# *Quarterly Estimates of Capacity Utilisation in Ireland*

PATRICK C. MCMAHON
DAVID J. SMYTH*

---

## 1. *Introduction*

THE present paper derives indices of capacity utilisation for the total transportable industries sector of the Irish economy and also for twelve sub-sectors. The indices estimated are based on the Wharton School linked-peaks method, a modified Wharton procedure and a deviation from trend approach. Capacity utilisation series are playing an increasingly important role in empirical work and the estimates for Ireland are presented in the hope that they will prove useful to other researchers on the Irish economy.[1]

The plan of the paper is as follows: In section 2 previous estimates of capacity utilisation for the Irish economy are considered. Section 3 provides some discussion of alternative methods of estimating capacity utilisation and describes the indices we estimate. The data used are discussed in section 4; section 5 presents our estimates together with a brief discussion of them.

## 2. *Previous Estimates of Capacity Utilisation for the Irish Economy*

There have been several attempts to make capacity utilisation estimates for Ireland using a variety of approaches. The earliest that we have found is by Black, Simpson and

*The authors are grateful to M. Mitchner for research assistance and to A. Berry for computing advice and to Frances Ruane and John Martin for helpful comments on an earlier version of this paper. The research on which this paper is based was made possible by a grant from the Claremont Graduate School; the paper was completed while D. J. Smyth was visiting Economist at the Central Bank of Ireland. The authors alone are responsible for the content of the paper.

1. We are aware of studies by Black, Simpson and Slattery (1969), Baker and Durkan (1970), Baker and Neary (1971) (1972), OECD (1973) and Martin (1974) that have made use of capacity utilisation estimates for Ireland—their approaches are discussed in the next section. For recent estimates of capacity utilisation for the United Kingdom see Briscoe, O'Brien and Smyth (1970), Hilton (1970), Taylor, Winter and Pearce (1970) and Bank of England (1971). Studies for the United Kingdom making use of measures of capacity utilisation include: investment, Smyth and Briscoe (1969) (1971) (1972), Junankar (1970) and Nobay (1970); price determination, Nordhaus and Godley (1972); inflation and growth, Paish (1966); internal demand pressure and exports and imports, Ball, Eaton and Steuer (1966), Smyth (1968) (1969) and Trivedi (1970). For some discussion of these see Briscoe and O'Brien (1972).

Slattery (1969) who made quarterly estimates for total transportable goods for the period 1955 to 1967. The percentage rate of unemployment in transportable goods industries was about 3·5 per cent in the third quarter of the boom year 1955 and the authors assumed that the economy was operating at full capacity in that quarter. After considering various factors they posited a 1·35 per cent per annum rate of growth between the end of 1955 and the second quarter of 1958, a 7 per cent per annum rate of growth between then and the end of 1963 and thereafter a rate of growth at 6·5 per cent per annum. Black, Simpson and Slattery are concerned with the assumption that output at low levels of unemployment is a fairly reliable indicator of normal capacity output and with the difficulties of using changes in unemployment as advance indicators of changes in utilisation of capacity. They found that entrepreneurs' pricing policy is probably influenced by the rate of utilisation of capacity both with respect to the mark-up added to variable costs and the time lag after which changes in variable costs are manifest in the price of output.

In their study of Irish imports of producers' capital goods ready for use Baker and Durkan (1970) estimated two capacity utilisation series. In constructing the first series they assumed that production of total transportable goods grew exponentially; they fitted a linear trend to the logarithm of the volume of production (three quarter moving average) and deviations from this trend were taken as indicatory of capacity utilisation. The second capacity utilisation series was a dummy series constructed by assigning values I, O, -I to periods of high, average and low capacity utilisation respectively. The dummy series was constructed using the standard error of the trend regression: in any quarter in which the residual was greater than one standard error above trend a value of +1 was assigned to that quarter, if the residual was more than one standard error below trend a value of —1 was assigned and all quarters with a residual within one standard error of trend were assigned a value of zero. This second series was a dominant explanatory variable as far as percentage changes in the imports variable were concerned; the performance of the first capacity variable was inferior. Baker and Neary (1971), (1972) made use of the same dummy capacity utilisation series and found it a significant determinant of consumer prices.

Capacity utilisation estimates for the Irish economy as a whole are estimated on a half-yearly basis for the period from the first half of 1955 to the second half of 1972 in OECD (1973). These estimates are based on unemployment rates and the figures presented are a compromise between two specifications. Capacity output is obtained by assigning arbitrary parameter values to Irish and United Kingdom unemployment rates in equations linking capacity output to these rates. In one specification the results are smoothed by a seven half-year moving average, in the other by a five half-year moving average. United Kingdom unemployment is included in an attempt to allow for the sensitivity of the Irish labour force, and hence the Irish unemployment rate, to the unemployment rate in the United Kingdom. The Irish and United Kingdom "full employment rate of unemployment" are set at 5·8 per cent and 1·7 per cent respectively.

The OECD tabulate the series they obtain, the authors of the other published studies do not.[2] All the studies deal with broad aggregates, the whole economy (including the agricultural sector) in the OECD study, total transportable goods in the other studies.

Martin (1974) calculated three series. The first two series replicate the work of Baker

2. Black, Simpson and Slattery (1969) graph the series they obtain and provide sufficient information for their series to be reconstructed.

and Durkan by fitting a linear trend to the logarithm of industrial output. The third series was calculated by applying a procedure similar to that in the OECD study to the industrial production index.

### 3. *Alternative Methods of Estimating Capacity Utilisation*

The most appealing approach to the estimation of capacity utilisation involves the use of a production function. Typically this involves writing

$$Y_t = f(E_t H_t, K_t X_t, t, v_t) \qquad (1)$$

where $Y$ is real output, $E$ is employment, $H$ is average man-hours worked, $K$ is the stock of capital, $X$ is the rate of utilisation of capital stock, $t$ is the time period and $v$ is an error term. $E_t H_t$ is the labour input and $K_t X_t$ is the flow of capital services. It is necessary to specify some form of the production function and to estimate its parameters. Then substitution of the full employment values of $E_t H_t$ and $K_t X_t$ yield capacity output, $Y_t^c$, for any time period and hence the rate of capacity utilisation, $100 Y_t / Y_t^c$ may be calculated. A refinement of this approach is to introduce a dynamic adjustment mechanism into the production function.[3]

For the implementation of the production function approach we require, inter alia, the stock of capital and its rate of utilisation. Annual capital stock estimates are available for Ireland—in Henry (1971-72)—but these series do not extend beyond 1968.[4] Utilisation rates are not available. The conventional approach is to postulate some relationship between utilisation rates of labour and capital, the labour utilisation rate being measured by the unemployment rate, such that the labour and equivalent capital stock variables, both measured at their maximum values for all $t$, are deflated by the same proportion.

We do not regard this procedure, of inferring capital stock utilisation rates from unemployment rates, as very satisfactory for the Irish economy. First, recent evidence suggests that there are some conceptual problems with the Central Statistical Office estimates of aggregate unemployment rates.[5] Secondly, the lagged adjustment of employment to its desired level will mean that observed employment at any point of time is a bad indicator of the equilibrium level of employment corresponding to current output and hence that observed unemployment does not reflect the equilibrium level of unemployment corresponding to current output. This lag is quite marked for the economy—the results in Smyth and McMahon (1974) imply an average lag of 2·8 quarters for total manufacturing. Thirdly, variations in the unemployment rate may not reflect variations in factor use but may arise from changes in the size of the work force. This problem is present in analyses for other countries as well but we consider it to be especially important for Ireland because of the sensitivity of net emigration from Ireland to real weekly earnings in the United Kingdom relative to those in Ireland and to the

3. For discussion of the production function approach to the estimation of capacity utilisation see Briscoe, O'Brien and Smyth (1970), Klein and Preston (1967), Lund (1971) and Solow (1962). The Briscoe, O'Brien and Smyth study gives a more detailed discussion of alternative approaches to capacity utilisation than is provided here.

