, all economic activities [1]	E Ratio (%) 12 × A : D	F Net material product per head	G Ratio (%) 12 × A : F	H Consumer price index [4]	I Index of net material product (1958 = 100)
1955	30	66	45.5	646	55.7	376	95.7	103.8	82
1956	30	67	44.7	778	46.3	362	99.4	95.3	83
1957	30	70	42.9	815	44.1	419	85.9	96.1	94
1958	30	72	41.7	815	44.1	451	79.8	95.8	**100**
1959	30	75	40.0	815	44.1	541	66.5	94.3	122
1960	30	79	38.0	939	38.3	571	63.0	93.9	130
1961	30	85	35.3	939	38.3	594	60.6	94.7	134
1962	40	87	45.8	939	51.1	644	74.5	97.6	142
1963	40	90	44.5	1 051	45.7	703	68.3	**100.0**	153
1964	40	93	43.0	1 076	44.6	762	63.0	100.3	168
1965	40	96	41.7	1 109	43.3	809	59.3	99.7	180
1966	40	99	40.4	1 157	41.5	880	54.5	99.6	200
1967	40	107	37.4	1 272	37.7	—	—	99.7	218
1968	46	115	40.0	—	—	—	—	—	—
			(41.5) [3]		**(44.2)** [3]		**(72.5)**		
1955-66	*33.3*	*50.0*	—	*79.1*	—	*134.0*	—	*−4.05*	*144*
1955-67	*33.3*	*62.1*	—	*96.9*	—	—	—	*−3.95*	*165*
1955-68	*53.3*	*74.2*	—	—	—	—	—	—	—

[1] Information provided by Mr. Alexandre Mintchev, ILO Correspondent in Sofia. Wages data provided by the Bulgarian statistical yearbook and brought up to date by the monthly statistical bulletin, Nov. 1968. [2] Data report on earnings in socialised sector, including mining and quarrying (except coal mining). *ILO Year Book*, p. 527. [3] Average ratio of C and E is 43.0 per cent. [4] *ILO Year Book*, p. 651.

Chile

(In escudos)

Year	A Monthly minimum pension for manual workers [1]	B Monthly minimum pension for salaried employees [1]	C Average monthly earnings in manufacturing [2]	D Ratio (%) A : C	E Hourly minimum industrial wages [1]	F Ratio (%) A : 8×25×E	G Monthly standard "living salary", salaried employees in industry and commerce (Santiago)	H Ratio (%) B : G	I National income per head	J Ratio (%) 12×A : I	K Cost-of-living index (Santiago) [3]	L NDP perhead at factor prices of 1965
1955	2.26	—	—	—	—	—	—	—	128	21.2	14.5	531
1956	3.75	—	—	—	0.050	37.5	—	—	206	21.8	23.0	546
1957	6.14	—	—	—	0.065	47.2	—	—	275	26.8	30.3	590
1958	14.02	—	—	—	0.080	87.6	—	—	338	49.8	36.5	689
1959	20.25	—	—	—	0.109	88.8	—	—	474	51.3	50.6	670
1960	22.00	—	55.34	39.8	0.109	96.5	—	—	400	66.0	56.6	1 828
1961	22.67	51.45	63.59	35.7	0.141	80.4	71.67	71.8	472	57.6	60.9	1 899
1962	29.82	53.94	75.21	39.6	0.159	93.8	80.91	66.7	561	63.8	69.3	1 951
1963	36.41	68.88	100.05	36.4	0.203	89.7	103.32	66.7	807	54.2	**100.0**	1 997
1964	60.18	127.70	152.19	39.5	0.295	101.3	150.23	85.0	1 207	59.8	146.0	2 038
1965	85.21	176.73	212.14	40.2	0.408	104.2	207.92	85.0	1 652	61.9	188.1	2 101
1966	128.84	222.50	307.18	41.9	0.513	125.6	261.77	85.0	2 236	69.1	231.1	2 190
1967	172.99	260.33	391.50	44.2	0.600	144.2	306.27	85.0	2 796	74.2	273.0	2 195
1968	149.12	317.33	525.16	28.4	0.731	102.0	373.34	85.0	—	—	345.7	—
1969	190.74	405.88	—	—	0.935	102.0	477.50	85.0	—	—	—	—
				(38.4)		**(92.9)**		**(79.5)**		**(52.1)**		
1955-67	*7 554*	—	—	—	—	—	—	—	*2 084*	—	*1 783*	*313*
1956-67	*4 513*	—	—	—	*1 100*	—	—	—	*1 257*	—	*1 087*	*302*
1960-67	*686*	—	*607*	—	*450*	—	—	—	*599*	—	*382*	*20*
1961-67	*663*	*406*	*515*	—	*325*	—	*327*	—	*492*	—	*348*	*16*

[1] Information supplied by Mr. Carlos Briones Olivos, Superintendent of Social Security. These pensions are adjusted annually with changes in the cost of living. Most of the computations are related to the Social Security Pension Programme for Manual Workers. Minimum pensions for white-collar workers were initiated in 1961. [2] *ILO Year Book*, p. 524. [3] Ibid., p. 649.

