

INFLATION, REAL WAGES, AND THE RATE OF SAVING IN THE PHILIPPINES

M. L. TREADGOLD

I

ONE OF THE MOST frequently debated hypotheses about the effects of price level behaviour on economic growth is that of profit inflation. Its proponents argue that inflation shifts income distribution in favour of profits. This shift, it is claimed, stimulates rates of saving and investment, thereby promoting faster economic growth.¹ The main purpose of the present paper is to investigate empirically some aspects of the hypothesis in the context of recent Philippine inflation. In particular, attention will be concentrated on the relationships between inflation, income distribution and the rate of saving.

Before examining the Philippine experience, it may be useful to consider in more detail these latter aspects of the profit inflation hypothesis. The argument (in its simplest form) divides income into two broad groups, wages and profits, where the former includes salaries and the latter includes all forms of property and entrepreneurial income. Abstracting from the possibility that some persons receive both wages and profits, it is assumed that the marginal propensity to save of profit-recipients is greater than the marginal propensity to save of wage-earners, both being measured in real terms. This assumption can be defended on the grounds that, first, profit-recipients tend to have higher incomes than wage-earners (because of the concentration of property ownership in relatively few hands) and that, secondly, the outlets and incentives for saving are greater or at least more evident for profit-recipients than for wage-earners. Supplies of each factor of production are taken as constant in the short run, while total real income is assumed given at a level corresponding to maximum short run physical output. Finally, money wages are treated as being "sticky" or "sluggish" with a tendency during inflation to lag behind or rise at a slower rate than the price level.

It therefore follows that inflation will raise the share of profits in total income. Given the difference in saving behaviour between the two income groups, it also follows that inflation will raise the over-all rate of saving (i.e., the average propensity to save of the economy as a whole).²

¹ It has been argued that profit inflation was a major factor underlying Western European economic development (or, more specifically, industrial development) in the sixteenth, seventeenth and eighteenth centuries. See, in particular, the following papers by Earl J. Hamilton [7] [8] [9]. Support for Hamilton's view is found in John Maynard Keynes [13, pp. 152-63]. For critical appraisals, see John U. Nef [19] and David Felix [6].

² Recent arguments of this type appear in Nicholas Kaldor [11], W. Arthur Lewis [14,

Clearly, a basic element in the above argument is the proposition that during inflation prices rise faster than money wages (with a resulting decline in real wages). Although this proposition may appear to have little empirical basis in the postwar, highly trade-unionized world of industrialized Western nations, it is one which (irrespective of its connection with the over-all profit inflation argument) has long held a place in writings on price level behaviour.³ More recently, it has found a place in discussions of inflation in less developed economies.

However, it is apparent that a price-wage lag is likely to emerge only if inflation is of a type where prices rise independently of labour costs. Such a condition is met if inflation is of the aggregate demand-pull type with the "pull" acting directly on commodity prices rather than through the labour market. On the other hand, for example, if excess demand raises an administered price level through first raising wages and thus labour costs, or if inflation is of a purely autonomous wage-push type, then no lag in money wages should be expected.

It may be argued that the latter types of inflation are more likely to be found in advanced economies than in less developed economies, and that consequently the limitation they impose on the operation of a price-wage lag is likely to be of little significance for less developed economies, one of which will be the concern of this paper. Nevertheless, there remains a further difficulty. The notion of a lag or an inflation-induced decline in real wages appears to have been derived originally from sometimes suspect time series of prices and money wages. Its alleged existence has usually been explained (given the implicit belief that inflation is the result of excess demand acting directly on commodity prices) by the arguments that the labour market suffers from imperfections, such as the influence of custom, employee ignorance of market conditions and the weak bargaining power of workers, or from lack of foresight. (See [12, pp. 44-48].) However, in advancing these explanations, proponents of the lag hypothesis neglect the possibility that the historical declines in real wages under conditions of inflation may have been the result of real forces (e.g., changes in the relative supplies of labour and capital) which were coincidental to but independent of inflation. (Cf. [6, pp. 444-45] [12, pp. 48-59] [2].) Furthermore, even if some inflations did give rise in their early stages to a lag of money wages because of an initial lack of foresight, it can be argued that this lag would be unlikely to have continued over any lengthy period of inflation because of the eventual emergence of expectations of further price rises.⁴

pp. 221-22, 235-36], and Geoffrey Maynard [15, pp. 14-30].

Note that in the above argument profits may be defined more precisely to exclude such forms of property income as rent and interest without necessarily affecting the conclusion of the argument. (See [7, pp. 350-56] and [14, p. 222].)

³ It can be found, for example, in the works of Marshall, W. C. Mitchell, Irving Fisher, Alvin Hansen and Bresciani-Turroni. For bibliographic details, see R. A. Kessell and A. A. Alchian [12].

⁴ In discussions of profit inflation the hypothesis of a price-wage lag usually relates to an economy operating continuously at full employment or full capacity levels of output. However, it is noteworthy that the formal short run Keynesian model of income and employment determination, whose assumptions include a fixed, autonomously determined money wage (as long as unemployment exists), a declining marginal productivity of labour

In addition to the price-wage lag, there is one other aspect of the argument that inflation redistributes income in favour of profits to the benefit of saving which requires consideration. This is a tendency to ignore the role of the public sector.⁵ If the tax structure is such that tax revenues have an elasticity with respect to money income and hence, given real output, with respect to the price level which differs from unity, inflation must result in a shift in the distribution of real income between the private sector and the government. Depending on its effects on real personal consumption and real government current outlays, such a transfer may affect the over-all rate of saving. Moreover, assuming that inflation is accompanied by a price-wage lag, the lag may influence the elasticity of total tax revenue with respect to money income. This may occur, for example, if the lag affects personal income distribution and if there exists a progressive personal income tax structure. Finally, not only may the lag influence the elasticity of tax revenue, and hence the level of real private disposable income, but in turn the tax system may serve (as implied by the above example) to modify or amplify changes in the *relative* distribution of income between wages and profits which are brought about by the price-wage lag. In view of the hypothesized difference between the marginal propensities to save of wage-earners and profit-recipients, total real private saving and the over-all rate of saving can thus also be expected to be influenced by this factor. In all, it appears that in so far as it abstracts from the public sector, the profit inflation argument may considerably over-simplify the possible effects of inflation on saving through induced changes in income distribution.

