Chapter 9

Forecasting Retail Prices 1956-1974 [1]

by

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This chapter presents an analysis of the relationship between retail prices and costs and also a forecast of price changes in 1974.

I Analysis of Retail Prices

1. The Retail Price Index (RPI) covers a heterogeneous collection of items purchased by most households. The majority are manufactured goods the supply of which is flexible in the short-run. Other items such as fresh food have an inelastic supply in the short-run and can experience relatively large fluctuations of price in response to changes in demand while items such as rents and rates or the prices of nationalised industries are strongly influenced by central government policy. In this study, cost-determined (C-D) prices, which consist mainly of manufactured goods and account for about three-quarters of the RPI, are treated separately from seasonal food, housing and the prices of nationalised industries. The C-D items are to be explained in terms of the hypothesis that firms set a mark-up, which is stable in the short-run, over normal unit prime costs, that is, the unit costs at some normal level of capacity utilisation. This implies that prices so determined are reasonably robust to short-term reversible changes in demand.

2. Most taxes on consumption are levied at the wholesale stage, but for this exercise we have treated indirect taxes as a unit cost together with labour costs and import prices [2]. The labour term is not actual unit labour cost, which would fluctuate with the cycle of demand, but normal unit labour cost. It is well-established that cost-determined prices usually respond with a lag to changes in costs; lags can occur for a variety of reasons and are mainly physical lags such as in production or transport, adjustment and behavioural lags. We have attempted to estimate statistically as part of our model the overall distribution of the lags between costs and prices.

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(1) This study is based upon a fuller project of research on industrial prices and profits, under the direction of W.A.H.Godley and W.D.Nordhaus, and is financed by the Social Science Research Council. The present study has benefited considerably from the helpful advice of Mr. Godley. While retaining the responsibility for errors, I wish to acknowledge the contributions of G. E.J. Llewellyn, T.S. Ward and S.F. Wilkinson, fellow members of the Cambridge Economic Policy Group.

(2) For a detailed description of the price and cost data used and the method of construction see Appendix, notes one and two.

3. Chart one shows the movement of the C-D items of the RPI and the explanation achieved by the regression model of C-D prices on unit costs[1]. As the chart indicates the explanation is a good one, the average error between actual and expected prices is less than one per cent. The chart also shows clearly the effect of the Labour Government's freeze on pay and prices in July 1966 followed by a period of restraint. The movement of C-D prices was found not to vary with the cycle of demand, which lends support to the normal cost hypothesis as an explanation of the determination of this group of retail prices[2].

4. Table I below, gives the percentage of the total effect on prices which occurs each quarter, following a change in import prices or labour costs. The distributed lag between cost and price changes, which has been estimated from the data, is seen to be quite short for labour costs with most of the effect in the current and succeeding quarter. Import prices, however, have a more delayed effect with the peak after one quarter and thereafter have a slowly declining effect[3]. Both lags are broadly in line with what might be expected as to the relative rate at which the two costs come through into prices, and give an indication of the different impact upon the timing of price increases which would occur if cost increases were mainly labour costs or mainly import prices.