Czechoslovakia

(In crowns (korunas))

Year	A Monthly minimum pension for single beneficiaries [1]	B Average monthly earnings in manufacturing [2]	C Ratio (%) A : B	D GDP per head minus production consumption [1]	E Ratio (%) 12×A : D	F Cost-of-living index [3]	G Net material product per head 1955-59 at 1955 prices; 1960-67 at 1960 prices
1955	230	1 223	18.8	9 566	28.9	107.8	9 562
1956	230	1 251	18.4	9 974	27.7	105.0	9 971
1957	400	1 261	31.7	10 594	45.3	102.8	10 593
1958	400	1 288	31.7	11 367	42.2	102.7	11 370
1959	400	1 307	30.6	12 007	40.0	100.3	12 009
1960	400	1 349	29.7	12 892	37.2	98.9	11 865
1961	400	1 388	28.8	12 553	40.2	98.3	12 554
1962	400	1 409	28.4	12 655	37.9	99.4	12 655
1963	400	1 407	28.4	12 299	39.0	**100.0**	12 299
1964	400	1 442	27.7	12 280	39.1	100.5	12 278
1965	400	1 469	27.2	12 610	38.1	101.6	12 642
1966	400	1 490	26.8	13 897	34.5	102.0	15 379
1967	400	1 554	25.7	16 336	29.4	103.6	16 357
1968	400	1 657	24.1	—	—	102.7	—
			(27.0)		**(36.8)**		
1955-67	*74*	*27.1*	—	*70.8*	—	*– 3.9*	—
1960-67	*0*	*15.2*	—	*26.7*	—	*3.8*	*37.9*

[1] Information provided by Mr. Valter Vergeiner, Ministerstvo práce a sociálních věcí, Prague. From 1959 onwards married couples received in practice a monthly pension of 700 korunas. For 1969 the single minimum pension was raised to 445 korunas and the effective rate for married couples to 750 korunas. [2] Earnings refer to socialised sector, including mining and quarrying (except coal mining). *ILO Year Book*, p. 527. [3] Ibid., p. 651.

France

(In French francs)

Year	A Annual minimum pension, single person [1]	B Allocation for dependent wife over 65 [1]	C National Solidarity Fund supplement [1]	D Total A+C (single persons) [2]	E Total of A+B+2×C (elderly couples) [2]	F Annual average wage [4]	G Ratio (%) A : F	H Ratio (%) D : F	I Annual minimum wage income [5]	J Ratio (%) A : I	K Ratio (%) D : I	L National income per head	M Ratio (%) A : L	N Ratio (%) D : L	O Cost-of-living index [6]	P GDP per head 1955-57 at 1956 prices; 1958-67 at 1959 prices
1955	658.00	329.00	—	—	—	—	—	—	2 620	25.1	—	3 058	21.5	—	69.7	4 149
1956	723.80	361.90	312	970	1 697.70	3 169	22.8	30.6	2 620	27.6	37.0	3 385	21.4	28.7	71.0	4 313
1957	723.80	361.90	312	970	1 697.70	3 419	21.2	28.4	2 683	27.0	36.2	3 408	21.1	28.5	73.0	4 523
1958	723.80	361.90	328	986	1 741.70	3 823	18.9	25.8	3 047	23.8	32.4	4 211	17.2	23.4	84.0	5 809
1959	723.80	361.90	380	1 038	1 845.70	4 058	17.8	25.6	3 247	22.3	32.0	4 485	16.1	23.1	89.1	5 911
1960	723.80	361.90	380	1 038	1 845.70	4 347	16.6	23.9	3 331	21.7	31.2	4 969	14.6	20.9	92.4	6 293
1961	723.80	361.90	420	1 078	1 925.70	4 680	15.5	23.0	3 416	21.2	31.6	5 286	13.7	20.4	95.4	6 510
1962	780.95	540.74	495	1 250	2 311.69	5 075	15.4	24.6	3 619	21.6	34.5	5 796	13.5	21.6	95.4	6 811
1963	800.00	650.00	610	1 410	2 670.00	5 512	14.5	25.6	3 835	20.9	36.8	6 271	12.8	22.5	**100.0**	7 034
1964	916.60	916.60	700	1 616	3 233.20	5 907	15.5	27.3	3 939	23.3	41.0	6 763	13.6	23.9	103.4	7 362
1965	1 050.00	1 050.00	700	1 750	3 500.00	6 240	16.8	28.0	4 107	25.6	42.6	7 155	14.7	24.5	106.0	7 584
1966	1 200.00	1 200.00	750	1 950	3 900.00	6 614	18.1	29.4	4 274	28.1	45.6	7 611	15.8	25.6	108.9	7 874
1967	1 325.00	1 325.00	800	2 125	4 250.00	7 009	18.9	30.3	4 420	30.0	48.1	8 118	16.3	26.2	111.8	8 138
1968	1 500.00	1 500.00	942	2 442	4 884.00	7 904	19.0	30.9	5 577	26.9	43.8	—	—	—	116.9	—
1969	1 550.00	1 550.00	1 050	2 600	5 200.00	—	—	—	—	—	—	—	—	—	—	—
							(17.7)	**(27.2)**		**(24.6)**	**(37.9)**		**(16.3)**	**(24.1)**		
1955-66	*82.3*	*264.7*	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1955-67	*101.3*	*302.7*	—	—	—	—	—	—	*68.7*	—	—	*165*	—	—	*60*	*96.1*
1955-68	*128.0*	*356.0*	—	—	—	—	—	—	*112.0*	—	—	—	—	—	*67*	—
1955-69	*135.6*	*371.0*	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1956-66	—	—	*140*	*101*	*130*	—	—	—	—	—	—	—	—	—	—	—
1956-67	*83.0*	*266.0*	*156*	*119*	*150*	*121.1*	—	—	*68.7*	—	—	*139*	—	—	*57*	—
1956-68	*107.2*	*314.4*	*202*	*151*	*188*	*149.3*	—	—	*112.0*	—	—	—	—	—	*64*	—
1956-69	—	—	*236*	*168*	*206*	—	—	—	—	—	—	—	—	—	—	—

[1] Information provided by Mr. F. Netter, Conseiller-Maître à la Cour des Comptes. The National Solidarity Fund supplement is subject to income limits and tests. [2] From 1956 to 1962 the total is derived from (10/11 × A) + C. [3] From 1956 to 1962, only 10/11 of A enters into the sum. [4] Computed by multiplying hourly wage rates for manual workers in manufacturing (excluding vacation and overtime pay) by 2,080. *ILO Year Book*, p. 528. [5] Derived by multiplying minimum wage rates (SMIG—Salaire minimum inter-professionnel garanti) provided by Mr. F. Netter by 2,080. [6] *ILO Year Book*, p. 656.