Bearing in mind these qualifications to the argument, let us now turn to a consideration of its relevance to the Philippines.

II

We choose for analysis the period 1955-67. Our choice rests heavily on the fact that this was a period of virtually continuous inflation in the Philippines. Between 1955 and 1967 the consumer and wholesale price indices for Manila rose at average annual (compound) rates of 3.9 per cent and 4.3 per cent respectively, with the rates of increase of both indices tending to accelerate as the period advanced.⁶ By contrast, in the earlier postwar years prior to 1955 price

(as employment increases) and profit maximization, also implies a price-wage lag whenever the economy portrayed by the model is induced to move from a state of unemployment towards full employment. Specifically, a rise in employment and output requires a fall in the real wage. Given the money wage, this can be achieved only by a rise in the price level (i.e., by a price-wage lag), which, of course, must be in response to an increase in real aggregate demand. (Cf. [1, Chapters XIV and XV] and [12, p. 48n].)

⁵ One exponent of the argument who does explicitly take the public sector into account is [14, p. 222].

⁶ Central Bank of the Philippines [5]. Note that there is no wholesale price index for the whole of the Philippines and although there is a nation-wide consumer price index, this extends back only to 1957. However, there are many precedents for using Manila price movements as indicative of price movements for the economy as a whole. Moreover, this procedure is supported by the fact that since 1957 the Manila consumer price index and

level behaviour was, with the exception of an inflationary interlude at the time of the Korean War boom, deflationary. In passing, it may be noted that by the standards of many less developed countries, the Philippine inflationary experience was a relatively mild one. Nevertheless, its cumulative magnitude was by no means insignificant. Over the chosen twelve year period the price level rose by approximately 60 per cent.

Within this inflationary context the economy achieved considerable growth in aggregate terms. GNP at 1955 prices grew at an average annual rate of 5.4 per cent. Concurrently, however, population increased at the extremely rapid average rate of 3.3 per cent per annum. Per capita GNP at 1955 prices therefore rose at an average annual rate of 2.1 per cent or in total by more than one quarter [18, p. 18].

The role of capital formation in this growth performance will not be investigated in detail in this paper, although clearly for the profit inflation hypothesis to be fully relevant it must be shown that not only did inflation stimulate capital formation but that in addition the higher rates of saving and investment were translated into faster economic growth. Rather, our present concern is with some aspects of the possible relationship between inflation and capital formation. Table I shows gross domestic saving at current prices and gross domestic capital formation at current prices expressed as percentages of GNP at current prices for the years 1952-67. It is apparent that, although the Philippines was a capital importer in most years, domestic saving was the major supplier of resources for investment and that in some years of the period (particularly towards its end) the Philippines exported capital. It is also apparent that the over-all rate of saving rose dramatically. From a low point of 9.4 per cent in 1955 at the beginning of the inflationary period, this rate followed an upward trend to reach levels in excess of 20 per cent from 1963 onwards.

However, because the prices of capital goods increased faster than the general price level over the post-1955 period as a whole,⁷ this measure of the improvement in saving performance overstates the rise in the ratio of real resources made available for physical capital formation by saving to real GNP. A somewhat more reliable guide to the latter is obtained by expressing gross domestic saving deflated by the national accounts implicit price deflator for gross domestic capital formation (1955 = 100) as a percentage of GNP at 1955 prices. The real rate of saving, so measured, rose from 9.4 per cent in the base year 1955 to levels between only 16 and 20 per cent in the years 1963-67. Nevertheless this rise was still a substantial one. Between 1955 and 1963 it involved a 2.8 fold increase in the absolute level of real gross domestic saving, as estimated by the above deflating procedure, compared with a 1.5 fold increase in real GNP.

Our primary concern is an examination of the hypothesis that the Philippine

the consumer price index for the whole of the Philippines have moved together very closely.

⁷ The rise in the relative price of capital goods reflected a rise in the relative price of durable equipment which consisted almost entirely of imported and import-competing products. The devaluation of the peso in the early 1960s, which raised the price of foreign exchange by as much as 95 per cent, contributed greatly to this phenomenon.

TABLE I
 RATES OF GROSS DOMESTIC SAVING AND GROSS
 DOMESTIC CAPITAL FORMATION AT
 CURRENT PRICES, 1952-67

(per cent)

Year	Gross Domestic Saving	Gross Domestic Capital Formation
	GNP	GNP
1952	11.2	11.6
1953	12.7	13.4
1954	11.3	12.7
1955	9.4	12.3
1956	12.3	12.9
1957	11.5	14.3
1958	12.9	13.6
1959	15.4	14.5
1960	14.3	13.4
1961	17.2	18.9
1962	13.0	19.6
1963	21.6	20.8
1964	21.5	22.8
1965	22.4	22.1
1966	24.4	21.5
1967	20.8	21.7

Source: [18].

inflation contributed to the rise in the rate of saving by causing a redistribution of income away from wage-earners towards the recipients of entrepreneurial and property income. (Henceforth we shall refer to the latter types of income simply as "profits.") It is clear from the general discussion of the hypothesis conducted above that the existence of a public sector may be a complicating feature in its operation. Therefore, as a first step, let us consider the contribution of the public sector to Philippine saving.