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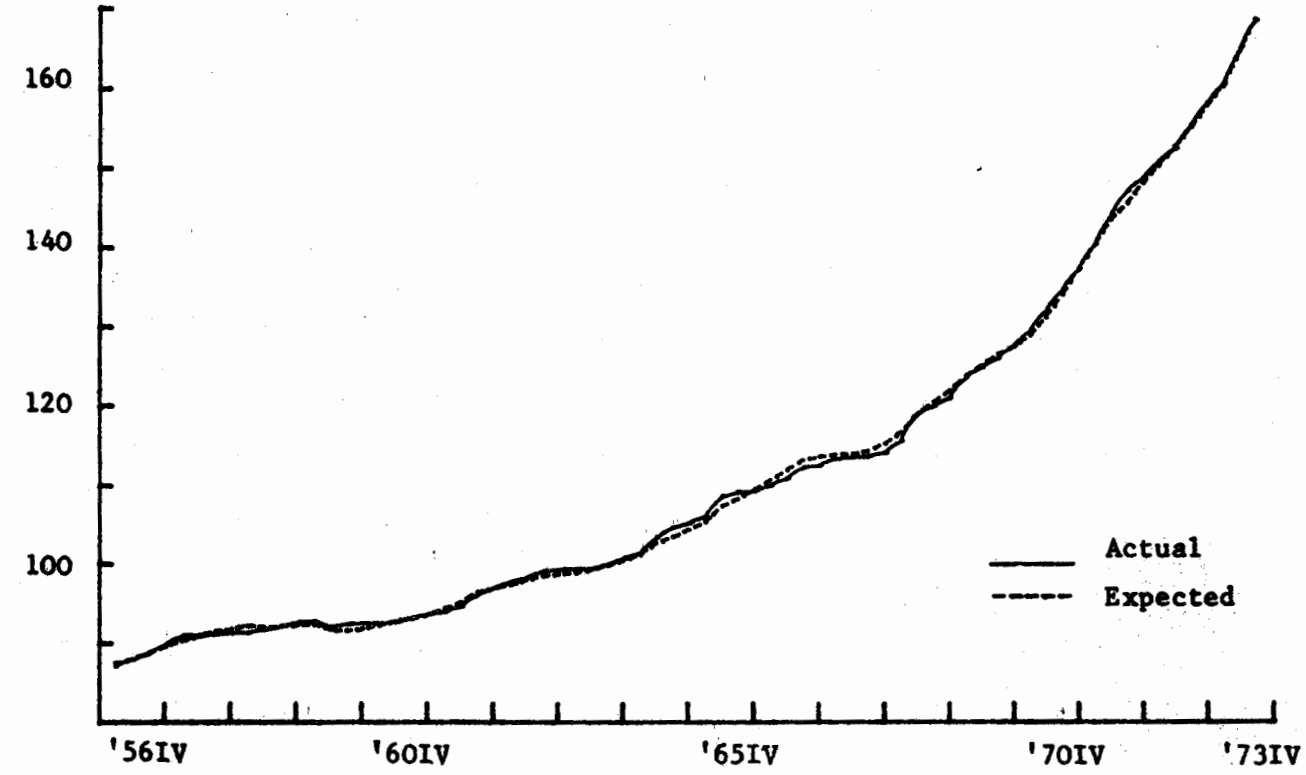
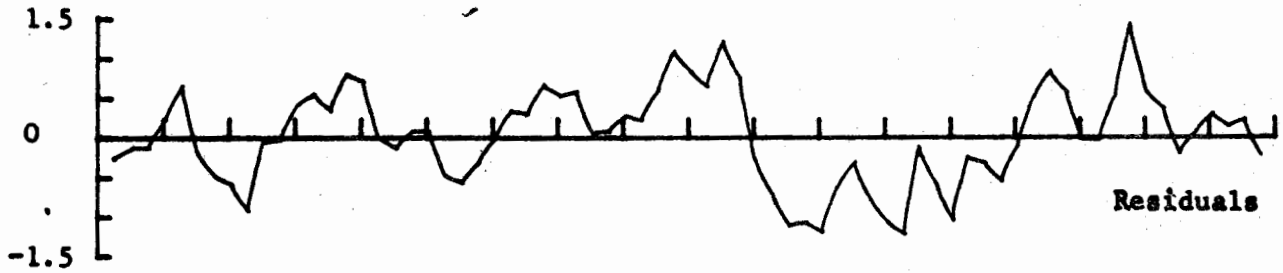
(1) The statistical details of estimation, the regression equation and a description of its properties can be found in the Appendix, notes three and four.

(2) The demand variable used and a description of the test is given in Appendix, note six.

(3) Further details are given in Appendix,note three. An approximate comparison of the cost structure implied by regression and that implied from input-output tables is also given in Appendix, note four.

Chart I Index of Retail Prices, excluding seasonal food, housing and nationalised industries. 1963=100.





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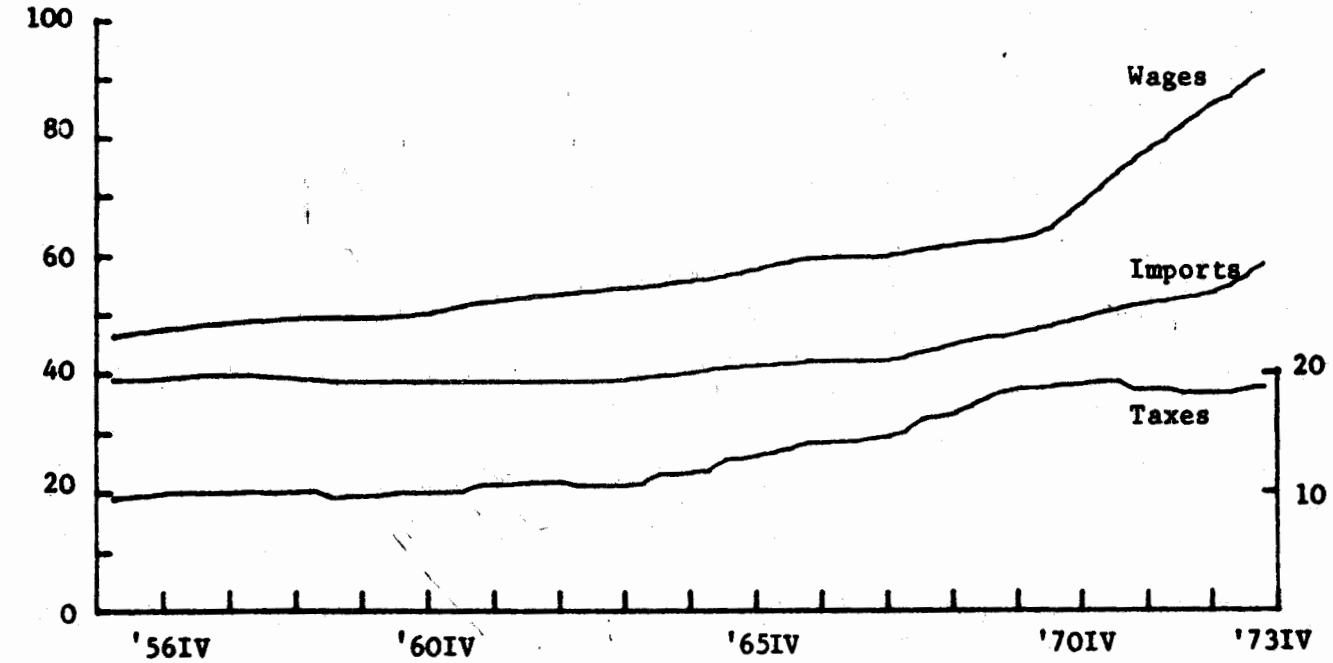