Israel

(In Israeli pounds)

Year	A Monthly minimum pension [1]		B Monthly flat-rate pension, including social benefits [2]		C	D	E	F	G	H	I	J	K	L	M
	1 Single beneficiary	2 Married couple	1 Single person	2 Married couple	Average daily earnings in manufacturing [3]	Ratio (%) A1 : 26×C	Ratio (%) B1 : 26×C	Hourly wage rates of adult unskilled textile labourers [4]	Ratio (%) A1 : 181×F	Ratio (%) B1 : 181×F	National income per head	Ratio (%) 12×A1 : I	Ratio (%) 12×B1 : I	Consumer price index [5]	Expenditure per head on GNP 1957-58 at 1955 prices; 1959-67 at 1964 prices
1957	38.25	57.38	—	—	10.2	14.5	—	0.877	24.1	—	1 213	37.8	—	74.9	1 301
1958	39.38	59.08	—	—	9.5	15.9	—	—	—	—	1 361	34.7	—	77.5	1 370
1959	40.05	60.10	—	—	9.9	15.6	—	0.881	25.1	—	1 497	32.1	—	78.5	2 700
1960	40.65	60.98	—	—	10.2	15.3	—	0.910	24.7	—	1 617	30.2	—	80.3	2 995
1961	42.15	63.20	—	—	11.1	14.6	—	1.000	23.3	—	1 844	26.4	—	85.7	2 995
1962	44.53	66.78	—	—	12.3	13.9	—	—	—	—	2 087	25.6	—	93.8	3 145
1963	48.35	72.55	—	—	14.0	13.3	—	1.120	23.9	—	2 504	23.2	—	**100.0**	3 360
1964	50.48	75.40	—	—	15.4	12.6	—	1.280	21.8	—	2 806	21.6	—	105.2	3 553
1965	51.95	77.95	70.65	109.10	17.5	11.4	15.5	1.340	21.4	29.1	3 228	19.3	26.3	113.2	3 714
1966	57.95	86.90	77.90	120.15	20.4	11.1	14.7	1.500	21.3	28.7	3 465	20.1	27.0	122.3	3 657
1967	66.75	100.10	90.45	139.70	21.4	12.0	16.3	1.500	24.6	33.3	3 542	22.6	30.6	124.3	3 716
1968	—	—	—	—	22.0	—	—	1.600	—	—	—	—	—	126.9	—
						(13.7)	**(15.5)**		**(23.4)**	**(30.4)**		**(26.78)**	**(28.0)**		
1957-67	*74.5*	*74.4*	—	—	*110.2*	—	—	*71.0*	—	—	*192.0*	—	—	*65.9*	*185.6*
1959-67	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*137.6*

[1] Monthly basic flat-rate pension adjusted for changes in cost of living corresponding to increments paid to civil servants. Information provided by Dr. A. Nizan, Director, Research and Statistics Division, National Insurance Institute, Jerusalem. [2] Since 1 April 1965 recipients of old-age pensions whose monthly income, in addition to the pension, does not exceed the flat-rate pension paid to single beneficiaries, receive through the National Insurance Institute additional grants (Ministry of Finance) which result in total payments shown here. Source: see footnote 1. [3] *ILO Year Book*, p. 527. [4] "October inquiry . . .", op. cit. These wage rates were taken as a "stand-in" for a statutory minimum wage which, as such, does not exist in this country. [5] *ILO Year Book*, p. 656.

Italy

(In lire)

Year	A Monthly minimum pension for single beneficiary [1]	B Average hourly earnings in manufacturing [2]	C Ratio (%) A : 8×25×B	D Index of national average of minimum wages [3] (1938 = 1)	E Hourly wage rates, female sewing-machine operators (Rome) [4]	F Ratio (%) 13×A : 1644×E	G National income per head	H Ratio (%) 13×A : G	I Cost-of-living index [5]	J Expenditure per head on GNP at 1963 market prices
1955	5 000	185	13.5	69.70	132.90	29.7	242 905	26.8	79.4	396 348
1956	5 000	198	12.6	73.77	133.00	29.7	261 198	24.9	82.1	411 995
1957	5 000	207	12.1	77.11	135.00	29.3	278 378	23.3	83.2	431 754
1958	8 750	216	20.3	81.10	149.28	46.3	298 770	38.1	85.5	448 910
1959	9 500	221	21.5	82.10	142.75	52.6	314 451	39.3	85.1	474 491
1960	9 500	232	20.5	85.95	152.88	49.1	337 496	36.6	87.1	501 732
1961	9 500	248	19.2	89.54	156.25	48.1	371 280	33.3	88.9	537 923
1962	12 250	286	21.4	99.62	211.63	45.8	417 858	38.1	93.1	567 214
1963	15 000	334	22.5	113.88	228.13	52.0	477 104	40.9	**100.0**	593 827
1964	15 000	371	20.0	133.73	245.26	48.4	518 457	37.6	105.9	604 295
1965	19 500	386	25.3	144.88	276.50	55.8	553 533	45.8	110.7	619 997
1966	19 500	401	24.3	150.21	278.25	55.4	593 530	42.7	113.3	649 917
1967	19 500	426	22.9	158.59	282.38	54.6	637 540	39.8	117.5	683 838
1968	21 100	446	23.7	163.73	304.43	54.8	—	—	118.9	—
1969	25 000	—	—	—	—	—	—	—	—	—
			(20.0)			**(46.5)**		**(35.9)**		
1955-67	*290*	*130*	—	*127.5*	—	—	*162*	—	*47.9*	*72*
1955-68	—	—	—	—	*112.5*	—	—	—	—	—