Table II shows public sector or government saving as a proportion of gross domestic saving at current prices and also as a proportion of GNP at current prices. It can be seen that throughout the inflationary period 1955-67 the public sector's share of total saving was relatively small, ranging from a minimum of 2.8 per cent to a maximum of only 18.0 per cent. As a proportion of GNP at current prices government saving exceeded 2.0 per cent in only one year and in several years it fell short of 1.0 per cent. Perhaps analytically more significant is the tendency for the proportion of total saving generated by the public sector to fall over time. Under certain assumptions it could be argued that this declining trend was indicative of a tendency for inflation to redistribute income (relatively) away from the public sector towards the private sector as a result (for example) of a tax structure which was regressive with respect to money income and ex-

TABLE II
GOVERNMENT SAVING AS A PERCENTAGE OF GROSS
DOMESTIC SAVING AT CURRENT PRICES AND A
PERCENTAGE OF GNP AT CURRENT PRICES, 1955-67

Year	Govt. Saving as % of Gross Domestic Saving	Govt. Saving as % of GNP
1955	16.3	1.5
1956	18.0	2.2
1957	16.8	1.9
1958	9.1	1.2
1959	8.2	1.3
1960	12.2	1.7
1961	7.6	1.3
1962	11.1	1.5
1963	4.0	0.9
1964	5.2	1.1
1965	3.5	0.8
1966	2.8	0.7
1967	4.8	1.0

Source: As for Table I.

penditure. However, other evidence fails to substantiate this argument. Specifically, if inflation had successfully redistributed income towards the private sector, there should have been a noticeable rise over time in private disposable income expressed as a percentage of total Philippine income (defined as GNP plus current transfers from abroad). In fact, this percentage remained virtually constant at about 90 per cent throughout the period 1955-67, thereby suggesting either that inflation had no important redistributive effect on the distribution of income between the public and private sectors or that, if it did, the effect was offset by other forces such as changes in tax rates and structure or transfers from abroad.

For this reason and also because it is apparent from Table II that the rise in the over-all rate of saving was the result of an increase in private saving, attention will be concentrated on the impact of inflation on the rate of private saving, which we define as gross private saving expressed as a percentage of gross private disposable income. Table III shows that from relatively low levels of 8 to 13 per cent in the mid-fifties this rate followed an upward trend during the subsequent inflationary decade with a peak value of 25.9 per cent in 1966.⁸

For the price-wage lag hypothesis (and the assumptions inherent in it) to have even potential relevance to an explanation of this rise in the private saving rate,

⁸ Note that although these estimates of the rate of private saving are calculated from current price data, they are necessarily equivalent to rates of private saving at constant prices, *provided* that the latter rates are taken to refer to the ratios of real consumption forgone by saving to the real consumer purchasing power of income. This follows because to obtain such ratios the money aggregates of private saving and private income must both be deflated by a common index of consumer prices.

Note also that shortcomings in the national accounts estimating techniques preclude any use being made of the published breakdown of private saving into its personal and corporate components. (See [18, p. 24].)

TABLE III
THE RATE OF PRIVATE SAVING, 1952-67

Year	Gross Private Saving as % of Gross Private Disposable Income
1952	10.2
1953	12.7
1954	10.9
1955	8.6
1956	11.1
1957	10.5
1958	12.8
1959	15.4
1960	13.8
1961	17.3
1962	12.7
1963	22.6
1964	22.2
1965	23.5
1966	25.9
1967	21.5

Source: As for Table I.

it is necessary that two pre-conditions should have been fulfilled. First, the proportion of total income accruing to money wage-earners should have been initially of some significant size. Unless this were so, changes in that proportion, even radical ones, would have been unlikely to have had any noticeable impact on the rate of private saving. In those less developed economies which are overwhelmingly dominated by a subsistence agriculture sector, this pre-condition would not be met. However, in the Philippines it does appear to have been fulfilled. For 1961, the only year for which we have data (a shortcoming we refer to again below), the share of wages and salaries in total net factor income originating in the economy amounted to 48.8 per cent [16, p. 23]. Admittedly, part of these wages and salaries took the form of payment in kind (under which circumstances an inflation-induced price-wage lag is necessarily precluded), but this occurred mainly in the agricultural sector, a sector whose output never accounted for more than about 35 per cent of net domestic product in any of the years 1955-67. For the economy as a whole in 1961 only about 4.8 per cent of total wages and salaries received by persons living in families took the form of non-cash payments [3, Table 16, p. 13].

The second pre-condition, one which has already been discussed in general terms, is that prices should have risen independently of labour costs. Although no attempt will be made here to examine the causes and mechanisms of Philippine inflation, other work suggests that this pre-condition was also met. In particular, it has been argued elsewhere that the post-1955 inflation resulted largely from a combination of excess demand acting directly on prices (albeit in a manner which was to some extent sectorally concentrated) and the direct impact-effect

TABLE IV
INDICES OF PRICES AND MONEY WAGES, 1952-67
(1955=100)

Year	Indices of Manila Prices		Money Wage Rate Indices in Manila Industrial Establishments	
	Wholesale	Consumer	Unskilled Labourers	Skilled Labourers
1952	109.4	106.1	95.6	97.4
1953	108.3	102.5	98.3	99.5
1954	102.7	101.0	97.1	100.0
1955	100.0	100.0	100.0	100.0
1956	103.1	102.7	101.5	100.3
1957	107.6	104.5	100.4	100.0
1958	111.2	108.0	101.0	103.5
1959	112.7	107.0	101.8	105.3
1960	117.4	111.5	101.9	105.1
1961	123.2	113.2	104.4	104.8
1962	129.4	119.8	107.5	106.1
1963	142.0	126.5	113.4	109.3
1964	148.6	136.9	114.4	111.2
1965	151.9	140.4	122.5	114.4
1966	158.5	149.1	131.4	120.1
1967	165.9	157.6	137.6	125.7

Source: [5].

of devaluation [22].