4. Earlier estimates were made by Kennedy (1971) and Nevin (1963).

5. See Sandell (1974).

relative unemployment rates in the two countries.[6] Thus changes in either of these ratios caused by changes in United Kingdom conditions will cause changes in net migration and thus influence the Irish unemployment rate. For instance an increase in the United Kingdom unemployment rate will, other things being equal, cause a reduction in net emigration from Ireland and tend to raise the Irish unemployment rate. Under these circumstances it would be wrong to infer a change in the capital stock utilisation rate. That is, we may have changes in the unemployment rate unaccompanied by any change in the capital stock utilisation rate so that a procedure that links capital stock utilisation to unemployment may be seriously misleading.

In our study of short-run employment fluctuations in Ireland—Smyth and McMahon (1974)—we made the assumption that capital stock utilisation is a function of man-hours and time trend—specifically $X_t = j_t(E_tH_t)\delta$ where $\delta > 0$ and the trend term is subsumed in $j_t$. While this approach is satisfactory for the purposes of that study, where it was merely desired to assume that fluctuations in capital stock utilisation and fluctuations in man-hours (adjusted for trend) were related, it would be unsatisfactory here because it would be necessary to identify some level of $E_tH_t$ that gave full capital stock utilisation and we can see no way of doing this: nor would it be desirable to attempt to do so. For instance, it would be inappropriate just to set $E_tH_t$ equal to its full employment value and use the calculated $X_t$ as full utilisation of capital stock because this would mean that a change in the full utilisation level would be implied by an exogenous shift in the labour force or in average hours worked.

Conceptually we may allow for the three problems discussed above—the specification of an operational capital stock utilisation function, the lagged adjustment of employment to its desired level and the sensitivity of the Irish unemployment rate to non-capacity factors. But the practical difficulties involved in trying to modify the production function approach to take them into account are immense and we think that scarce economic research resources will yield higher returns when applied elsewhere. We thus reject the procedure that links capital stock utilisation to unemployment rates. We do not, however, reject the production function approach if alternative ways of estimating capital stock utilisation can be found. Research on this is continuing.

Our objections to unemployment as a measure of pressure on capacity also rules out the various capacity multipliers based on non-linear transformations of unemployment rates.[7] We also reject the OECD estimates which are unemployment based. The OECD estimates do include an allowance for the influence of United Kingdom unemployment rates on capacity output but the correct procedure is more complex than the adjustment incorporated in the estimates. Specifically it is necessary to adjust the Irish unemployment rate series to remove the impact of fluctuations in both relative real wage rates and relative unemployment rates in the two countries; merely adding a UK unemployment rate term is completely inadequate. One further problem with the OECD estimates is that they use "seasonally adjusted half-yearly GNP data". As half-yearly national accounts data for Ireland do not exist they simply interpolated annual data; they then seasonally adjusted this series!

One procedure that we shall adopt in the estimation of capacity utilisation is that developed by the Wharton School Econometric and Forecasting Unit of the University of Pennsylvania;[8] such indices have been used successfully in econometric work in the

6. Walsh (1974) found evidence of such sensitivity.
7. For consideration and estimation of these see McMahon (1973).
8. See Klein and Summers (1966).

United States and the United Kingdom. The Wharton School procedure assumes that output peaks represent full capacity utilisation and that full capacity utilisation at other time periods may be obtained by linear interpolation or extrapolation. The Wharton School index is given by

$$W_t = 100 Y_t / Y_t^c \tag{2}$$

where $W$ is the index, $Y$ is output, $Y^c$ is full capacity output and subscripts involving $t$ indicate time periods (quarters).

Output is taken to have a peak in period $t$, and so $Y_t^c = Y_t$, if

$$Y_{t-1} < Y_t > max\,(Y_{t+1}, Y_{t+2}) \tag{3}$$

that is, if output exceeds the level of the preceding quarter and the two succeeding quarters. This is the basic decision rule but as it does not cover all eventualities others are necessary. When output stays on a plateau so that

$$Y_{t-1} < Y_t = Y_{t+1}, \ldots, Y_{t+s} > Y_{t+s+1} \tag{4}$$

or when output declines from a peak for one quarter and returns to that level such that

$$Y_{t-1} < Y_t > Y_{t+1} \text{ and}$$

$$Y_t = Y_{t+2} > Y_{t+3} \tag{5}$$

then, under the assumption that capacity is rising over time, the first period on the plateau or the first peak is chosen for $Y_t^c = Y_t$.

Capacity output for periods other than those for which $Y_t^c = Y_t$ are estimated by linear interpolation between two peaks or by extrapolation backwards if the first period for the estimates is not a peak and forwards if the last period for the estimates is not a peak. When linear segments are fitted between successive peaks we may have $Y_t > Y_t^c$; in this case $Y_t$ is regarded as an effective peak and we put $W_t = 100$ and interpolate for $Y_t^c$ from the last cyclical peak by fitting a line from that peak to the present value of $Y$.

One major problem which often occurs with the Wharton School approach is that it may define more peaks than are realistic over a given time period. An adjusted series may be obtained by eliminating the peaks which seem least likely to be capacity output peaks. This is inevitably a somewhat subjective procedure in which the following criteria may be adopted for eliminating a peak $Y_h$. First, when the rules for peak selection are applied it is possible for a peak $Y_h$ to be less than the preceding capacity peak, $Y_g$, thus implying decreasing capacity output which, unless the industry is a declining one, is unrealistic. So unless the industry is identified as a declining one a sensible decision rule is if $Y_h < Y_g$ then disregard the peak. Secondly, related variables, such as fixed capital investment or unemployment or other information may suggest that $Y_h$ does not represent capacity output. If unemployment were high and fixed capital investment low in period $h$ and some succeeding periods it would seem unlikely that resources were being fully utilised in period $h$. Equally, there may be information from the trade concerned indicating surplus capacity. In these cases the peak $Y_h$ may be disregarded. We shall denote a Wharton index calculated to take these possibilities into account by $W_a$.

We shall also present estimates for a third index of capacity utilisation. This simply estimates the ratio of output to a trend value of output obtained by regressing output against time. This index $C$ is given by

$$C_t = 100 Y_t / \hat{Y}_t \tag{6}$$

where $\hat{Y}_t$ denotes the output estimate derived from the regression. This approach involves calculating utilisation indices relative to average rather than maximum utilisation levels and approximately half the values will be greater than 100. A merit of this approach, compared with alternative approaches, is that it is readily computable within an econometric model.