[1] Pension applies to person over 65 and is paid 13 times a year. Information provided by Mr. Salvatore Randisi, National Institute of Social Insurance. [2] Includes the value of payments in kind. *ILO Year Book*, p. 529. The ratios in column C are computed on the assumption that custom and collective bargaining agreements provide for bonuses equivalent to one month's average earnings per year. The average ratio (%) of 13 × A: 1867.8 (average of hours worked in 20 industries, *ILO Year Book*, p. 466) × B amounts to 27.8. [3] "L'andamento delle retribuzioni minime contrattuali nei diversi settori di industria dal 1956 al 1967", in *Rassegna di statistiche del lavoro*, first quarter, 1968, p. 90, and supplementary information provided by Dr. Marcello Putti, National Occupational Accident Insurance Institute. [4] "October inquiry . . .", op. cit. For hours worked in clothing industry see *ILO Year Book*, p. 466 (12 × 1965-67 monthly average of 137 hours = 1,644 hours per year. [5] *ILO Year Book*, p. 652.

Japan

(In yen)

Year	A Annual minimum old-age pension [1]	B Average annual pension [2]	C Average monthly earnings in manufacturing [3]	D Ratio (%) A : 12×C	E National income per head	F Ratio (%) A : E	G Cost-of-living index [4]	H Expenditure per head on GNP at 1960 market prices	I Monthly public assistance to standard household (4 persons) in large cities	J Ratio (%) A+4800 : 12×I (adjusted) [5]
1955	27 600	42 363	16 717	13.7	78 629	35.1	78.1	107 955	8 000	49.3
1956	27 600	42 511	18 348	12.5	85 503	32.3	82.0	115 708	8 000	49.3
1957	27 600	41 547	19 259	11.9	99 184	27.8	79.2	127 906	8 850	44.6
1958	27 600	41 126	19 180	12.0	102 119	27.0	78.9	131 396	8 850	44.6
1959	27 600	40 032	20 792	11.1	111 858	24.7	79.8	143 503	9 346	42.2
1960	28 320	41 714	22 630	10.4	134 492	21.1	82.6	164 199	9 621	41.9
1961	28 320	41 695	24 786	9.5	158 139	17.9	87.0	188 027	10 344	39.0
1962	28 320	41 786	27 256	8.7	177 636	15.9	93.0	199 968	12 213	33.0
1963	28 320	42 510	40 204	7.8	201 118	14.1	**100.0**	213 151	14 289	28.2
1964	28 320	43 028	33 089	7.1	227 241	12.5	103.9	241 202	16 147	25.0
1965	76 800	91 781	36 106	17.7	249 949	30.7	110.7	247 427	18 204	54.6
1966	76 800	93 887	40 510	15.8	284 833	27.0	116.4	271 299	20 662	48.1
1967	76 800	96 771	45 568	12.9	331 144	23.2	121.0	305 274	23 451	42.4
1968	76 800	—	52 577	12.2	—	—	127.5	—	26 500	37.5
1969	76 800	—	—	—	—	—	—	—	29 945	33.2
				(11.6)		**(23.8)**				
1955-67	*178.3*	*128.4*	*172.6*	—	*321.1*	—	*54.9*	*182.8*	*193.1*	**(40.9)**

[1] The minimum pension listed here refers to the Welfare Pension Insurance Scheme. The benefit formula consists of a basic amount (24,000 yen between 1955 and 1964, and 60,000 yen thereafter) and a wage-related portion. The latter is arrived at by multiplying a percentage of the monthly standard remuneration by the number of months the beneficiary has been affiliated to the scheme. Column A reflects changes in the percentage rate (5 per cent before 1958, 6 per cent 1958-64 and 10 per cent after 1964) and in the lowest standard remuneration limit, which was changed from 3,000 yen to 7,000 yen in 1965. Japan has no minimum old-age pension. However, the Welfare Pension Insurance Scheme assumes a minimum wage income for the lowest-paid beneficiaries, disregarding lower actual earnings. This, in effect, produces a series of minimum pensions which vary with the period of affiliation to the scheme. Column A is based on a 20-year affiliation and arrives thereby at a hypothetical minimum pension. Information provided by Mr. Nagahisa Hiraishi, Social Development Research Institute, Tokyo. [2] Although all the computations are based on the hypothetical minimum pension in column A, it may be useful to show the behaviour of average annual pensions, since the figures in column A do not correspond to any actual level of lowest old-age benefits. The actual pensions were affected by the steady upward movement of wages during the period under consideration, a phenomenon which the formula recognised only in 1965. Information provided by Professor Tetsukichi Ando, Professor of Labour Economics and Social Security, Waseda University, Tokyo. [3] *ILO Year Book*, p. 527. ILO data include earnings of salaried employees, family allowances, and mid-year and end-of-year bonuses. [4] Ibid., p. 651. [5] That is, the minimum pension augmented by 4,800 yen (for one dependant), divided by 12 × the monthly public assistance to standard households adjusted for families of two persons.