Turning now to a direct consideration of the evidence in favour of the price-wage lag hypothesis, the first step is to compare movements in prices and money wages. Table IV shows the indices of wholesale and consumer prices and the indices of money wage rates for unskilled and skilled labourers in industrial establishments in Manila and suburbs (1955 = 100). Treating the wage rate indices as proxies for money wages generally, it is clear that over the inflationary period 1955-67 as a whole prices rose considerably faster than money wages. It is also clear, however, that within this period the tendency for prices to rise faster than wages was concentrated mainly within the years 1955-64.

Several more precise measures of the price-wage lag can be obtained by expressing each of the two price indices as a ratio of each of the wage indices on a base of 1955 = 100. This has been done in Table V. It can be seen that starting in 1955 at the beginning of the inflationary period the ratio of the wholesale price index to the index of wage rates for unskilled labourers rose year by year until 1964, by which time it was 29.9 per cent above its 1955 level. Thereafter the ratio fell somewhat, although wholesale prices continued to rise absolutely. The ratio of the wholesale price index to the index of wage rates for skilled labourers showed similar behaviour, although in this case its upward path prior to 1964 was temporarily interrupted in 1957-59 (when the wage rate index rose faster than the price index) and its 1964 peak was as much as 33.6 per cent above its 1955 level.

TABLE V
PRICE-WAGE RATIOS, 1952-67

(1955=100)

Year	$\frac{P_w}{W_u}$	$\frac{P_w}{W_s}$	$\frac{P_c}{W_u}$	$\frac{P_c}{W_s}$
1952	113.9	112.3	111.2	109.1
1953	110.5	108.8	104.4	103.1
1954	105.7	102.7	104.0	101.0
1955	100.0	100.0	100.0	100.0
1956	101.6	102.8	101.2	102.4
1957	107.2	107.6	104.2	104.5
1958	110.1	107.4	106.9	104.3
1959	110.7	107.0	105.1	101.6
1960	115.2	111.7	109.4	106.1
1961	118.0	117.6	108.4	108.0
1962	120.4	122.0	111.4	112.9
1963	125.2	129.9	111.6	115.7
1964	129.9	133.6	119.7	123.1
1965	124.0	132.8	114.6	122.7
1966	120.6	132.0	113.5	124.1
1967	120.5	132.0	114.5	125.4

Source: See Table IV.

Notes: P_w refers to the Manila Wholesale Price Index (1955=100).

P_c refers to the Manila Consumer Price Index (1955=100).

W_u refers to the Index of Money Wage Rates for Unskilled Labourers in Industrial Establishments in Manila and Suburbs (1955=100).

W_s refers to the Index of Money Wage Rates for Skilled Labourers in Industrial Establishments in Manila and Suburbs (1955=100).

Since consumer prices did not rise as rapidly as wholesale prices in the period 1955-64, the ratios of the consumer price index to the indices of wage rates for unskilled and skilled labourers did not rise as rapidly in this period as the corresponding ratios involving the wholesale price index. Nevertheless, they still increased substantially, by 19.7 and 23.1 per cent respectively. Moreover, between 1964 and 1967 consumer prices rose sufficiently faster than wholesale prices to bring some further slight rise in the ratio of the consumer price index to the index of wage rates for skilled labourers. Of course, these ratios involving consumer prices are the inverses of indices of real wages. They imply that between 1955 and 1964 real wages for unskilled and skilled labour fell by as much as 16.4 and 18.8 per cent respectively, and that between 1964 and 1967 real wages for skilled labour fell a further 1.7 per cent.

So far the data we have presented are consistent (at least up to 1964) with the general hypothesis under investigation. The next two steps should in principle be, first, an examination of the effect which the rise in the price-wage ratio had on the distribution of income and, second, an examination of the effect which changes in this distribution had on the rate of private saving. Unfortunately, both these steps are precluded by data deficiencies of which the most important is an

TABLE VI
 INDEX OF AVERAGE MONTHLY EARNINGS OF WAGE-EARNERS IN SELECTED NON-
 AGRICULTURAL INDUSTRIES AND ALTERNATIVE PRICE-WAGE RATIOS, 1952-67
 (1955=100)

Year	Index of Average Monthly Earnings	$\frac{P_w}{E}$	$\frac{P_c}{E}$
1952	90.3	120.6	117.7
1953	92.4	117.5	111.0
1954	97.2	105.6	103.9
1955	100.0	100.0	100.0
1956	101.4	101.7	101.3
1957	104.9	102.6	99.6
1958	105.9	105.0	102.0
1959	110.4	102.1	96.9
1960	116.9	100.4	95.4
1961	117.2	105.1	96.6
1962	119.0	108.7	100.7
1963	120.2	118.1	105.2
1964	125.6	118.3	109.0
1965	133.0	114.2	105.6
1966	146.8	108.0	101.6
1967	155.4	106.8	101.4

Source: [5].

Notes: P_w and P_c are defined in the notes to Table V.