4. *The Data*

Quarterly series of production in the form of indices of the volume of production in the major industrial groups are available in the various issues of the *Irish Statistical Bulletin*. The series have base 1953=100. The Classification is as follows:

(A) Food
(B) Drink and Tobacco
(C) Textiles
(D) Clothing and Footwear
(E) Wood and Furniture
(F) Paper and Printing
(G) Chemicals and Chemical Products
(H) Clay Products, Glass, Cement, etc.
(I) Metal and Engineering
(J) Other Manufacturing Industries
(K) Mining, Quarrying and Turf
(L) Total Manufacturing Industries=the sum of classifications (A) to (J)
(M) Total Transportable Industries=the sum of classifications (A) to (K)

Before the output data could be used, it was necessary to eliminate the seasonal components. The recognition and elimination of seasonality in a time series can be extremely complex but the aim here was simply to smooth out the worst of any obvious seasonal variation and one hundred per cent success is unlikely to be achieved. With this in mind a single multiplicative method was used where the trend was defined by a five point weighted moving average (1, 2, 2, 2, 1) and the average proportion of variation of the actual value from the trend value defined the multiplicative seasonal component.[9]

5. *Capacity Utilisation Estimates*

In this section we present our estimates of the three indices for the eleven individual industries (A) to (K) and for the two industry aggregates, total manufacturing industries

9. A multiplicative approach was selected in preference to an additive one as this seemed more realistic. An additive method gives a fixed seasonal component regardless of the increase in the statistic whereas the multiplicative method defines the seasonal component as some fraction of the present value of the statistic, thus the larger the statistic the larger the seasonal component.

(L) and total transportable industries (M). For the two industry aggregates we present two sets of indices. The first set is based on applying exactly the same procedures as for the individual industries. The second set (L') and (M'), are obtained by weighting the individual industries by the weights given in the index of production; the indices are denoted by $W'$, $W_a'$ and $C'$. This approach seems to be preferable to the straightforward procedure, at least for the Wharton and modified Wharton indices, because it recognises that full capacity utilisation is reached in different industries at different times so that total manufacturing industries and total transportable industries operate at full capacity only if the individual component industries are all simultaneously operating at full capacity. For the period under consideration this does not occur. A disadvantage of the approach is the considerable amount of computational work involved in calculating the weighted series, for each individual index must be calculated and weighted averages computed. In the present study we estimated the individual industry utilisation rates anyway. But a researcher who wanted to make use of, say, only estimates for total manufacturing industries for a period after the closing date of our series would be involved in considerable labour in extending the series. For this reason we recommend that any researcher using our data for aggregates repeat his analysis using both types of estimates (the direct and the weighted) to see if the extra work involved in constructing weighted series is really worthwhile.

Capacity utilisation estimates are tabulated for the period extending from the first quarter of 1959 to the first quarter of 1973. We first present in summary from the peaks used in constructing the Wharton indices and the time trends used in calculating $C$. The seasonally adjusted output series and the various capacity utilisation indices follow.

We shall not comment further on our estimates at the present time as the choice between alternative capacity utilisation measures, and, in fact, whether they are at all useful or not, can only be decided when econometric and other studies are undertaken using the measures. We should be grateful if any users of our series would send us their results.

*University of Birmingham.*
*Claremont Graduate School, California.*

## *REFERENCES*

Baker, T. J. and Durkan, J., "A Study of Imports. Part 4. Producers' Capital Goods Ready for Use," *Quarterly Economic Commentary,* March 1970, pp. 16–28.

Baker, T. J. and Neary, P., "A Study of Consumer Prices. Part 2", *Quarterly Economic Commentary,* Autumn 1971, pp. 17–35.

Baker, T. J. and Neary, P., "A Study of Consumer Prices. Part 3", *Quarterly Economic Commentary,* October 1972, pp. 23–37.

Ball, R. J., Eaton, J. D. and Steuer, M. D., "The Relationship between UK Export Performance in Manufactures and the Internal Pressure of Demand", *Economic Journal,* September 1966, pp. 501–18.

Bank of England, "Capital Utilisation in Manufacturing Industry", *Bank of England Quarterly Bulletin,* December 1971, pp. 490–96.

Black, W., Simpson, J. V. and Slattery, D. G., *Costs and Prices in Transportable Goods Industries,* The Economic and Social Research Institute, Paper No. 51, December 1969.

Briscoe, G., O'Brien, P. and Smyth, D. J., "The Measurement of Capacity Utilisation in the United Kingdom", *The Manchester School,* June 1970, pp. 91–177.

Briscoe, G. and O'Brien, P., "Recent Research on Capacity Utilisation in the United Kingdom: A survey", *Bulletin of Economic Research,* May 1972, pp. 33–41.

Henry, E. W., "Estimation of Capital Stock in Irish Industry, 1953–1968", *Journal of the Statistical and Social Inquiry Society of Ireland, Volume XXII Part IV,* 1971–72, pp. 1–29.
Hilton, K., "Capital and Capacity Utilisation in the United Kingdom", *Bulletin of the Oxford University Institute of Economics and Statistics,* August 1970, pp. 187–217.
Junankar, P. N., "The Relationship between Investment and Spare Capacity in the United Kingdom", *Economica,* August 1970, pp. 277–92.
Kennedy, K. A., *Productivity and Industrial Growth: The Irish Experience,* Oxford: Clarendon Press, 1971.
Klein, L. R. and Preston, R. S., "Some New Results in the Measurement of Capacity Utilisation", *American Economic Review,* March 1967, pp. 36–58.
Klein, L. R. and Summers, R., *The Wharton Index of Capacity Utilisation* Economics Research Unit, Wharton School, University of Pennsylvania, 1966.
Lund, P. J., "Capacity and Capital Utilisation: A Note", *The Manchester School,* March 1971, pp. 45–52.
McMahon, P. C., *Capacity Utilisation in Ireland,* Discussion Paper A152, Faculty of Commerce and Social Science, University of Birmingham, October, 1973.
Martin, J., "The Effects of Trade Union Militancy Price Expectations and Monetary Union on Inflation in Ireland in the post-war Period" B. Phil. thesis, University of Oxford, 1974.
Nevin, E., *The Capital Stock of Irish Industry* Paper No. 17, The Economic Research Institute, November, 1963.
Nobay, A. R., "Forecasting Manufacturing Investment—Some Preliminary Results", *National Institute Economic Review,* May 1970, pp. 58–66.
Nordhaus, W. D. and Godley, W., "Pricing in the Trade Cycle", *Economic Journal,* September 1972, pp. 853–82.
Organisation for Economic Co-operation and Development, *The Measurement of Domestic Cyclical Fluctuations* Occasional Study OECD Economic Outlook, July 1973.
Paish, F., "Output, Inflation and Growth" in *Studies in an Inflationary Economy* London, 1966.
Sandell, S. H., "Non-Agricultural Unemployment and its Measurement in the Republic of Ireland", Central Bank of Ireland, *Annual Report,* 1973–74 (incorporating Central Bank of Ireland *Quarterly Bulletin* Summer 1974) pp. 110–34.
Smyth, D. J., "Stop-Go and United Kingdom Exports of Manufactures", *Bulletin of the Oxford University Institute of Economics and Statistics,* February 1968, pp. 25–36.
Smyth, D. J., "The Effect of Internal Demand Pressure on United Kingdom Imports of Manufactures", *Economic Studies,* November 1969, pp. 61–65.
Smyth, D. J. and Briscoe, G., "Investment Plans and Realisations in United Kingdom Manufacturing", *Economica,* August 1969, pp. 277–94.
Smyth, D. J. and Briscoe, G., "Investment and Capacity Utilisation in the United Kingdom, 1923–66", *Oxford Economic Papers,* March 1971, pp. 277–94.
Smyth, D. J. and Briscoe, G., "Investment and Capacity Utilisation in the United Kingdom, 1923–66: A Rejoinder to Lund and Holden", *Oxford Economic Papers,* November 1972, pp. 448–9.
Smyth, D. J. and McMahon, P. C., "Short-Run Employment Functions for Irish Manufacturing", forthcoming.
Solow, R. M., "Technical Progress, Capital Formation and Economic Growth", *American Economic Review,* May 1962, pp. 76–86.
Taylor, J., Winter, D. and Pearse, D. W., "A Nineteen Industry Series of Capacity Utilisation in the UK: 1948–1968", *Bulletin of the Oxford University Institute of Economics and Statistics,* May 1970, pp. 113–31.
Trivedi, P.K., "The Relation between the Order-Delivery Lag and the Rate of Capacity Utilisation in the Engineering Industry in the United Kingdom, 1958–67", *Economica,* February 1970, pp. 54–67.
Walsh, B. M., "Expectations, Information and Human Migration: Specifying an Econometric Model of Irish Migration to Britain", *Journal of Regional Science,* Vol 14, No 1, 1974, pp. 107–20.