Table I Percentage effect on prices each quarter for change in:

quarter 'i'	Labour costs	Import prices
t	30	12
t + 1	24	18
t + 2	23	14
t + 3	12	11
t + 4	6	9
t + 5	3	7
t + 6	1	5
Balance	1	24

Distributions are derived from the regression.

5. Table II indicates the recent behaviour of the All Items index. Most noticeable is the acceleration of prices in 1971 compared with 1970, with some moderation after 1971 and an acceleration in the rate of inflation in the second half of 1972. Prices have continued to rise at a high rate during 1973, especially after the ending of Phase I, giving a rise for 1973 over 1972 of 9.2 per cent. Also within 1973 the index had a sharp rise of 1.9 per cent from September to October, thus beginning the threshold year from a high base.

Table II Recent movements in the Retail Price Index

October 1973 = 100

	Monthly Averages	Annual per cent change					
1969	71.1		1973	I	93.0	July	96.9
1970	75.6	6.4		II	95.9	August	97.2
1971	82.7	9.4		III	97.4	September	98.1
1972	88.6	7.1	Estimate	IV	100.8	October	100.0
Esti-mate 1973	96.8	9.2				November	100.7

II Forecasting Retail Prices and the Threshold Safeguard

6. To obtain a forecast of the rise in the All Items index from the fourth quarter of 1973 to the fourth quarter of 1974, it is necessary first to have predictions on the one hand for the rise in domestic unit costs and import prices, and on the other hand for rises in seasonal food prices, housing and the prices of nationalised industries[1]. The summary of our predicted rises in costs and prices is set out in Table III.

7. One aspect of particular interest in forecasting retail prices in 1974 is the inclusion within the Government's statutory prices and incomes policy of a threshold safeguard, that is, a cost-of-living adjustment to all wages and salaries, conditional upon the general level of prices exceeding a threshold with reference to the base period. The main purpose of a threshold arrangement is to remove an element of uncertainty about the future purchasing power of a money wage settlement by providing a mechanism whereby money wages are allowed to rise to compensate in some degree the rise in retail prices, should that rise exceed a certain level. Hence employees or their unions need not include in their wage demands an element for anticipated rises in prices if they can feel secure about compensation, should the expected rise in price be realised.

8. A necessary condition for a guarantee of real income to consumers is that the Government's macro-economic policy allows the resources to be made available to meet consumption. The presence of a threshold policy permits the Government to plan for a smaller rise in pay than would otherwise have occurred, and, given some expected rise in import prices, the threshold can be set at a level equal to or above the expected rise in retail prices. Should, however, the Government miscalculate the rise in import prices or should the pay code, for whatever reason, be broken and the threshold invoked, a further twist to the inflationary spiral is produced by the mechanism, where retail prices may rise by more than would have happened without any threshold policy, despite this alternative implying a higher initial rise in wages.

9. "Payments under threshold arrangements may be made ... provided that... payments are made with effect from the first full pay period after the date of publication of the Retail Price Index figure which is 7% above the base figure (October 1973) for the purpose of the arrangement, and a pay increase of not more than 40p. a week is given, with a further increase of not more than 40p.a week for every subsequent full 1% rise in excess of 7% in the RPI during the currency of the arrangement "

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(1) A discussion of the assumptions underlying these predictions can be found in Appendix, note five.