E refers to the Index of Average Monthly Earnings of Wage Earners in Selected Non-Agricultural Industries (1955=100). (See second column above.)

absence of direct, reliable information (except for 1961) on the division of total income into wages and profits.⁹ In fact, the only reasonably reliable data on income distribution for the economy as a whole that cover more than one year relate to family income distribution among income classes rather than factor income distribution. Moreover, these data (which were obtained from nationwide sample surveys) exist only for 1956-57, 1961, and 1965. Admittedly, they suggest that family income distribution was somewhat more unequal in 1965 than in 1956-57 (although almost all the intervening increase in inequality seems to have occurred between 1956-57 and 1961).¹⁰ This change in distribution is consistent with a rise in the profit share of private factor income brought about, at least in part, by a price-wage lag, provided that it is accepted that profit-recipients tended to be concentrated among families at the upper end of the family income scale. In addition, it is noteworthy that the increase in inequality

⁹ The new, revised Philippine national accounts for 1946-67 do not supply estimates of this division. The old accounts, issued prior to 1967, do supply estimates but the methodology employed to obtain them is totally inadequate. Essentially, it involves an extrapolation technique which assumes that relative factor shares did not change over time. (See [17, pp. 27-28].) The only other available estimate of factor shares comes from the Input-Output Tables for 1961 which were obtained largely from the results of the economic census of that year.

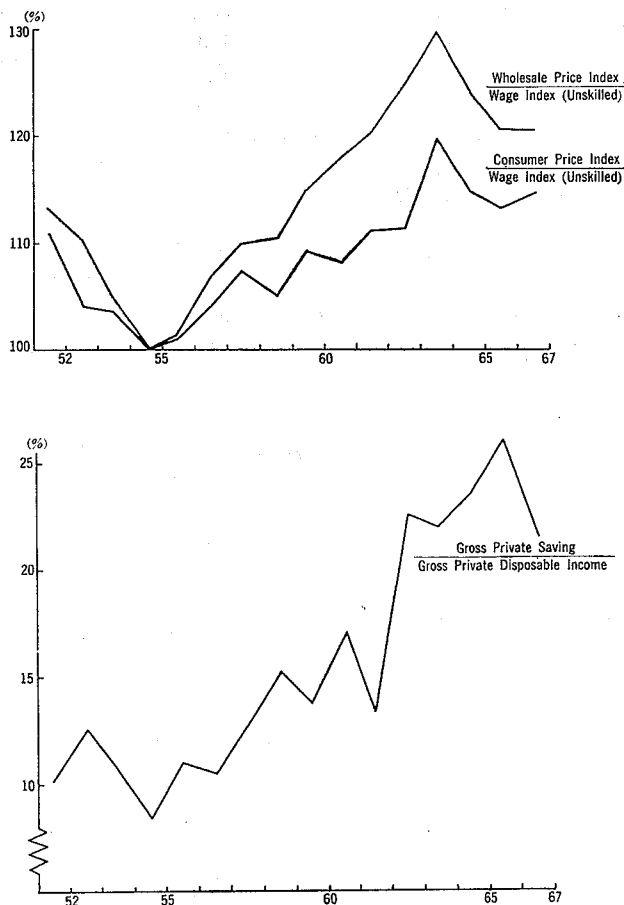
¹⁰ For a quantitative measurement of the increase in inequality between 1956-57 and 1961, see Peregrino S. Reyes and Teresita L. Chan [20, p. 32].

coincided with a rise in the rate of private saving. However, such chronologically limited, indirect information is far from sufficient.

Therefore, in attempting to assess the impact of the rise in the price-wage ratio (i.e., the price-wage lag) on the rate of private saving, we must resort to making a direct comparison of these two variables over time. According to our original, highly abstract version of the hypothesis under investigation (which treated output and employment as constant and which ignored the public sector), there should be a positive relationship between them. In practice, however, the relationship—even if it exists—may be obscured or complicated by numerous factors which include changes in total real income per capita (which in turn embrace, *inter alia*, the possibility that changes in labour productivity may offset or reinforce the effect of changes in price-wage ratios on distribution) and the impact of the taxing and redistributive powers of the public sector (though, as has been seen, there are grounds for discounting the importance of this factor in the Philippines).

Despite the likelihood of such complications, it can be seen from Figure 1

Fig. 1. Price-Wage Ratios and Rates of Private Saving, 1952-67



that there was considerable similarity in the direction of movement of price-wage ratios (as measured by the ratio of the wholesale price index to the money wage index for unskilled labourers and the ratio of the consumer price index also to the money wage index for unskilled labourers)¹¹ on the one hand and the rate of private saving on the other. After experiencing net falls in the deflationary period from 1952 to 1955, both sets of data showed substantial net rises over the inflationary period 1955-67. Admittedly, these movements by no means corresponded exactly. Two examples suffice to illustrate this. First, price-wage ratios rose noticeably from 1961 to 1962, but the rate of private saving fell sharply. Second, between 1963 and 1964 price-wage ratios rose to their peak values, but the rate of saving again fell. In fact, the latter did not attain its peak until 1966 by which year price-wage ratios had been falling for two years. Nevertheless, taking a longer run view, the data suggest that the rate of private saving tended to vary positively with price-wage ratios. Therefore, since the latter ratios themselves tended to rise with the price level after 1955, it can be argued that there exists at least a *prima facie* case in favour of the hypothesis that inflation helped to raise the rate of saving by shifting income distribution away from wages towards profits.

III

The most obvious deficiency in the above case is the failure to show explicitly the income distribution link between the price-wage lag and the rise in the rate of saving. However, in addition, various criticisms may be made in connection with the limited evidence which has been presented.

In this respect attention has already been drawn to the fact that the price-wage lag, as it has been measured, was largely confined to the inflationary period from 1955 to 1964. Over the subsequent period 1964-67 the wage rate index for unskilled workers in industrial establishments rose faster than both the wholesale and consumer price indices, while the wage rate index for skilled workers, although it still lagged relatively to the consumer price index, rose faster than the wholesale price index. This tendency for the price-wage lag to disappear in the later years of the study obviously limits the possible relevance of the hypothesis under examination. However, it is possible to interpret the tendency to some extent as a reaction to an exogenous policy disturbance in the absence of which the lag would have continued. This disturbance was the Minimum Wage Law of April 21, 1965 (Republic Act No. 4180) which raised the legal minimum daily wage for most non-agricultural workers from 4.00 pesos to 6.00 pesos. The implementation of this law probably accounted for a considerable part of the post-1964 acceleration in the rate of increase of the money wage indices (particularly that for unskilled workers) and thus for much of the disappearance of the price-wage lag.