*Wharton Index, Peak Periods*

| | *Industry* | *W* | $W_a$ |
|---|---|---|---|
| A | Food | 59 (ii), 62 (iv), 63 (iv), 64 (iii), 66 (i), 67 (i), 69 (ii). | 62 (iv), 66 (i), 67 (i), 69 (ii), 69 (iii), 73 (i). |
| B | Drink and Tobacco | 59 (iv), 61 (ii), 62 (i), 64 (iv), 68 (ii), 70 (ii), 71 (iv). | 59 (iv), 61 (ii), 64 (iv), 68 (ii), 71 (iv), 72 (iv). |
| C | Textiles | 61 (i), 62 (i), 62 (iv), 64 (i), 64 (ii), 65 (i), 71 (i), 73 (i). | 61 (i), 62 (iv), 64 (i), 71 (i), 73 (i). |
| D | Clothing and Footwear | 59 (ii), 60 (iv), 61 (i), 61 (iii), 64 (ii), 64 (iii), 69 (ii). | 59 (ii), 60 (iv), 61 (i), 61 (iii), 64 (ii), 64 (iii), 69 (ii). |
| E | Wood and Furniture | 59 (iv), 60 (iii), 61 (i), 64 (i), 71 (i), 72 (iv). | 59 (iv), 64 (i), 71 (i), 72 (iv). |
| F | Paper and Printing | 59 (iii), 61 (iii), 62 (iv), 64 (iii), 65 (ii), 67 (iii), 68 (iii), 69 (iii), 70 (iii), 72 (iii). | 59 (iii), 61 (iii), 64 (iii), 69 (iii), 72 (iii). |
| G | Chemicals and Chemical Products | 59 (i), 60 (i), 61 (i), 63 (i), 65 (iii), 68 (iii). | 59 (i), 61 (i), 63 (i), 65 (iii), 68 (iii). |
| H | Clay Products, Glass, Cement, etc. | 59 (i), 60 (ii), 65 (ii), 67 (ii), 68 (ii), 69 (ii), 71 (ii). | 59 (i), 60 (i), 65 (ii), 68 (ii), 71 (ii). |
| I | Metal and Engineering | 60 (i), 61 (ii), 62 (i), 64 (iv), 69 (ii). | 60 (i), 64 (iv), 69 (ii). |
| J | Other Manufacturing Industries | 59 (i), 59 (iii), 59 (iv), 61 (i), 61 (iv), 65 (i), 65 (iii), 68 (i), 68 (ii), 69 (ii), 70 (iv). | 59 (iii), 59 (iv), 61 (i), 61 (iv), 65 (i), 65 (iii), 69 (ii), 70 (iv). |
| K | Mining, Quarrying and Turf | 59 (ii), 62 (ii), 64 (iii), 66 (iii), 66 (iv), 68 (iv), 69 (iv), 71 (i). | 59 (ii), 62 (ii), 69 (iv), 71 (i). |
| L | Total Manufacturing Industries | 61 (i), 62 (i), 64 (i), 64 (ii), 64 (iv), 65 (iv), 69 (ii), 70 (iii), 73 (i). | 61 (i), 62 (i), 64 (i), 69 (ii), 73 (i). |
| M | Total Transportable Industries | 59 (ii), 60 (i), 60 (ii), 61 (i), 64 (i), 64 (iv), 65 (i), 65 (iv), 69 (ii). | 61 (i), 64 (i), 64 (iv), 65 (i), 69 (ii). |

*Time Trends Used in Calculating C*

| | *Industry* | *Equation* |
|---|---|---|
| A | Food | $Y_t = 90{\cdot}87 + 1{\cdot}130t + {\cdot}007t^2$ |
| B | Drink and Tobacco | $Y_t = 97{\cdot}89 + 1{\cdot}107t - {\cdot}035t^2$ |
| C | Textiles | $Y_t = 117{\cdot}96 + 6{\cdot}437t - {\cdot}192t^2 + {\cdot}003t^3$ |
| D | Clothing and Footwear | $Y_t = 96{\cdot}59 + 2{\cdot}554t - {\cdot}020t^2$ |
| E | Wood and Furniture | $Y_t = 95{\cdot}71 + 4{\cdot}628t - {\cdot}134t^2 + {\cdot}002t^3$ |
| F | Paper and Printing | $Y_t = 130{\cdot}21 + 2{\cdot}479t - {\cdot}036t^2 + {\cdot}001t^3$ |
| G | Chemicals and Chemical Products | $Y_t = 129{\cdot}04 + 4{\cdot}865t + {\cdot}035t^2$ |
| H | Clay Products, Glass, Cement, etc. | $Y_t = 95{\cdot}81 + 6{\cdot}148t - {\cdot}081t^2 + {\cdot}002t^3$ |
| I | Metal and Engineering | $Y_t = 124{\cdot}93 + 6{\cdot}350t - {\cdot}071t^2 + {\cdot}001t^3$ |
| J | Other Manufacturing | $Y_t = 148{\cdot}91 + 3{\cdot}243t + {\cdot}174t^2 - {\cdot}002t^3$ |
| K | Mining, Quarrying and Turf | $Y_t = 138{\cdot}36 + 1{\cdot}673t + {\cdot}135t^2$ |
| L | Total Manufacturing Industries | $Y_t = 110{\cdot}47 + 1{\cdot}977t + {\cdot}013t^2$ |
| M | Total Transportable Industries | $Y_t = 112{\cdot}26 + 1{\cdot}961t + {\cdot}017t^2$ |

$t = 1$ in 1959 (i)

*Food* (A)