"... the arrangement runs for not more than twelve months from the date of publication of the RPI figure for October 1973."

The Counter-Inflation (Price and Pay Code) (No.2). Order 1973.

10. Some points concerning the operation of the threshold should be noted. The cost-of-living payment once implemented is independent of the timing of the wage settlements in Phase III. Workers may receive the threshold adjustment, irrespective of whether they have made or have yet to make a pay settlement. A threshold agreement has to be made with the employer, and the amount of money to be paid to employees will be subject to normal wage negotiation, the limit of the increase being 40p. per week. This might appear to limit the scope for most employees to obtain the full amount under the threshold arrangement. However, it is likely that most employers and unions, whatever month the threshold is invoked, would have anticipated the implementation and would have negotiated threshold agreements. It would also be difficult for employers to avoid conceding less than 40p. per week increase when this is the figure quoted in a policy having legal sanction, that is, the 'maximum' would typically be the 'norm', for threshold payments.

11. The payments have effect from the first full pay period after the date of publication of the RPI, which is usually one month after the day on which the Department of Employment records retail prices throughout the country. Thus employees who have made threshold agreements could have a 40p. per week increase in pay only five weeks after the recorded date of the threshold index level, if they are paid weekly and up to eight weeks if they are paid monthly. Moreover, for every subsequent full one per cent rise in the RPI, they may claim a further 40p. per week, with a similar lag between the date of recording the RPI figure and payment of the increase.

12. This safeguard is not subject to the £350 individual pay limit, hence the effective limit to pay increases under threshold agreements will be set by the rate of price increase above the seven per cent level and the duration of the arrangement which ends in October 1974. Threshold payments by employers will be an allowable cost increase, though the size of allowable increase will be liable to a productivity deduction, which will vary according to the share of labour costs in total costs of firms and the level of profit margins. The productivity deduction will not vary according to a firm's actual productivity and hence our prediction in terms of normal unit labour cost is in principle justified.

Table III

Retail Prices, summary of forecasts+

October 1973 = 100

		Hourly* Wage Rates	Import* Prices	Retail Prices assumptions a)*	b)	c)
1972		84.6	75.9		88.6	
1973	I	90.2	83.1		93.0	
	II	93.2	88.5		95.9	
	III	98.0	96.7		97.4	
Estimate	IV	101.2	101.6		101.0	
Forecast 1974	I	103.1	111.5	104.1	104.1	104.1
	II	105.6	112.5	108.2	108.3	108.4
	III	109.8	114.1	110.3	110.8	111.1
	IV	113.2	116.4	114.0	115.2	115.8

* Assumes no effect arising from implementation of threshold. See text for b) and c).

\+ For data and method see text.

13. The above table gives three alternative predictions of the rise in the All Items index. On assumption a), if there were no threshold policy, we predict a year on year rise of 12.7 per cent and an October to October rise of 12.8 per cent thus substantially exceeding seven per cent. Interpolating between first and second quarters, the threshold would appear to be first exceeded in the index for May 1974, giving a further five months out of twelve when the Cost of Living Safeguard can be invoked. It should be noted however that a prediction of the timing of the threshold has greater uncertainty than prediction of the eventual level of the index as the estimated lag between costs and prices is an average relationship over 17 years(1). There is good reason to suppose that oil prices will be passed onto domestic prices with a much shorter lag and that the acceleration of prices has shortened the lag, in which case April will be the first month where the RPI exceeds seven per cent. With the aid of the regression equation, one can estimate the "stored-up" prices implied by the cost increases

(1) See Appendix note three for a description of the properties of the estimated lag coefficients.

which had actually occurred prior to the implementation of the Safeguard in October 1973, i.e. the price increases 'in the pipe-line'. On this basis the All Items index would from October 1973 have to rise by 8.8 per cent to allow all the cost increases which had taken place to come through, of which 5.8 per cent would come through in 1974.

14. Assumption b) allows for the effect of the threshold policy on wage rates with a six weeks delay following implementation of the threshold. A 40p. per week increase in wages is about one per cent of male manual workers' average weekly earnings; average wage and salary earnings per week for men and women is still less than £40. The cost-of-living adjustment will affect differentials to some extent, but in general we have assumed that a one per cent rise in the RPI above the seven per cent floor will produce a less than one per cent rise in wage rates, with implementation of the payment in June.(1) Once again, one can calculate the "stored-up" prices which are implied by the predicted rise in unit costs as of October 1974, inclusive of threshold payments. This amounts to a further 9.3 per cent rise in prices of which 6.7 per cent would come through in 1975, implying an acceleration in the rate of inflation by the end, as compared with the beginning, of the threshold period.