¹¹ The wage rate index for unskilled labourers is used here in preference to that for skilled labourers because it is possibly more representative of wage movements throughout the economy.

This examination of the behaviour of the money wage indices raises, however, a further point. So far the evidence that has been presented on wage movements relates to daily money wage *rates* rather than money wage *earnings*. We have followed this procedure because the actual rate at which labour is hired measures directly the price of labour services. It is the behaviour of this price relative to the behaviour of the prices of commodities which is relevant to establishing the existence or non-existence of a price-wage lag. However, in addition to indices of daily wage rates, there exists an index of average monthly earnings for all classes of wage-earners in a number of non-agricultural industries (mining and quarrying, manufacturing, public utilities, commerce, and transport and communications) throughout the Philippines. Apart from its wider coverage of workers, this index differs from the industrial wage rate indices employed above because movements in it may reflect not only changes in standard money wage rates but also variations in factors such as overtime and part-time work, stoppages, labour turnover and absenteeism. Since these latter variations involve essentially variations in labour time-inputs, the index is not (in principle) a reliable guide to movements in the price of labour. It must necessarily capture, in addition to these movements, some fluctuations in the volume of employment of labour services.

Nevertheless, to the extent that such fluctuations are largely self-cancelling within individual years, this earnings index may possibly be a better guide to wage rate movements in the economy as a whole than the above wage rate indices because of its wider coverage of workers, both geographically and in terms of industrial sectors and labour skills. Accordingly, in Table VI it is used in the calculation of two new sets of price-wage ratios for the period 1952-67. Since the index of average monthly earnings rose faster than the indices of money wage rates for skilled and unskilled workers in Manila industrial establishments over the post-1955 inflationary period, it follows that these new price-wage ratios did not rise by as much as the price-wage ratios of Table V over the same period. In fact, the increases in the new price-wage ratios occurred largely between 1960 and 1964. After 1964 the new ratios declined to levels in 1967 which were only marginally above those in 1955. It can be argued therefore, that if the earnings index is accepted as a more reliable guide to wage movements than the wage rate indices, then the probable relevance of the over-all hypothesis under investigation is diminished significantly.

The evidence supporting the hypothesis can also be attacked from the viewpoint of the composition of price level movements. The inflation of the period 1955-67 was dominated by price increases in food and agricultural products. According to the consumer price index, food prices rose not only absolutely but relatively to other consumer prices throughout most of this period. By 1967 the food component of the index was 90.6 per cent above its 1955 level, while the non-food component was only 27.9 per cent above its 1955 level. Similarly, the component of the wholesale price index covering domestically produced agricultural products (which includes agricultural export products as well as domestically produced and consumed food and raw materials) increased by 85.5 per

cent between 1955 and 1967 compared with an over-all weighted average increase in the remaining components of the index of 49.3 per cent. Moreover, if the imported products component is excluded from these latter components,¹² it is found that non-agricultural wholesale prices rose by only 40.7 per cent.

This skewed pattern of price increases suggests that any tendency for inflation to be accompanied by increasing price-wage ratios was mainly a reflection of the rise in agricultural prices. Thus, irrespective of whether we rely on the non-agricultural earnings index or one of the industrial wage rate indices as a guide to wage movements, it appears that these prices rose faster than wages between 1955 and 1967. On the other hand, it can be seen from Table VII that there is little evidence of the prices of non-agricultural output rising faster than money wages. This table shows price-wage ratios involving, on the one hand, the non-food component of the consumer price index and the domestically produced non-agricultural products component of the wholesale price index and, on the other hand, the indices of wage rates for unskilled industrial workers and average monthly earnings of wage-earners. Of these four ratios, three fell over the period 1955-67 as a whole, the only exception being the ratio of the domestically

TABLE VII
PRICE-WAGE RATIOS FOR THE NON-AGRICULTURAL SECTOR, 1955-67
(1955=100)

Year	$\frac{P_{cn}}{W_u}$	$\frac{P_{cn}}{E}$	$\frac{P_{wn}}{W_u}$	$\frac{P_{wn}}{E}$
1955	100.0	100.0	100.0	100.0
1956	100.7	100.8	100.8	100.9
1957	102.0	97.6	103.6	99.1
1958	102.2	97.5	104.8	99.9
1959	103.6	95.6	108.2	99.7
1960	105.4	91.9	110.6	96.4
1961	103.6	92.3	111.8	99.6
1962	104.6	94.5	113.0	102.1
1963	100.5	94.8	112.0	105.7
1964	102.6	93.5	114.1	103.9
1965	99.2	91.4	109.9	101.2
1966	94.7	84.8	104.7	93.7
1967	93.0	82.3	102.3	90.5

Source: [5] and [4].

Notes: P_{cn} refers to the non-food component of the Manila Consumer Price Index (1955=100).

P_{wn} refers to the domestically produced non-agricultural products component of the Manila Wholesale Price Index.

W_u and E are defined in the notes to Tables V and VI respectively.

¹² Over the period 1955-67 the imported products component of the wholesale price index increased by 73.5 per cent. In the first five years of this period it rose largely as a result of the shortages created by quantitative import restrictions. The devaluation which was associated with the dismantling of these restrictions contributed greatly to the subsequent increase in it.

produced non-agricultural products component of the wholesale price index to the index of wage rates for unskilled workers, which showed a very small net increase. Also, within this period, it was only the latter ratio which showed any noticeable shorter term rise. This involved a peak of 114.1 in 1964.