| | *Y* | *W* | $W_a$ | *C* |
|---|---|---|---|---|
| | 92.98 | 97.52 | 91.92 | 101.06 |
| 1959 | 96.72 | 100.00 | 94.60 | 103.82 |
| | 89.79 | 91.44 | 86.90 | 95.19 |
| | 94.80 | 95.11 | 90.80 | 99.26 |
| | 95.46 | 94.38 | 90.50 | 98.72 |
| 1960 | 95.72 | 93.28 | 89.63 | 97.77 |
| | 97.19 | 93.37 | 90.29 | 98.05 |
| | 101.12 | 95.78 | 93.01 | 100.76 |
| | 102.90 | 96.13 | 93.71 | 101.27 |
| 1961 | 107.69 | 99.24 | 97.12 | 104.69 |
| | 103.67 | 94.25 | 92.59 | 99.54 |
| | 109.25 | 98.01 | 96.64 | 103.62 |
| | 107.86 | 95.50 | 94.51 | 101.05 |
| 1962 | 110.68 | 96.73 | 96.07 | 102.42 |
| | 111.08 | 95.85 | 95.52 | 101.54 |
| | 117.37 | 100.00 | 100.00 | 105.99 |
| | 106.62 | 90.49 | 90.01 | 95.11 |
| 1963 | 108.68 | 91.89 | 90.92 | 95.77 |
| | 116.63 | 98.23 | 96.70 | 101.53 |
| | 119.18 | 100.00 | 97.93 | 102.50 |
| | 117.78 | 98.51 | 95.93 | 100.08 |
| 1964 | 118.65 | 98.92 | 95.80 | 99.61 |
| | 120.33 | 100.00 | 96.31 | 99.81 |
| | 120.08 | 98.28 | 95.29 | 98.41 |
| | 116.54 | 93.96 | 91.69 | 94.37 |
| 1965 | 117.66 | 93.47 | 91.79 | 94.14 |
| | 119.41 | 93.49 | 92.38 | 94.41 |
| | 124.60 | 96.16 | 95.60 | 97.35 |
| | 131.42 | 100.00 | 100.00 | 101.46 |
| 1966 | 122.64 | 91.59 | 91.59 | 93.57 |
| | 129.59 | 95.02 | 95.02 | 97.71 |
| | 130.92 | 94.28 | 94.28 | 97.56 |
| | 141.34 | 100.00 | 100.00 | 104.09 |
| 1967 | 137.60 | 95.83 | 95.83 | 100.16 |
| | 138.85 | 95.22 | 95.22 | 99.90 |
| | 140.85 | 95.12 | 95.12 | 100.16 |
| | 147.53 | 98.15 | 98.15 | 103.70 |
| 1968 | 144.58 | 94.77 | 94.77 | 100.46 |
| | 145.33 | 93.88 | 93.88 | 99.82 |
| | 146.27 | 93.14 | 93.14 | 99.32 |
| | 140.10 | 87.95 | 87.95 | 94.05 |
| 1969 | 161.53 | 100.00 | 100.00 | 107.20 |
| | 162.91 | 99.47 | 100.00 | 106.89 |
| | 148.07 | 89.19 | 90.22 | 96.06 |
| | 158.69 | 94.31 | 95.99 | 101.79 |
| 1970 | 161.53 | 94.74 | 97.00 | 102.45 |
| | 164.76 | 95.38 | 98.23 | 103.33 |
| | 152.59 | 87.20 | 90.33 | 94.64 |
| | 163.65 | 92.34 | 96.19 | 100.37 |
| 1971 | 164.52 | 91.67 | 96.02 | 99.79 |
| | 163.84 | 90.16 | 94.96 | 98.28 |
| | 163.42 | 88.83 | 94.06 | 96.95 |
| | 168.61 | 90.55 | 96.37 | 98.94 |
| 1972 | 173.49 | 92.06 | 98.49 | 100.69 |
| | 172.17 | 90.29 | 97.07 | 98.84 |
| | 163.42 | 84.70 | 91.52 | 92.80 |
| | 179.77 | 92.10 | 100.00 | 100.98 |

*Drink and Tobacco* (B)

| | *Y* | *W* | $W_a$ | *C* |
|---|---|---|---|---|
| | 93.95 | 92.65 | 92.55 | 94.93 |
| 1959 | 96.77 | 94.42 | 94.42 | 96.80 |
| | 101.52 | 98.11 | 98.11 | 100.59 |
| | 104.45 | 100.00 | 100.00 | 102.58 |
| | 103.35 | 98.03 | 98.03 | 100.66 |
| 1960 | 99.67 | 93.67 | 93.67 | 96.31 |
| | 106.49 | 99.17 | 99.17 | 102.13 |
| | 105.44 | 97.30 | 97.30 | 100.40 |
| | 107.52 | 98.33 | 98.33 | 101.68 |
| 1961 | 110.32 | 100.00 | 100.00 | 103.63 |
| | 109.48 | 98.83 | 98.79 | 102.16 |
| | 109.42 | 98.36 | 98.29 | 101.44 |
| | 111.70 | 100.00 | 99.88 | 102.89 |
| 1962 | 106.45 | 94.86 | 94.76 | 97.42 |
| | 107.49 | 95.35 | 95.26 | 97.72 |
| | 109.42 | 96.62 | 96.54 | 98.81 |
| | 109.61 | 96.35 | 96.28 | 98.30 |
| 1963 | 107.41 | 93.99 | 93.93 | 95.64 |
| | 108.48 | 94.50 | 94.45 | 95.88 |
| | 111.41 | 96.61 | 96.57 | 97.70 |
| | 112.74 | 97.33 | 97.30 | 98.07 |
| 1964 | 113.22 | 97.31 | 97.29 | 97.64 |
| | 111.47 | 95.38 | 95.37 | 95.27 |
| | 117.38 | 100.00 | 100.00 | 99.37 |
| | 115.88 | 97.93 | 97.93 | 97.12 |
| 1965 | 112.25 | 94.11 | 94.11 | 93.09 |
| | 109.48 | 91.07 | 91.07 | 89.78 |
| | 110.42 | 91.13 | 91.13 | 89.48 |
| | 116.92 | 95.75 | 95.75 | 93.58 |
| 1966 | 106.45 | 86.50 | 86.50 | 84.08 |
| | 116.44 | 93.90 | 93.90 | 90.71 |
| | 111.41 | 89.16 | 89.16 | 85.54 |
| | 115.88 | 92.04 | 92.04 | 87.63 |
| 1967 | 116.12 | 91.54 | 91.54 | 86.42 |
| | 118.44 | 92.68 | 92.68 | 86.68 |
| | 118.38 | 91.95 | 91.95 | 85.14 |
| | 124.23 | 95.79 | 95.79 | 87.74 |
| 1968 | 130.64 | 100.00 | 100.00 | 90.54 |
| | 124.41 | 94.53 | 94.12 | 84.55 |
| | 121.36 | 91.54 | 90.76 | 80.82 |
| | 114.83 | 85.99 | 84.90 | 74.87 |
| 1969 | 126.77 | 94.25 | 92.67 | 80.88 |
| | 127.39 | 94.03 | 92.08 | 79.48 |
| | 130.31 | 95.50 | 93.16 | 79.45 |
| | 129.45 | 94.21 | 91.54 | 77.07 |
| 1970 | 138.38 | 100.00 | 96.80 | 80.41 |
| | 135.35 | 96.21 | 93.67 | 76.72 |
| | 138.27 | 96.70 | 94.68 | 76.40 |
| | 135.71 | 93.41 | 91.96 | 73.06 |
| 1971 | 146.12 | 99.00 | 97.99 | 76.61 |
| | 144.31 | 96.27 | 95.79 | 73.64 |
| | 152.20 | 100.00 | 100.00 | 75.56 |
| | 140.93 | 91.21 | 92.29 | 68.04 |
| 1972 | 143.22 | 91.34 | 93.49 | 67.22 |
| | 148.29 | 93.20 | 96.48 | 67.63 |
| | 154.19 | 95.52 | 100.00 | 68.30 |
| | 149.28 | 91.18 | 96.50 | 64.22 |