Mexico

(In Mexican pesos)

Year	A Monthly minimum old-age pension [1]	B Average monthly earnings in manufacturing [2]	C Ratio (%) A : B	D Minimum daily wages in urban employment [3]	E Ratio (%) A : 26×D	F National income per head	G Ratio (%) 12×A : F	H Consumer price index [4]	I GDP per head at 1950 market prices
1955	50	559	8.9	6.34	30.3	2 576	23.3	72.6	1 810
1956	50	608	8.2	7.25	26.5	2 935	20.4	76.2	1 870
1957	120	633	18.9	7.25	63.7	3 162	45.5	80.6	1 944
1958	120	696	17.2	8.13	56.8	3 403	42.3	89.9	1 985
1959	120	773	15.5	8.13	56.8	3 524	40.9	92.1	1 977
1960	150	849	17.7	9.89	58.3	3 859	46.6	96.6	2 061
1961	150	888	16.9	9.89	58.3	3 966	45.4	98.3	2 063
1962	150	964	15.6	12.44	46.4	4 164	43.2	99.4	2 094
1963	150	1 135	13.2	12.44	46.4	4 359	41.3	**100.0**	2 154
1964	150	1 239	12.1	17.03	33.9	4 926	36.5	102.2	2 293
1965	150	1 324	11.3	17.03	33.9	5 154	34.9	105.9	2 333
1966	150	1 385	10.8	—	—	5 573	32.3	110.5	2 424
1967	150	1 468	10.2	—	—	5 978	30.1	113.8	2 496
1968	150	1 544	9.7	—	—	—	—	116.4	—
			(13.3)		**(46.5)**		**(37.1)**		
1955-65	*200*	*137*	—	*168.6*	—	*100*	—	*45.9*	*28.9*
1955-67	*200*	*163*	—	—	—	*132*	—	*56.0*	*37.9*
1955-68	*200*	*176*	—	—	—	—	—	*60.3*	—

[1] Information provided by Lic. Luis García Cárdenas, Head of Technical Department, Permanent Interamerican Social Security Commission. [2] *ILO Year Book*, p. 525. [3] Comisión Nacional de los Salarios Mínimos: *Salarios mínimos por zonas y municipios 1964-1965* (Mexico City, 1964), p. 17. The range of minimum wages in 1964-65 started with 10 pesos for the general minimum and 8 pesos for rural workers in four zones and reached 32 and 26 pesos respectively in Zone I: Baja California Norte (Mexicali). For the Metropolitan Monterrey area the respective rates were 20.75 and 19.25, for the Federal District (Mexico City) 21.50 and 19.50. The rates in column D represent national averages for urban employment. [4] *ILO Year Book*, p. 650.

Philippines

(In Philippine pesos)

Year	A Monthly minimum pension [1]	B Average monthly earnings in manufacturing [2]	C Ratio (%) A : B	D Daily minimum wages, industrial and commercial workers [1]	E Ratio (%) A : 25.25×D	F National income per head	G Ratio (%) 12×A : F	H Consumer price index [3]	I NNP per head at 1955 factor prices
1957	25	124	20.2	4.00	24.8	350.14	85.7	81.6	342
1958	25	131	19.1	4.00	24.8	365.80	82.0	86.0	387
1959	25	128	19.5	4.00	24.8	376.47	79.7	82.8	378
1960	25	131	19.1	4.00	24.8	386.87	77.5	86.9	401
1961	25	135	18.5	4.00	24.8	414.54	72.4	91.9	403
1962	25	142	17.6	4.00	24.8	434.17	69.0	92.8	410
1963	30	148	20.3	4.00	29.7	486.10	74.1	**100.0**	440
1964	30	153	19.6	4.00	29.7	505.28	71.2	132.7	429
1965	30	158	19.0	6.00	19.7	525.58	68.5	138.9	445
1966	30	171	17.5	6.00	19.7	561.58	64.1	145.2	460
1967	30	180	16.7	6.00	19.7	588.64	61.2	155.1	447
1968	30	183	16.4	6.00	19.7	—	—	155.8	—
			(18.6)		**(23.9)**		**(73.2)**		
1957-67	*20*	*45.2*	—	*50*	—	*68.1*	—	*90*	*30.7*

[1] Information provided by Mr. Gilberto Teodoro, Administrator, Social Security System. Also Philippine Government: *Bureau of Labor Standards and Hours Bulletin*, No. 1 (1965) Interpretative Bulletin on Rep. Ad. No. 4180, p. 9. [2] *ILO Year Book*, p. 527. [3] Ibid., p. 651.

Sweden

(In kronor)