15. Finally, assumption c) allows for the effect of increased domestic unit costs through the threshold raising import prices.(2) It is <u>wrong</u> to forecast final prices on the assumption that import prices act as a drag in a period of accelerating domestic inflation, nor can one increase the real national income by inflating faster. Higher money incomes in the U.K. can raise the price of imported commodities whose supply is fixed in the short run and allow the price of manufactured imports to rise. Further, if the exchange rate were to move to compensate for the loss of competitiveness one could expect a further rise in import prices, though there is no necessity in the short-run why the exchange rate should move for this reason. Stored up costs on assumption c) give rise tp a further 9.7 per cent rise in prices of which 6.9 per cent would come through next year. Assumptions a) and b) have been predictions of a conditional nature leading to assumption c) which has the status of a forecast of retail prices in 1974, but is itself, of course, conditional upon our model being a good predictor,

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(1) This assumption is made because 40p. is less than average earnings, some groups of workers may obtain less than 40p. and some may fail to make threshold agreements. The assumed response of wage rates is .85%.

(2) See forthcoming paper in Economic Journal, 'The Determinants of U.K. Import Prices' by G.E.J. Llewellyn and also Appendix, note five, on prediction of import prices.

and upon a correct analysis of the effects of Phase III on costs and prices.

Conclusion

16. The main implications one can draw from these results are that with the threshold cost-of-living safeguard in its present form, the policy will have to be invoked for about five months out of the twelve months during which the arrangement runs and will accelerate the rate of inflation in the second half of 1974 and continue to affect the first half of 1975. Given the very large rise in import prices and the rise in wages which took place at the end of Phase I of the Government's policy, and which was known before the implementation of October as the base for the arrangement, a substantial rise in prices within the year from October to October could be expected, before allowing for the further rise in import prices and the high basic increase in wages allowed for in Phase III.

17. The forecasts set out above are reproducible from our model and our assumptions. There are grounds for the judgement that they represent a minimum forecast of price changes this year, especially in the light of oil price increases which have a direct effect on retail prices, not allowed for in the model. It is a matter of opinion as to the alternative movement of wages, had there been no threshold safeguard, but one can begin to assert the view that Phase III will turn out to be more inflationary with the operation of the threshold than could have been achieved with an orthodox prices and incomes policy.

Appendix to Chapter 9

1. Prices

A1. From 1956 until 1962 the RPI was a base-weighted index incorporating the pattern of consumers' expenditure excluding the expenditure pattern of the richest and poorest income earners. Since 1962 the index has been re-weighted each January using as weights the expenditure pattern of almost all income earners, during the previous three years. It thus combines the elements of a fixed-weight, and a moving-weight index. A price index of cost-determined items was constructed by removing from the All-Items index, seasonal food, housing, fuel and light, fares and postage, using fixed weights until 1962 and thereafter revising annually according to the published weights.

2. Unit Costs

A2. The normal unit labour cost component of the model was represented by Basic Hourly Rates of Wages in manufacturing industry excluding the engineering sector. Normal earnings would be a better variable than wage rates but is not available quarterly. The movement of earnings and rates over most of the period from 1956 to 1973 is close, with the rise in earnings exceeding rates, mainly because of wage drift. Wage settlements in the engineering industries in 1967-1969 which gave large increases to workers on minimum rates of wages resulted in the appearance of negative wage drift. For this reason and also since engineering products form a small part of goods sold in retail outlets, the engineering wage rates component was excluded. Basic hourly rates of wages were combined with employers' contributions per head and divided by a trend. The trend of 2.9% stands as proxy for productivity growth less trend wage drift. The RPI model was not found to be very sensitive to variations in this trend term in the range of 3% to 1.8%. Note that the resulting definition of normal unit labour cost will be invariant to cyclical movements of demand in the product market, though wage rates may vary with the pressure of demand in the labour market.

A3. For import prices we used the national income deflator for imported goods and services, including an adjustment for the effects of the import surcharge from October 1964 to the end of 1966. In principle this variable is ill-matched with the RPI as it does not reflect the consumption pattern of the latter, but it is part of our purpose to forecast domestic prices directly in terms of import prices, which are generated elsewhere in the Economic Policy Group model.

A4. The indirect tax variable included purchase tax, (and later VAT), SET, excise duties on alchohol and tobacco and duties on motor spirit and derv. These were expressed as a sum of money divided by the C-D items of consumers' expenditure at constant prices, and a quarterly index was derived incorporating the timing within each year of announced indirect tax changes.