*Textiles* (C)

| | $Y$ | $W$ | $W_a$ | $C$ |
|---|---|---|---|---|
| | 123.06 | 75.46 | 77.65 | 99.08 |
| 1959 | 114.48 | 69.45 | 71.19 | 88.00 |
| | 124.35 | 74.65 | 76.23 | 91.69 |
| | 123.47 | 73.35 | 74.62 | 87.67 |
| | 162.07 | 95.29 | 96.60 | 111.22 |
| 1960 | 154.25 | 89.77 | 90.68 | 102.62 |
| | 165.44 | 95.31 | 95.95 | 196.98 |
| | 164.63 | 93.90 | 94.21 | 103.73 |
| 1961 | 177.08 | 100.00 | 100.00 | 108.95 |
| | 168.81 | 94.40 | 94.09 | 101.61 |
| | 168.69 | 93.42 | 92.83 | 99.51 |
| | 164.63 | 90.29 | 89.45 | 95.31 |
| | 184.08 | 100.00 | 98.77 | 104.72 |
| 1962 | 182.39 | 97.45 | 96.66 | 102.08 |
| | 183.83 | 96.62 | 96.23 | 101.32 |
| | 193.35 | 100.00 | 100.00 | 105.03 |
| | 196.09 | 99.59 | 99.59 | 105.06 |
| 1963 | 182.39 | 90.99 | 90.99 | 96.44 |
| | 183.83 | 90.11 | 90.11 | 95.98 |
| | 194.30 | 93.62 | 93.62 | 100.21 |
| | 211.10 | 100.00 | 100.00 | 107.57 |
| 1964 | 211.49 | 100.00 | 97.77 | 106.50 |
| | 203.29 | 95.28 | 91.77 | 101.17 |
| | 207.70 | 96.50 | 91.60 | 102.15 |
| | 217.10 | 100.00 | 93.59 | 105.51 |
| 1965 | 205.67 | 92.26 | 86.71 | 98.76 |
| | 206.53 | 90.28 | 85.20 | 97.96 |
| | 214.40 | 91.39 | 86.59 | 100.41 |
| | 217.10 | 90.29 | 85.87 | 100.36 |
| 1966 | 202.76 | 82.33 | 78.57 | 92.47 |
| | 220.59 | 87.50 | 83.79 | 99.20 |
| | 223.98 | 86.83 | 83.42 | 99.26 |
| | 137.06 | 51.96 | 50.08 | 59.82 |
| 1967 | 234.78 | 87.08 | 84.18 | 100.86 |
| | 236.81 | 85.97 | 83.35 | 100.05 |
| | 241.20 | 85.75 | 83.36 | 100.15 |
| | 258.12 | 89.90 | 87.63 | 105.25 |
| 1968 | 262.91 | 89.74 | 87.70 | 105.19 |
| | 266.01 | 89.03 | 87.22 | 104.35 |
| | 279.49 | 91.75 | 90.10 | 107.40 |
| | 257.12 | 82.82 | 81.51 | 96.70 |
| 1969 | 282.31 | 89.25 | 88.04 | 103.83 |
| | 301.69 | 93.65 | 92.58 | 108.42 |
| | 308.21 | 93.97 | 93.09 | 108.13 |
| | 319.15 | 95.61 | 94.90 | 109.22 |
| 1970 | 323.06 | 95.11 | 94.60 | 107.76 |
| | 328.72 | 95.15 | 94.81 | 106.78 |
| | 339.79 | 96.72 | 96.55 | 107.41 |
| | 357.16 | 100.00 | 100.00 | 109.78 |
| 1971 | 346.34 | 94.17 | 94.17 | 103.44 |
| | 344.94 | 91.15 | 91.15 | 100.04 |
| | 357.98 | 92.01 | 92.01 | 100.74 |
| | 382.18 | 95.62 | 95.62 | 104.30 |
| 1972 | 362.84 | 88.43 | 88.43 | 95.97 |
| | 383.87 | 91.19 | 91.19 | 98.35 |
| | 417.32 | 96.70 | 96.70 | 103.51 |
| | 442.20 | 100.00 | 100.00 | 106.13 |

## *Clothing and Footwear* (D)

| | *Y* | *W* | $W_a$ | *C* |
|---|---|---|---|---|
| | 95.78 | 94.15 | 94.15 | 96.63 |
| 1959 | 104.26 | 100.00 | 100.00 | 102.60 |
| | 105.02 | 98.35 | 98.35 | 100.91 |
| | 102.23 | 93.52 | 93.52 | 96.00 |
| | 118.62 | 97.12 | 97.12 | 99.78 |
| 1960 | 108.24 | 94.64 | 94.64 | 97.34 |
| | 112.53 | 96.27 | 96.27 | 99.16 |
| | 119.42 | 100.00 | 100.00 | 103.18 |
| | 121.46 | 100.00 | 100.00 | 102.97 |
| 1961 | 122.14 | 99.39 | 99.39 | 101.67 |
| | 124.31 | 100.00 | 100.00 | 101.67 |
| | 121.33 | 95.20 | 95.20 | 97.57 |
| | 122.45 | 93.76 | 93.76 | 96.87 |
| 1962 | 119.16 | 89.10 | 89.10 | 92.78 |
| | 125.39 | 91.61 | 91.61 | 96.16 |
| | 130.89 | 93.48 | 93.48 | 98.91 |
| | 139.23 | 97.25 | 97.25 | 103.73 |
| 1963 | 136.04 | 92.98 | 92.98 | 99.97 |
| | 141.46 | 94.65 | 94.65 | 102.58 |
| | 144.28 | 94.54 | 94.54 | 103.29 |
| | 151.08 | 97.01 | 97.01 | 106.84 |
| 1964 | 158.88 | 100.00 | 100.00 | 111.03 |
| | 160.75 | 100.00 | 100.00 | 111.05 |
| | 159.55 | 98.48 | 98.48 | 109.01 |
| | 144.17 | 88.30 | 88.30 | 97.45 |
| 1965 | 142.99 | 86.91 | 86.91 | 95.66 |
| | 153.25 | 92.44 | 92.44 | 101.51 |
| | 149.04 | 89.22 | 89.22 | 97.78 |
| | 144.17 | 85.66 | 85.66 | 93.72 |
| 1966 | 147.95 | 87.25 | 87.25 | 95.32 |
| | 147.89 | 86.57 | 86.57 | 94.47 |
| | 149.99 | 87.16 | 87.16 | 95.03 |
| | 155.03 | 89.43 | 89.43 | 97.45 |
| 1967 | 156.89 | 89.85 | 89.85 | 97.87 |
| | 151.11 | 85.92 | 85.92 | 93.58 |
| | 151.91 | 85.76 | 85.76 | 93.42 |
| | 163.92 | 91.89 | 91.89 | 100.13 |
| 1968 | 163.84 | 91.20 | 91.20 | 99.44 |
| | 168.25 | 93.00 | 93.00 | 101.49 |
| | 172.92 | 94.92 | 94.92 | 103.70 |
| | 175.77 | 95.82 | 95.82 | 104.82 |
| 1969 | 184.69 | 100.00 | 100.00 | 109.56 |
| | 174.68 | 93.94 | 93.94 | 103.10 |
| | 177.70 | 94.92 | 94.92 | 104.38 |
| | 171.82 | 91.17 | 91.17 | 100.47 |
| 1970 | 177.74 | 93.68 | 93.68 | 103.49 |
| | 169.32 | 88.65 | 88.65 | 98.19 |
| | 175.79 | 91.44 | 91.44 | 101.55 |
| | 169.85 | 87.77 | 87.77 | 97.77 |
| 1971 | 171.79 | 88.20 | 88.20 | 98.57 |
| | 170.40 | 86.93 | 86.93 | 97.47 |
| | 175.79 | 89.10 | 89.10 | 100.27 |
| | 174.78 | 88.03 | 88.03 | 99.44 |
| 1972 | 173.77 | 86.97 | 86.97 | 98.63 |
| | 178.97 | 89.01 | 89.01 | 101.36 |
| | 181.52 | 89.71 | 89.71 | 102.62 |
| | 180.71 | 88.76 | 88.76 | 101.99 |