It is therefore unlikely that there was any significant *inflation-induced* tendency for the share of profits in income originating in the non-agriculture sector to rise. Indeed, it is possible that the disparate rates of increase of prices worked towards reducing the share of profits. Thus the fact that the prices of inputs of intermediate goods purchased by the non-agricultural sector from the agricultural sector and from abroad rose faster than the prices of non-agricultural goods and services would have tended to reduce the share of non-agricultural value added in the gross value of production of non-agricultural goods and services. Given a tendency for wages to have risen about as fast as the prices of the latter goods and services and hence, *ceteris paribus*, for the share of wages in the gross value of production to have remained constant, a declining share of non-agricultural value added in this gross value of production would necessarily have implied a rising share of wages in non-agricultural value added, i.e., a declining share of profits.¹³

In summary, this closer examination of price and wage movements indicates that wages may not have lagged as much behind the increasing *average* price level as originally suggested, and that sharp differences in the rates of increase of agricultural and non-agricultural prices ensured that the lag which did emerge occurred to a significant degree only in relation to the former prices.

The first of these points implies that any relative redistribution of income between total wages and total profits which may have been directly caused by the inflation could have been considerably smaller than appeared possible from the initial data. Consequently, even assuming that there was a substantial difference between the factoral saving propensities, the contribution of such a redistribution to the rise in the rate of private saving could have been quite minor.

The second point implies that any inflation-induced redistribution of income from wages to profits would have been more or less solely to the benefit of agricultural profit-recipients who consisted largely of landlords and tenant farmers. In fact, this group would not only have gained from wage-earners but also from non-agricultural profit-recipients who lost as a result of the change in the intersectoral terms of trade implied by the difference in the rates of increase of agricultural and non-agricultural prices. Unless the marginal propensity to save of

¹³ However, the share of profits in the only part of the non-agricultural sector (and indeed of the whole economy) for which we have sufficient data to make inter-temporal comparisons, namely manufacturing establishments employing five or more persons, did not in fact decline. In these establishments the share of profits in gross value added (where profits are defined broadly as gross value added less total payrolls) rose from 67.5 per cent in 1956 to 77.3 per cent in 1963. This rise occurred because there was a very substantial increase in labour productivity which more than offset the above tendency of price and wage movements to reduce the share of profits. (These estimates of profit shares are taken from George L. Hicks and Geoffrey McNicoli [10, p.201]. The original sources of data are the *Annual Surveys of Manufactures* conducted by the Philippine Bureau of the Census and Statistics.)

agricultural profit-recipients was greater than that of non-agricultural profit-recipients (a proposition which we cannot verify directly and which is at least contrary to the "conventional wisdom" on this subject), such a change seems unlikely to have contributed to the increase in the rate of private saving.

IV

There remains for consideration the possibility that whatever the magnitude of the decline in real wages implicit in the price-wage lag (which, however measured, appears to have largely come to an end in 1964), this decline may not have been merely inflation-induced but instead may have been directly the result of more fundamental, real forces.

A strong argument can be advanced in favour of real forces as the cause of the decline in real wages. It is an argument which is consistent with the fact that inflation was a vehicle for the change in the inter-sectoral terms of trade. Let us first consider the reason for this phenomenon. The period 1955-64 was one of sizable economic growth for the Philippines. Growth was, however, concentrated on the non-agricultural sector and on manufacturing in particular. Agricultural production per head of population remained virtually constant with the share of agriculture in net domestic product at 1955 factor cost falling from 34.8 per cent in 1955 to 29.8 per cent in 1964.¹⁴ This unbalanced growth performance explains the movement of the inter-sectoral terms of trade in favour of agriculture. It led (independently of the state of aggregate demand) to a growth in the demand for food and for imported raw materials and capital goods which was not matched by the growth in the agricultural sector's supply of food for domestic consumption and of exports (to pay for such imports). Consequently, the prices of these products rose relatively to other prices. In the case of food, the domestic price of which was largely insulated from movements in foreign food prices, the rise was the direct result of the imbalance between supply and demand. In the case of exportables, it resulted from devaluation brought about (at least in part) by a worsening balance of payments situation. In the generally inflationary context which prevailed these relative price rises took the form of absolute price increases which were proportionately greater than the absolute price increases experienced by other commodities.

The failure of money wages to rise proportionately with the increase in the average price level can be explained by the fact that coincidentally with the movement in the inter-sectoral terms of trade the supply of labour was increasing very rapidly. Between May 1957 and May 1964 the workforce grew at an average annual rate of 3.43 per cent.¹⁵ It can be suggested that in the lagging agricultural sector the growing labour supply, in conjunction with the more slowly increasing supply of cultivable land (the land-labour ratio is estimated to have fallen by 10.2 per cent between 1956 and 1966) [10, p. 217] and low rates of technical

¹⁴ Note that the agricultural sector is defined here to include fishing and forestry.

¹⁵ This estimate was made by Theodore K. Ruprecht [21, p. 297]. It is derived from trend values rather than actual workforce figures.

progress and capital formation, forced down marginal labour productivity, and that this was reflected in a decline in real agricultural wages, measured not only in terms of agricultural products but also in terms of consumer purchasing power generally. The decline, which spread throughout the economy, was not prevented by a sufficient growth in the expanding, modern manufacturing sector's demand for labour. The growth in this demand, it can be argued, was retarded by increasingly capital-intensive techniques of production.¹⁶ Although there is no evidence that rates of over-all unemployment and underemployment rose,¹⁷ this can be explained by the argument that surplus labour was mainly absorbed at lower real wages into the traditional sectors of agriculture, commerce and other services.