Year	A Average annual pension		B	C	D	E	F	G	H	I
	1 Single persons [1]	2 Married couples over 67 (per person) [1]	Average hourly earnings [2]	Ratio (%) A1 : 2022×B	Hourly earnings, unskilled labour in printing and publishing [3] (Stockholm)	Ratio (%) A1 : 2022×D	National income per head	Ratio (%) A1 : F	Cost-of-living index [4]	Expenditure per head on GDP at 1959 market prices
1955	1 800	1 410	4.26	21.0	3.86	23.1	5 825	30.9	75.7	7 136
1956	1 900	1 480	4.62	20.3	4.61	20.4	6 176	30.7	79.1	7 308
1957	2 100	1 720	4.90	21.2	5.30	19.6	6 606	31.8	82.5	7 488
1958	2 200	1 800	5.21	20.9	5.23	20.1	7 180	30.6	86.5	7 869
1959	2 450	1 960	5.44	22.3	5.34	22.7	7 575	32.3	87.2	8 273
1960	2 750	2 000	5.77	23.6	5.90	23.1	8 061	34.1	90.8	8 516
1961	2 800	2 215	6.23	22.2	6.29	22.0	8 737	32.0	92.8	8 936
1962	3 375	2 605	6.78	24.3	7.01	23.4	9 310	35.7	97.2	9 204
1963	3 400	2 665	7.29	23.1	7.37	22.8	10 060	33.8	**100.0**	9 627
1964	3 850	3 010	7.94	24.0	7.70	24.7	11 121	34.6	103.4	10 273
1965	4 245	3 315	8.78	23.9	8.52	24.6	12 115	35.0	108.6	10 615
1966	4 585	3 575	9.60	23.6	9.52	23.8	12 961	35.4	115.5	10 848
1967	4 755	3 705	9.30	25.3	10.46	22.5	13 725	34.6	120.5	11 031
1968	5 220	4 060	9.87	26.2	11.63	22.2	—	—	122.8	—
				(23.0)		**(22.5)**		**(32.2)**		
1955-67	*164*	*162*	*118*	—	*170*	—	*135.6*	—	*59.1*	*54.6*

[1] Information provided by Mr. Sven O. Hydén, General Manager, Forsakringsbolaget Pensions Garanti, OMSE Sidigit, Stockholm. [2] *ILO Year Book*, p. 530. Earnings refer to male and female workers in manufacturing, mining and quarrying, and include holiday and sick-leave payments and the value of payments in kind (except for 1967). [3] "October inquiry . . .", op. cit. [4] *ILO Year Book*, p. 652.

Switzerland

(In Swiss francs)

Year	A Annual minimum pension, single beneficiary [1]	B "Guaranteed" subsistence minimum, single beneficiary [2]	C Average hourly earnings (incl. family allowances), male workers in manufacturing [3]	D Ratio (%) A : 2400×C	E Ratio (%) B : 2400×C	F Minimum contractual weekly wage rates, single unskilled helpers in book-binding (Geneva) [4]	G Ratio (%) A : 52×F	H Ratio (%) B : 52×F	I National income per head [5]	J Ratio (%) A : I	K Ratio (%) B : I	L Cost-of-living index [6]	M GNP per head at 1963 market prices
1955	720	—	2.95	10.2	—	112.5	12.3	—	4 699	15.3	—	85.7	6 388
1956	720	—	3.07	9.8	—	116.5	11.9	—	4 948	14.6	—	87.0	6 672
1957	900	—	3.21	11.7	—	116.5	14.9	—	5 160	17.4	—	88.7	6 789
1958	900	—	3.25	11.5	—	120.5	14.4	—	5 227	17.2	—	90.3	6 714
1959	900	—	3.34	11.2	—	120.5	14.4	—	5 520	16.3	—	89.7	7 173
1960	900	—	3.48	10.8	—	123.0	14.1	—	5 835	15.4	—	91.0	7 594
1961	990	—	3.65	11.3	—	129.5	14.7	—	6 354	15.6	—	92.7	8 144
1962	1 080	—	3.93	11.4	—	137.5	15.1	—	6 852	15.8	—	96.7	8 414
1963	1 080	—	4.23	10.6	—	142.3	14.6	—	7 334	14.7	—	**100.0**	8 730
1964	1 500	—	4.59	13.6	—	153.3	18.8	—	7 928	18.9	—	103.1	9 171
1965	1 500	3 000	4.92	12.7	25.4	163.3	17.7	35.3	8 430	17.8	35.6	106.6	9 465
1966	1 500	3 000	5.29	11.8	23.6	168.3	17.1	34.3	8 985	16.7	33.4	111.7	9 644
1967	1 650	3 300	5.76	11.9	23.9	178.3	17.8	35.6	—	—	—	116.1	9 815
1968	1 650	3 300	6.11	11.3	22.5	189.9	16.7	33.4	—	—	—	118.9	—
1969	2 400	3 900	—	—	—	—	—	—	—	—	—	—	—
				(11.4)	**(23.9)**		**(15.3)**	**(34.7)**		**(16.3)**	**(34.5)**		
1955-66	*108.3*	—	*79.3*	—	—	*49.6*	—	—	*91.5*	—	—	*30.3*	*50.9*

[1] Information provided by Dr. Ernst Kaiser, Mathematical Adviser to the Federal Office of Social Insurance, and Mr. I. Tranchet, Federal Office of Social Insurance [2] Source: see footnote 1. Swiss law provides for complementary (means-tested) benefits by the cantonal governments up to the subsistence minimum stated in the law. [3] *ILO Year Book*, p. 530. The ratios reported above are not significantly changed if the (actual) average hours per week (45.5 = 2,366 annually) are used in the computation. [4] The data are collected in October of each year and published in *Die Volkswirtschaft*. Information provided by Dr. L. Heiniger, Federal Office for Industry, Arts and Crafts, and Labour. [5] *Annuaire statistique de la Suisse*, brought up to date by *La vie économique* (Sep. 1967 and 1968 issues). [6] *ILO Year Book*, p. 652.