*Wood and Furniture* (E)

| | $Y$ | $W$ | $W_a$ | $C$ |
|---|---|---|---|---|
| | 87.14 | 85.68 | 93.70 | 108.65 |
| 1959 | 90.58 | 89.10 | 94.34 | 107.26 |
| | 95.64 | 93.90 | 96.58 | 108.14 |
| | 102.04 | 100.00 | 100.00 | 110.67 |
| | 94.49 | 92.43 | 89.94 | 98.68 |
| 1960 | 98.37 | 96.05 | 91.02 | 99.28 |
| | 102.61 | 100.00 | 92.37 | 100.38 |
| | 99.10 | 94.99 | 86.85 | 94.22 |
| | 106.04 | 100.00 | 90.54 | 98.22 |
| 1961 | 98.37 | 89.45 | 81.89 | 88.95 |
| | 100.62 | 88.33 | 81.71 | 88.99 |
| | 98.12 | 83.26 | 77.78 | 85.02 |
| | 102.89 | 84.48 | 79.65 | 87.48 |
| 1962 | 105.19 | 83.67 | 79.58 | 87.86 |
| | 106.60 | 82.21 | 78.85 | 87.57 |
| | 110.87 | 82.98 | 80.21 | 89.67 |
| | 122.84 | 89.31 | 86.98 | 97.89 |
| 1963 | 130.51 | 92.25 | 98.48 | 102.55 |
| | 134.49 | 92.49 | 91.33 | 104.27 |
| | 142.27 | 95.26 | 94.67 | 108.88 |
| | 153.29 | 100.00 | 100.00 | 115.84 |
| 1964 | 152.91 | 98.83 | 98.83 | 114.14 |
| | 143.46 | 91.88 | 91.88 | 105.79 |
| | 141.29 | 89.67 | 89.67 | 102.95 |
| | 138.59 | 87.17 | 87.17 | 99.77 |
| 1965 | 147.07 | 91.68 | 91.68 | 104.60 |
| | 143.46 | 88.64 | 88.64 | 100.78 |
| | 140.31 | 85.94 | 85.94 | 97.34 |
| | 140.69 | 85.43 | 85.43 | 96.36 |
| 1966 | 141.23 | 85.02 | 85.02 | 95.46 |
| | 146.45 | 87.41 | 87.41 | 97.64 |
| | 134.42 | 79.55 | 79.55 | 88.36 |
| | 132.29 | 77.64 | 77.64 | 85.69 |
| 1967 | 138.30 | 80.49 | 80.49 | 88.22 |
| | 140.47 | 81.08 | 81.08 | 88.19 |
| | 143.25 | 82.01 | 82.01 | 88.44 |
| | 146.99 | 83.47 | 83.47 | 89.19 |
| 1968 | 141.23 | 79.56 | 79.56 | 84.15 |
| | 153.42 | 85.74 | 85.74 | 89.71 |
| | 163.85 | 90.84 | 90.84 | 93.93 |
| | 156.44 | 86.06 | 86.06 | 87.86 |
| 1969 | 165.57 | 90.37 | 90.37 | 91.03 |
| | 163.38 | 88.49 | 88.49 | 87.86 |
| | 169.74 | 91.23 | 91.23 | 89.20 |
| | 165.89 | 88.48 | 88.48 | 85.13 |
| 1970 | 171.42 | 90.74 | 90.74 | 85.83 |
| | 172.35 | 90.55 | 90.55 | 84.13 |
| | 187.40 | 97.72 | 97.72 | 89.11 |
| | 193.19 | 100.00 | 100.00 | 89.42 |
| 1971 | 186.03 | 93.57 | 93.57 | 83.76 |
| | 182.31 | 89.18 | 89.18 | 79.78 |
| | 193.29 | 92.02 | 92.02 | 82.17 |
| | 201.59 | 93.47 | 93.47 | 83.18 |
| 1972 | 203.56 | 91.99 | 91.99 | 81.49 |
| | 198.25 | 87.37 | 87.37 | 76.95 |
| | 232.53 | 100.00 | 100.00 | 87.45 |
| | 232.04 | 99.39 | 97.43 | 84.52 |

*Paper and Printing* (F)

| | $Y$ | $W$ | $W_a$ | $C$ |
|---|---|---|---|---|
| | 126.14 | 91.66 | 91.66 | 95.09 |
| 1959 | 127.83 | 91.40 | 91.40 | 94.67 |
| | 142.89 | 100.00 | 100.00 | 103.45 |
| | 137.15 | 95.03 | 95.03 | 98.24 |
| | 144.02 | 98.26 | 98.26 | 101.54 |
| 1960 | 143.45 | 96.40 | 96.40 | 99.62 |
| | 149.46 | 98.95 | 98.95 | 102.27 |
| | 140.08 | 91.39 | 91.39 | 94.49 |
| | 152.96 | 98.36 | 98.36 | 101.75 |
| 1961 | 155.16 | 98.36 | 98.36 | 101.81 |
| | 159.99 | 100.00 | 100.00 | 103.58 |
| | 159.68 | 98.64 | 98.24 | 102.03 |
| | 159.91 | 97.64 | 96.87 | 100.86 |
| 1962 | 157.11 | 94.83 | 93.73 | 97.82 |
| | 166.30 | 99.24 | 97.73 | 102.23 |
| | 169.47 | 100.00 | 98.13 | 102.86 |
| | 163.88 | 95.02 | 93.51 | 98.21 |
| 1963 | 163.94 | 93.42 | 92.21 | 97.01 |
| | 171.56 | 96.12 | 95.13 | 100.23 |
| | 177.31 | 97.70 | 96.95 | 102.26 |
| | 180.77 | 97.98 | 97.49 | 102.91 |
| 1964 | 184.43 | 98.36 | 98.12 | 103.63 |
| | 190.51 | 100.00 | 100.00 | 105.63 |
| | 182.21 | 94.87 | 94.21 | 99.68 |
| | 188.71 | 97.47 | 96.13 | 101.83 |
| 1965 | 195.17 | 100.00 | 97.98 | 103.87 |
| | 119.99 | 61.20 | 59.38 | 62.96 |
| | 190.05 | 96.50 | 92.72 | 98.29 |
| | 184.74 | 93.38 | 88.87 | 94.15 |
| 1966 | 161.01 | 81.03 | 76.39 | 80.84 |
| | 179.98 | 90.17 | 84.23 | 88.99 |
| | 190.05 | 94.80 | 87.76 | 92.51 |
| | 185.73 | 92.23 | 84.63 | 88.97 |
| 1967 | 192.24 | 95.05 | 86.46 | 90.60 |
| | 203.14 | 100.00 | 90.19 | 94.16 |
| | 195.92 | 94.13 | 85.88 | 89.28 |
| | 201.62 | 94.60 | 87.27 | 90.29 |
| 1968 | 209.80 | 96.18 | 89.69 | 92.30 |
| | 223.14 | 100.00 | 94.22 | 96.41 |
| | 221.39 | 96.49 | 92.35 | 93.90 |
| | 216.52 | 91.84 | 89.25 | 90.12 |
| 1969 | 237.13 | 97.95 | 96.59 | 96.82 |
| | 248.40 | 100.00 | 100.00 | 99.46 |
| | 228.25 | 91.69 | 91.05 | 89.59 |
| | 234.40 | 93.96 | 92.66 | 90.16 |
| 1970 | 242.98 | 97.20 | 95.20 | 91.55 |
| | 250.51 | 100.00 | 97.28 | 92.43 |
| | 231.19 | 91.14 | 88.99 | 83.51 |
| | 234.40 | 91.27 | 89.44 | 82.86 |
| 1971 | 239.08 | 91.96 | 90.44 | 82.68 |
| | 248.40 | 94.40 | 93.16 | 84.02 |
| | 239.03 | 89.76 | 88.88 | 79.05 |
| | 252.28 | 93.63 | 93.02 | 81.55 |
| 1972 | 259.57 | 95.22 | 94.91 | 82.00 |
| | 275.77 | 100.00 | 100.00 | 85.11 |
| | 270.37 | 97.76 | 97.24 | 81.50 |
| | 273.14 | 98.48 | 97.43 | 80.40 |