3. Regression model

A5. The details of the preferred explanation of C-D prices are set out below:

$$\underset{}{p_t} = \underset{(-1.64)}{-8.02961} + \underset{(2.49)}{0.12030t} + \underset{(4.09)}{0.10651Tr_t} + \underset{(3.66)}{0.16530w_t}$$

$$+ \underset{(2.59)}{0.13108w_{t-1}} + \underset{(2.61)}{0.12521}\underset{(2.64)}{\frac{w_{t-2}}{1-0.5L}} + \underset{(1.7)}{0.04504m_t}$$

$$+ \underset{(3.08)}{0.06956}\underset{(10.18)}{\frac{m_{t-1}}{1-0.8L}} + \hat{u}_t$$

A6. The sample period for estimation of the coefficients was from 1956 I - 1973 III, a total of 71 quarterly observations. Figures in brackets are t-statistics and L is the lag operator such that $Lx_t = x_{t-1}$.

p_t is the cost-determined component of the RPI

w_t is the normal unit labour cost

m_t is an import price index of goods and services

Tr_t is an index of taxes on consumption per unit of expenditure at constant prices and the variable, t, in the regression is a time trend[(1)].

There was a significant first order serial correlation when the model was estimated, assuming a serially uncorrelated error process, hence the model was re-estimated, allowing for a first order autoregressive process in the generation of the errors, by an application of the principle of maximum likelihood[(2)]. The

(1) All the index numbers in the above regression are to base 1963 = 100.

(2) For the statistical theory see 'The small sample problem of truncation remainder in the estimation of distributed lag models with autocorrelated errors' in International Economic Review Vol.14, No.1, February 1973 by Dr.M.H.Pesaran. Dr.Pesaran also wrote the programme to estimate the above model.

process assumed is:

$u_t = \rho u_{t-1} + \varepsilon_t$ where ε_t is a random variable, uncorrelated over time.

$\hat{u}_t = 0.7288\hat{u}_{t-1} + \hat{\varepsilon}_t$ is the estimate of this error process

A7. The fit between actual and explained price over the 17 years since the introduction of the Retail Price Index in 1956 (and the modification of its construction in 1962) is a very close one. The standard error of estimate is 0.62 index points, giving an average residual error of 0.56 percentage points. It should be noted that these estimates of goodness of fit do not incorporate the autoregressive error process as an aid to the explanation of the overall fit. Hence the estimated errors are larger than are obtained, assuming uncorrelated errors, as we are departing from a procedure which by objective produces the optimum fit (in the squared-error sense) to a procedure which maximises the likelihood of the model, given our data.

A8. The pattern of the lag structure accords well with what might be expected a priori. It should be stressed that the distributed lags on labour costs and import prices are estimated independently of each other. The lag of labour costs behind retail prices is short, the mean lag being 1.6 quarters with the mass of the distributed lag skewed towards the current and following quarter. The current and first lag have been freely estimated and are well determined while the tail of the distribution has been constrained by a geometric functional form (which gives declining importance to successive terms) and its parameters freely estimated. The distributed lag on import prices has a longer mean lag of 4.4 quarters with the peak effect coming after one quarter, giving a hump-shaped distribution. The effect in the current quarter is small and the geometric tail of the distribution is long. Although the regression is a good predictor of prices over the period, the length of the lag on imports is implausible, and is a defect of the equation from the viewpoint of understanding the relationship between costs and prices. Again, all the parameters are statistically estimated from the sample. We can calculated the 'long run' effect of a one index point rise in labour costs on prices p_t as 0.5468 index points and for a one index point rise in import prices, the final effect is 0.39284 index points. This gives a ratio of import prices to labour costs of .72 which accords well with the approximate cost composition derived from input-output tables.

A9. The tax variable proved significant and of plausible magnitude. It was lower than expected for the whole sample period but was of larger magnitude when estimated over the period 1956-1968.

A10. The role of the time trend is that of a catch-all to allow for wage drift, growth of productivity in the whole economy and as a corrective for the ill-matched nature of the import price series. In experiments with a varying trend divisor, r, (where $w = h/(1+r)$ and h equals wage rates and employers' contributions per head) the time trend t clearly compensated for changes in r, leaving the explanation fairly insensitive to the choice of r.

A11. In all, twelve parameters were estimated. The estimated lag distributions produced reasonable robustness in the relative 'long-run' effects of the two major costs, but the shapes of the lag distributions were more sensitive to variation in choice of sample period.