Turkey

(In Turkish liras)

Year	A Average annual minimum pension [1]	B Average daily earnings in manufacturing [2]	C Ratio (%) A : 300×B	D Hourly minimum wage, adult textile workers (Istanbul) [3]	E Ratio (%) A : 2400×D	F National income per head	G Ratio (%) A : F	H Cost-of-living index [4]	I Cost-of-living index (Ankara) [1] (1955=100)	J GDP per head at factor cost of 1948 for 1955-61, and of 1961 for 1962-69
1955	400	6.80	19.6	0.60	27.8	764	52.3	45.1	**100**	540.0
1956	613	7.87	26.0	0.60	42.6	856	71.6	51.7	103	557.1
1957	720	8.97	26.8	0.60	50.0	1 044	69.0	58.2	117	573.0
1958	720	10.86	22.1	0.60	50.0	1 291	55.8	65.4	141	629.75
1959	1 320	13.17	33.4	0.92	59.8	1 546	85.4	82.4	180	638.03
1960	1 440	14.11	34.0	0.95	63.2	1 612	89.3	86.9	185	636.10
1961	1 440	14.88	32.3	0.99	61.0	1 650	87.3	90.2	186	624.04
1962	1 440	15.73	30.5	1.20	50.0	1 800	80.0	93.5	189	1 815.80
1963	1 440	17.21	27.9	1.30	46.1	2 010	71.6	**100.0**	194	1 902.90
1964	1 700	17.73	32.0	1.50	47.2	2 102	80.9	102.6	197	1 945.10
1965	3 000	20.66	48.4	1.50	83.3	2 194	136.7	107.2	210	1 964.87
1966	3 000	22.66	44.1	1.50	83.3	2 479	121.0	115.7	218	2 112.19
1967	3 000	24.75	40.4	1.50	83.3	2 681	111.9	132.7	234	2 188.93
1968	3 000	—	—	1.50	83.3	—	—	141.0	—	—
1969	3 600 [5]	—	—	—	—	—	—	—	—	—
			(32.1)		**(59.4)**		**(85.6)**			
1955-67	*650.0*	*263.9*	—	*150.0*	—	*250.9*	—	*194.2*	*134.0*	—
1962-67	—	—	—	—	—	—	—	—	—	*20.5*

[1] Information provided by Mr. Nihat Selamoğlu, Director of the Social Security Institute, Ankara. [2] *ILO Year Book*, p. 530. Earnings data include salaried employees. [3] In establishments not providing meals. For source, see footnote 1. [4] *ILO Year Book*, p. 652. [5] Proposed rate.

United Kingdom

(In shillings)

Year	A Average weekly minimum pension [1]		B Average (national assistance) supplementary benefits [1]		C	D	E	F	G	H	I	J	K	L	M
	1 Single	2 Married couples	1 Single	2 Married couples	Average weekly earnings [2]	Ratio (%) A1 : C	Ratio (%) A1+B1 : C	Minimum weekly wages [3]	Ratio (%) A1 : F	Ratio (%) A1+B1 : F	National income per head	Ratio (%) 52×A1 : I	Ratio (%) 52 (A1+B1) : I	Cost-of-living index [4]	Expenditure per head on GNP at 1958 market prices
1955	37.5	61.3	37.2	62.7	231.1	16.2	32.3	120.0	31.2	62.3	6 060	32.2	64.1	79.8	4 310
1956	40.0	65.0	40.0	67.0	245.6	16.3	32.6	135.0	29.6	59.3	6 560	31.7	63.4	83.8	4 373
1957	40.0	65.0	40.0	67.0	261.2	15.3	30.6	135.0	29.6	59.3	6 900	30.1	60.3	86.9	4 439
1958	49.1	78.8	45.0	76.0	265.4	18.5	35.5	141.7	34.7	66.4	7 200	35.4	68.0	89.5	4 414
1959	50.0	80.0	46.7	79.0	281.3	17.7	34.4	141.7	35.3	68.2	7 540	34.5	66.7	90.0	4 562
1960	50.0	80.0	50.0	85.0	303.3	16.5	33.0	147.8	33.8	67.7	7 980	32.6	65.2	90.9	4 754
1961	55.6	89.4	52.9	88.8	317.8	17.5	34.1	150.0	37.1	72.3	8 480	34.1	66.5	94.1	4 884
1962	57.5	92.5	54.8	91.8	326.8	17.6	34.4	158.7	36.2	70.8	8 780	34.2	66.5	98.1	4 874
1963	63.3	102.1	61.5	101.4	345.7	18.3	36.1	158.7	39.9	78.6	9 280	35.5	69.9	**100.0**	5 067
1964	67.5	109.0	63.5	104.5	373.3	18.1	35.1	158.7	42.5	82.5	9 920	35.4	68.7	103.3	5 327
1965	76.9	124.8	73.9	122.0	403.3	19.1	37.4	168.0	45.8	89.8	10 480	38.2	74.8	108.2	5 401
1966	80.0	130.0	80.0	128.3	415.5	19.3	38.5	178.6	44.8	89.6	10 880	38.2	76.5	112.5	5 462
1967	82.5	134.0	91.3	131.5	437.8	18.8	39.7	178.6	46.2	97.3	11 260	38.1	80.3	115.3	5 575
1968	90.0	146.0	96.5	152.3	456.5	19.7	40.9	197.9	45.5	94.2	—	—	—	120.7	—
						(17.8)	**(35.3)**		**(38.0)**	**(75.6)**		**(34.6)**	**(68.5)**		
1955-67	*120.0*	*118.5*	*145.4*	*109.7*	*89.4*	—	—	*48.8*	—	—	*85.8*	—	—	*44.4*	*29.4*

[1] Computed from information provided by Mr. Arthur Patterson, Department of Health and Social Security. [2] *ILO Year Book*, p. 526. Earnings data refer to male adult workers in manufacturing. [3] As a stand-in for minimum wages. Basic weekly wage council rates for male laundry workers are used. Department of Employment and Productivity: *Movements in basic rates of wage earnings and retail prices*, Dec. 1968, No. 27, p. 8. [4] *ILO Year Book*, p. 652.