If we accept this explanation of the decline in real wages, it follows that inflation *per se* cannot have caused a price-wage lag and hence cannot have contributed to the rise in the rate of saving through such a lag changing the distribution of income between wages and profits. Nevertheless, despite the lack of direct data on factor income distribution for the economy as a whole, the fragmentary evidence to which reference has been made does suggest that there may still have been a shift in income distribution towards profits. This evidence is supported by the fact that, while real wages fell (at least to a small extent), total real income per capita rose substantially. In particular, between 1953-57 and 1963-67 average annual real private disposal income per capita increased by 25.2 per cent.¹⁸ This increase reflected the expansion in real output per capita.

It is noteworthy that even in the absence of changes in income distribution, growth in income per capita alone would probably be capable of explaining a considerable part of the rise in the rate of private saving, provided that we accept the existence of Keynesian saving functions in which the per capita marginal propensities to save were significantly greater than the average propensities to save.

However, because real wages failed to rise with the growth in total income per capita, the impact of this growth on the rate of private saving is likely to have been intensified greatly. Specifically, if we accept the hypothesized difference in factoral marginal propensities to save, then the fact that profit-recipients were probably the only income-earners likely to have benefited from this growth points to the likelihood of an especially strong boost to private saving.

Of course, growth in per capita income and an associated shift in the relative distribution of income must be classed only among the proximate determinants of the rise in the rate of saving. They in turn had their origins, it may be argued, not in profit inflation, but in real forces including those responsible for the rapid development of an increasingly capital-intensive manufacturing sector and the

¹⁶ According to data presented by Hicks and McNicoll [10, p. 196], the capital-labour ratio in manufacturing increased by 27 per cent between 1955 and 1964.

¹⁷ In fact, household survey data suggest that, if anything, the rate of unemployment declined.

¹⁸ Real private disposable income per capita is here measured as gross private disposable income per capita at current prices deflated by the Manila Consumer Price Index (1955=100).

limited decline in real wages. However, to delve further into these areas is beyond the scope of this paper.

V

To sum up, it can be said initially that there is some superficial evidence to suggest that inflation raised the rate of saving in the Philippines through causing a decline in real wages and a resulting redistribution of income in favour of profits. However, further investigation reveals, first, that this evidence may have overstated the decline in real wages and, second, that the decline that did occur can be explained satisfactorily in terms of real or non-monetary forces. Thus, although it appears that a change in income distribution may still have been one of the immediate forces responsible for the rise in the rate of saving, there are no definite grounds for attributing in any degree such a change to the mere occurrence of inflation. We therefore conclude that the case for inflation having raised the rate of saving by means of the profit inflation mechanism is at best unproven and at worst erroneous.

REFERENCES

1. ACKLEY, G. *Macroeconomic Theory* (New York: Macmillan, 1961).
2. BROWN, E. H. P., and HOPKINS, S. V. "Wage Rates and Prices: Evidence for Population Pressure in the Sixteenth Century," *Economica*, n.s. Vol. 24 (1957), pp. 289-306.
3. Bureau of the Census and Statistics. "Family Income and Expenditures, 1961," *Philippine Statistical Survey of Households Bulletin*, Series No. 14.
4. Central Bank of the Philippines. *Central Bank News Digest*, Vol. 21, No. 5 (January 28, 1969).
5. ————. *Statistical Bulletin*, Vol. 19, No. 4 (December 1967).
6. FELIX, D. "Profit Inflation and Industrial Growth: The Historic Record and Contemporary Analogies," *Quarterly Journal of Economics*, Vol. 70 (1956), pp. 441-63.
7. HAMILTON, E. J. "American Treasure and the Rise of Capitalism (1500-1700)," *Economica*, Vol. 9 (1929), pp. 338-57.
8. ————. "Profit Inflation and the Industrial Revolution, 1751-1800," *Quarterly Journal of Economics*, Vol. 56 (1941-42), pp. 256-73.
9. ————. "Prices as a Factor in Business Growth," *Journal of Economic History*, Vol. 12 (1952), pp. 325-49.
10. HICKS, G. L., and McNICOLL, G. "Foreign Trade and the Dual Economy: A Study of the Philippines, 1950-66," mimeographed (Washington, D.C.: National Planning Association, 1968).
11. KALDOR, N. "Alternative Theories of Distribution," *Review of Economic Studies*, Vol. 23 (1955-56), pp. 83-100.
12. KESSELL, R. A., and ALCHIAN, A. A. "The Meaning and Validity of the Inflation-Induced Lag of Wages behind Prices," *American Economic Review*, Vol. 50 (1960), pp. 41-66.
13. KEYNES, J. M. *A Treatise on Money*, Vol. 2 (London: Macmillan, 1930).
14. LEWIS, W. A. *The Theory of Economic Growth* (London: George Allen and Unwin, 1955).
15. MAYNARD, G. *Economic Development and the Price Level* (London: Macmillan, 1962).
16. National Economic Council (Office of Statistical Coordination and Standards). *The 1961 Interindustry (Input-Output) Accounts of the Philippines* (Manila: Bureau of Printing, 1969).
17. ————. *Statistical Reporter*, Vol. 8, No. 2 (April-June 1964).
18. ————. *Statistical Reporter*, Vol. 13, No. 1 (January-March 1969).

19. NEF, J. U. "Prices and Industrial Capitalism in France and England, 1540-1640," *Economic History Review*, Vol. 7 (1936-37), pp. 155-85.
20. REYES, P. S., and CHAN, T. L. "Family Income Distribution in the Philippines," *Statistical Reporter*, Vol. 9, No. 2 (April-June 1965).
21. RUPRECHT, T. K. "Labour Absorption Problems and Economic Development in the Philippines," *Philippine Economic Journal*, Vol. 5 (Second Semester 1966).
22. TREADGOLD, M. L. "Economic Growth and the Price Level in the Philippines, 1946-65" (Ph. D. thesis, Austrarian National University, July 1969).