4. Approximate cost composition of C-D items

	Estimated from regression	With a) and b) allowing for domestic agriculture
a) Income from employment	52.3	45.7
b) Imports of goods and services	37.5	33.6
c) Taxes	10.2	20.7
	100	100

A12. The above table compares the cost composition derived from the C-D items regression model, and the approximate composition which has been derived from the Input-Output Tables for the U.K., 1963 with an adjustment for domestic agriculture. The food component of the RPI accounts for over a quarter of the C-D items index and domestic agriculture meets nearly half of Britain's food requirements; we have not employed any separate indicator of domestic food produce in the regression, moreover, the effect of government agricultural policy since the war (and lately since membership of the EEC) has been a tendency for domestic food prices to follow those of imported foodstuffs. Also the non-C-D items, it is assumed, have a lower import content than the C-D items. Consequently domestic food produce has been treated as an import item. The table serves to indicate rough orders of magnitude. The main discrepancy is taxation where the regression result is lower than expected for which there is no completely satisfactory explanation. One cannot infer directly from the coefficient of the tax variable, the proportion of costs accounted for by indirect

taxes as the regression treats taxes as a unit cost, over which a stable mark-up is set, whereas in fact most taxes are levied at the wholesale stage. Allowing for this effect would reduce, but not completely account for the discrepancy, which must be left as a defect of the model's plausibility. However the forecasts are based upon a neutral tax assumption so that the role of taxation in this study is not of paramount importance.

5. Predictions of costs and prices

A13. Our prediction for the rise in basic hourly rates for all industries from October 1973 to October 1974 is 11.5%[1], and is a forecast which assumes no technical breach of the Phase III pay code.

A14. A prediction of the rise in import prices is complicated by two factors. The price of U.K. imports will, clearly, be affected by the exchange rate and also to some extent by British domestic prices, both with primary commodities and with manufactured goods. There is thus some feedback from domestic, to import prices. Secondly, there have been two very substantial increases in crude oil prices announced by OPEC, one on October 16th and the second on January 1st, resulting in a doubling of the price of Arab oil in three months. Further price increases are expected on April 1st. These increases took place against a background of rapidly rising import prices. Our predicted rise in import prices, thus substantially exceeds that for wage rates[2].

A15. For the tax variable we have assumed no change in tax rates or specific duties. Given the composition of the tax variable this implies that taxes per unit of consumption will rise by less than the forecast rise in prices. Our predicted rise is 11% from October 1973 to October 1974.

A16. Separate predictions[3] of the non-C-D items were made in order that a prediction of the All Items index could be made. Forecasting this group entails great uncertainty since the items depend upon such critical factors as harvests or government policy.

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(1) For a detailed discussion of wage settlements during Phase III, see the chapter by Mr. S.F. Wilkinson.

(2) This prediction of import prices ignores the repercussions of additional rises in domestic unit costs, further raising import prices.

(3) I am most grateful to Mr. T.S. Ward for the preparation of a set of forecasts of the non-C-D items. The exposition of these forecasts in the following paragraphs owes much to Mr. Ward.

A17. With regard to seasonal food - fresh fruit and vegetables, eggs, fish and home-killed lamb - the strong seasonal pattern which was evident for the years 1962 to 1971 appears to have changed in the last two years. Previously prices reached a peak in May or June (reflecting the exhaustion of the potato stock and scarcity of new potatoes) and declined sharply during the third and fourth quarters, increasing again at the end of the year, but for 1972 and 1973 the decline over the second half of the year failed to materialise to the same extent. For both years the peak was at the end of the year despite rises in the second quarter, being especially marked in 1973. It is difficult to find a particular cause for this change in pattern, though one can suggest that the timing of the underlying acceleration in food prices has distorted the usual seasonal pattern; the U.K. entry to the EEC may also be a contributory factor. Our forecast for seasonal food, which accounts for about 4% of the All Items index, is a rise in price of 20 per cent in 1974, as compared with over 30 per cent in 1973, with the 1973 pattern repeating itself.

A18. For housing, which is about 12% of the total index, the price changes within the year occur around the beginning of the financial year in April or May and half-way through the financial year in October or November. Our forecast is a 3½ per cent rise in April 1974 and 4 per cent rise in October or November, which follows the pattern of recent years, if we exclude the impact of the Fair Rents Acts, the provisions of which are largely implemented. Rates, we expect, to rise more than in 1973, following the rate-support grant decision of the Government which we feel to be unduly optimistic about the size of expenditure economies which local authorities will be able to achieve. We estimate a rise of 10 per cent in April, compared with 8 per cent in 1973, and a further 1 per cent rise in October. If charges for repairs and maintenance increase by approximately the same rate as in 1972 and 1973, the above estimates together imply a year on year increase of 10.4 per cent in the housing component of the price index.

A19. The future movement of nationalised industries' prices to consumers, accounting for nearly 6 per cent of the index, will depend critically on how far the Government is prepared to accept the continuation and growth of financial losses, partly caused by previous price restraint, with the substantial subsidisation which this entails. Present indications are that the Government will not increase subsidies for this purpose so prices will rise at least as fast as costs. We have therefore assumed that the price index with respect to fuel and light will increase considerably more in 1974 than in 1973 (when the rise was only 3 per cent). We estimate a 10 per cent increase in this item

with effect from the first quarter of 1974 with a further rise towards the end of the year, giving an overall year on year increase of about 13 per cent. This will not be sufficient, however, to eliminate the need for heavy subsidies.