United States

(In US dollars)

Year	A Monthly minimum old-age benefit, single beneficiary [1]	B Weekly earnings in manufacturing [2]	C Ratio (%) 12×A : 52×B	D Minimum wages per hour [1]	E Ratio (%) 12×A : 2080×D	F National income per head	G Ratio (%) 12×A : F	H Cost-of-living index [3]	I Expenditure per head on GNP at 1963 market prices
1955	30	75.70	9.1	1.00	17.3	2 007	17.9	87.7	2 868
1956	30	78.78	8.8	1.00	17.3	2 089	17.2	88.7	2 869
1957	30	81.59	8.5	1.00	17.3	2 141	16.8	91.9	2 864
1958	30	82.71	8.4	1.00	17.3	2 116	17.0	94.4	2 785
1959	33	88.26	8.6	1.00	19.0	2 263	17.5	95.1	2 902
1960	33	89.72	8.5	1.00	19.0	2 308	17.2	96.6	2 922
1961	35.33	92.34	8.8	1.05	19.4	2 341	18.1	97.7	2 933
1962	40	96.56	9.6	1.15	20.0	2 468	19.4	98.8	3 075
1963	40	99.63	9.3	1.18	19.5	2 562	18.7	**100.0**	3 146
1964	40	102.97	9.0	1.25	18.5	2 712	17.7	101.3	3 269
1965	44	107.53	9.4	1.25	20.3	2 919	18.1	103.0	3 433
1966	44	112.34	9.0	1.25	20.3	3 174	16.6	106.0	3 611
1967	44	114.49	8.9	1.39	18.3	3 305	16.0	109.0	3 666
1968	54	123.30	10.1	1.50	19.7	—	—	113.6	—
			(9.0)		**(18.8)**		**(17.6)**		
1955-67	*46.6*	*51.2* [1]	—	*39.0*	—	*64.7*	—	*24.5*	*27.8*

[1] Information provided by Dr. Max Horlick, International Staff, Social Security Administration. [2] *ILO Year Book*, p. 526. [3] Ibid., p. 650.

Yugoslavia

(In new dinars)

Year	A Monthly minimum pension[1]	B Average monthly earnings[2]	C Ratio (%) A : B	D Monthly minimum wages[3]	E Ratio (%) A : D	F Net material product per head[4]	G Ratio (%) 12×A : F	H Cost-of-living index[5]	I Net income per head at 1960 prices[4]
1955	45.00	100.0	45.0	—	—	799.13	67.6	61.0	1 019
1956	45.00	109.0	41.3	—	—	816.51	66.1	66.0	969
1957	45.00	130.7	34.4	—	—	1 024.13	52.7	67.9	1 178
1958	61.92	136.5	45.4	—	—	1 017.87	73.0	71.4	1 293
1959	67.17	156.2	43.0	—	—	1 245.75	64.7	72.5	1 488
1960	74.33	187.3	39.7	—	—	1 459.62	61.1	79.5	1 565
1961	91.50	218.7	41.8	95	96.3	1 671.41	65.7	86.0	1 634
1962	91.50	228.5	40.0	127	72.0	1 842.65	59.6	94.8	1 683
1963	91.50	280.0	32.7	127	72.0	2 202.47	49.9	**100.0**	1 867
1964	91.50	362.0	25.3	127	72.0	2 898.49	37.9	111.6	2 080
1965	222.62	501.0	44.4	150	148.4	3 773.00	70.8	150.2	2 127
1966	270.65	686.0	39.5	150	180.4	4 646.51	69.9	184.5	2 280
1967	287.86	755.0	38.1	150	191.9	4 735.00	72.9	197.2	—
1968	314.39	802.9	39.2	350	89.8	—	—	210.3	—
			(36.4)		**(115.4)**		**(62.5)**		
1955-66	*501.4*	*586.0*	—	—	—	*481.4*	—	*202.4*	*123.7*
1961-67	*214.6*	*245.2*	—	*57.9*	—	*183.3*	—	*129.3*	—

[1] Information provided by Mr. Žarko Cvejic, Counsellor, Federal Social Security Institute. For 1955 the amount stated represents a true minimum pension. From 1956 on, the amounts stated represent minimum guaranteed incomes, which in turn determine the state payments to be made if the old-age pension resulting from the application of the pension formula and other income does not reach these income ceilings. After 1956 these differential payments depend upon an income test. For the years between 1958 and 1964, ceilings differed for unskilled workers, skilled and semi-professional workers, and professionals and other workers of higher skills and with university degrees. The figures stated above are arithmetic averages. From 1965 to 1968 the six republics established individual rates linked to the respective lowest wage incomes. The figures used here again represent the arithmetic averages. [2] *ILO Year Book*, p. 531. Earnings data refer to manufacturing, mining and quarrying in the socialised sector and include salaried employees. [3] Source: see footnote 1. Between 1962 and 1964 the republics could deviate from this amount by 20 per cent in each direction, from 1965 to 1967 they could reduce this amount by the same percentage. In 1968 the federal standard was set at 300 dinars per month; however the republics could augment this amount. Since Serbia, Montenegro and Macedonia established a 350-dinar minimum, others a 500-dinar minimum, the figure of 350 dinars was used above. [4] National income data, nearly identical with net national product, provided by Dr. Žarko Cvejic (see footnote 1). [5] *ILO Year Book*, p. 652.