A20. Regarding fares, our assumption is an increase of 5% in 1974 spread evenly over the year which is slightly more than in 1973. For postal and telephone charges, we assume that following the recent increases, there will be no further rises until the second half of 1974 when charges will be raised by 5 per cent. This still implies a rise of 10 per cent in 1974 compared with the previous year.

6. Prices and Demand

A21. To test whether the residuals shown in Chart I were responsive to variations in consumer demand, the preferred equation was estimated including a demand variable. The variable used was the percentage deviation of consumers' expenditure at constant prices from its logarithmic trend. Current and lagged terms were tried under different error assumptions. In each case the demand variables were insignificant at the conventional 5% level. Hence with reasonable confidence, one may forecast the C-D price index without prior knowledge of the state of consumer demand.

Data

1963 = 100

		C-D prices	Taxes	Labour costs	Import prices
1955	III	-	87.0	84.40	97.65
	IV	-	90.0	85.29	98.96
1956	I	87.09	90.0	85.79	98.17
	II	87.96	91.5	87.27	99.61
	III	88.74	93.0	87.86	99.74
	IV	89.88	94.5	87.96	101.70
1957	I	91.01	95.0	88.42	102.87
	II	90.83	93.5	89.69	104.57
	III	91.18	94.0	90.00	101.04
	IV	91.36	94.5	89.59	99.61
1958	I	91.27	95.5	90.24	97.65
	II	91.88	93.5	90.41	95.82
	III	92.14	94.5	91.26	96.74
	IV	92.75	95.5	91.18	95.95
1959	I	92.92	96.5	90.42	95.95
	II	91.97	90.5	90.56	94.52
	III	92.49	91.5	90.59	97.00
	IV	92.66	92.0	90.83	98.56
1960	I	92.40	93.0	91.18	98.69
	II	92.75	94.5	92.06	96.87
	III	93.36	95.0	92.27	98.17
	IV	93.79	95.0	92.91	98.17
1961	I	94.06	95.5	95.56	97.78
	II	94.75	96.0	96.27	98.56
	III	96.23	101.0	96.85	97.26
	IV	97.02	101.5	96.47	98.43
1962	I	97.80	101.5	97.24	97.65
	II	98.41	103.0	98.62	97.65
	III	99.19	103.0	98.63	97.65
	IV	99.46	103.0	98.85	97.91
1963	I	99.54	99.5	99.05	99.61
	II	99.54	100.0	99.85	99.22
	III	100.07	100.0	100.64	99.35

		C-D prices	Taxes	Labour costs	Import prices
	IV	100.85	101.0	100.32	101.83
1964	I	101.55	102.0	100.88	103.66
	II	103.37	109.0	102.21	102.87
	III	104.68	109.5	103.23	102.87
	IV	105.29	110.5	102.88	107.05
1965	I	106.16	112.0	103.29	109.01
	II	108.60	120.0	105.87	107.18
	III	109.21	122.0	106.44	106.0
	IV	109.30	124.5	107.36	106.53
1966	I	110.08	126.5	109.29	108.22
	II	110.95	129.5	109.80	108.62
	III	112.26	133.5	110.39	108.62
	IV	112.61	134.0	109.88	106.40
1967	I	113.39	134.5	109.55	106.27
	II	113.74	135.0	109.13	105.74
	III	113.74	137.5	110.22	106.66
	IV	114.26	139.5	111.29	110.84
1968	I	115.65	143.0	112.60	117.10
	II	118.96	151.5	113.19	118.15
	III	120.10	154.5	113.85	120.23
	IV	121.05	157.0	114.16	121.54
1969	I	123.58	162.5	115.05	122.72
	II	124.97	168.5	114.99	121.02
	III	126.10	174.5	115.77	120.10
	IV	127.59	176.5	116.61	124.28
1970	I	129.59	177.0	118.68	128.07
	II	132.11	178.5	123.50	128.85
	III	134.73	179.5	129.31	131.85
	IV	137.43	181.0	133.90	133.29
1971	I	140.56	182.0	137.13	134.46
	II	144.31	182.0	142.30	136.42
	III	147.27	175.0	145.02	136.16
	IV	149.01	175.0	148.16	136.16

		C-D prices	Taxes	Labour costs	Import prices
1972	I	151.10	175.0	150.86	136.94
	II	152.75	172.0	156.46	136.29
	III	155.63	172.0	159.66	140.86
	IV	158.50	172.0	161.89	144.39
1973	I	160.94	173.0	162.33	152.87
	II	165.12	176.0	170.46	161.75
	III	168.95	178.0	173.59	171.67