## *Chemicals and Chemical Products* (G)

| | $Y$ | $W$ | $W_a$ | $C$ |
|---|---|---|---|---|
| | 137.84 | 100.00 | 100.00 | 102.91 |
| 1959 | 142.05 | 97.47 | 96.31 | 102.26 |
| | 150.94 | 98.24 | 96.05 | 104.86 |
| | 155.18 | 96.06 | 93.03 | 104.11 |
| | 169.44 | 100.00 | 96.02 | 109.85 |
| 1960 | 167.42 | 92.57 | 89.95 | 104.97 |
| | 157.80 | 82.07 | 80.60 | 95.75 |
| | 181.22 | 88.97 | 88.21 | 106.47 |
| | 215.10 | 100.00 | 100.00 | 122.45 |
| 1961 | 197.86 | 91.10 | 91.10 | 109.20 |
| | 190.96 | 87.09 | 87.09 | 102.23 |
| | 191.23 | 86.39 | 86.39 | 99.36 |
| | 221.24 | 99.02 | 99.02 | 111.62 |
| 1962 | 198.87 | 88.18 | 88.18 | 97.48 |
| | 179.53 | 78.88 | 78.88 | 85.54 |
| | 201.24 | 87.61 | 87.61 | 93.24 |
| | 231.78 | 100.00 | 100.00 | 104.47 |
| 1963 | 206.99 | 87.06 | 87.06 | 90.81 |
| | 186.39 | 76.47 | 76.47 | 79.62 |
| | 222.26 | 89.00 | 89.00 | 92.48 |
| | 230.90 | 90.30 | 90.30 | 93.62 |
| 1964 | 220.18 | 84.14 | 84.14 | 87.02 |
| | 222.98 | 83.31 | 83.31 | 85.94 |
| | 240.29 | 87.81 | 87.81 | 90.35 |
| | 241.43 | 86.34 | 86.34 | 88.59 |
| 1965 | 240.47 | 84.20 | 84.20 | 86.13 |
| | 291.59 | 100.00 | 100.00 | 101.99 |
| | 281.33 | 91.32 | 91.32 | 96.12 |
| | 281.82 | 86.83 | 86.83 | 94.08 |
| 1966 | 279.03 | 81.82 | 81.82 | 91.04 |
| | 323.61 | 90.51 | 90.51 | 103.23 |
| | 308.37 | 82.45 | 82.45 | 96.20 |
| | 346.79 | 88.81 | 88.81 | 105.83 |
| 1967 | 367.30 | 90.25 | 90.25 | 109.67 |
| | 369.35 | 87.22 | 87.22 | 107.94 |
| | 378.45 | 86.02 | 86.02 | 108.27 |
| | 348.54 | 76.36 | 76.36 | 97.64 |
| 1968 | 403.83 | 85.39 | 85.39 | 110.81 |
| | 489.41 | 100.00 | 100.00 | 131.56 |
| | 466.55 | 92.22 | 92.22 | 122.89 |
| | 389.81 | 74.62 | 74.62 | 100.64 |
| 1969 | 443.40 | 82.28 | 82.28 | 112.22 |
| | 417.37 | 75.15 | 75.15 | 103.58 |
| | 417.50 | 73.01 | 73.01 | 101.62 |
| | 379.27 | 64.47 | 64.47 | 90.55 |
| 1970 | 437.31 | 72.31 | 72.31 | 102.44 |
| | 472.26 | 76.01 | 76.01 | 108.56 |
| | 427.51 | 67.03 | 67.03 | 96.46 |
| | 380.15 | 58.10 | 58.10 | 84.20 |
| 1971 | 460.65 | 68.68 | 68.68 | 100.19 |
| | 472.26 | 68.72 | 68.72 | 100.87 |
| | 441.53 | 62.74 | 62.74 | 92.63 |
| | 412.63 | 57.29 | 57.29 | 85.04 |
| 1972 | 481.96 | 65.42 | 65.42 | 97.60 |
| | 483.70 | 64.22 | 64.22 | 96.26 |
| | 546.65 | 71.03 | 71.03 | 106.93 |
| | 537.30 | 68.35 | 68.35 | 103.32 |

*Clay Products, Glass, Cement, etc.* (H)

| | $Y$ | $W$ | $W_a$ | $C$ |
|---|---|---|---|---|
| | 111.79 | 100.00 | 100.00 | 109.73 |
| 1959 | 112.58 | 95.99 | 95.99 | 104.44 |
| | 111.25 | 90.62 | 90.62 | 97.95 |
| | 120.62 | 94.04 | 94.04 | 101.16 |
| | 132.02 | 98.71 | 98.71 | 105.81 |
| 1960 | 139.24 | 100.00 | 100.00 | 106.93 |
| | 132.54 | 91.43 | 91.43 | 97.77 |
| | 128.53 | 85.29 | 85.29 | 91.26 |
| | 143.73 | 91.88 | 91.88 | 98.42 |
| 1961 | 121.47 | 74.91 | 74.91 | 80.34 |
| | 157.69 | 93.93 | 93.93 | 100.89 |
| | 162.15 | 93.40 | 93.40 | 100.48 |
| | 168.22 | 93.80 | 93.80 | 101.07 |
| 1962 | 175.78 | 94.98 | 94.98 | 102.50 |
| | 167.36 | 87.72 | 87.72 | 94.79 |
| | 186.87 | 95.09 | 95.09 | 102.88 |
| | 160.77 | 79.49 | 79.49 | 86.09 |
| 1963 | 190.59 | 91.64 | 91.64 | 99.32 |
| | 186.71 | 87.37 | 87.37 | 94.73 |
| | 195.77 | 89.22 | 89.22 | 96.74 |
| | 195.90 | 87.00 | 87.00 | 94.31 |
| 1964 | 211.33 | 91.53 | 91.53 | 99.14 |
| | 200.25 | 84.63 | 84.63 | 91.56 |
| | 215.54 | 88.94 | 88.94 | 96.07 |
| | 242.75 | 97.85 | 97.85 | 105.48 |
| 1965 | 253.80 | 100.00 | 100.00 | 107.52 |
| | 248.62 | 95.91 | 95.12 | 102.68 |
| | 244.21 | 92.27 | 90.80 | 98.33 |
| | 241.68 | 89.48 | 87.40 | 94.87 |
| 1966 | 235.03 | 85.30 | 82.73 | 89.93 |
| | 252.49 | 89.87 | 86.57 | 94.16 |
| | 269.92 | 94.25 | 90.21 | 98.10 |
| | 273.62 | 93.76 | 89.19 | 96.91 |
| 1967 | 297.25 | 100.00 | 94.56 | 102.57 |
| | 254.43 | 82.31 | 79.03 | 85.52 |
| | 286.73 | 89.34 | 87.02 | 93.86 |
| | 310.88 | 93.41 | 92.23 | 99.10 |
| 1968 | 344.65 | 100.00 | 100.00 | 106.96 |
| | 312.47 | 88.63 | 88.24 | 94.40 |
| | 236.30 | 65.56 | 64.99 | 69.47 |
| | 304.50 | 82.67 | 81.63 | 87.11 |
| 1969 | 376.25 | 100.00 | 98.37 | 104.71 |
| | 336.66 | 87.11 | 85.89 | 91.13 |
| | 361.87 | 91.21 | 90.15 | 95.26 |
| | 274.69 | 67.49 | 66.85 | 70.31 |
| 1970 | 171.83 | 41.18 | 40.88 | 42.76 |
| | 380.19 | 88.94 | 88.45 | 91.95 |
| | 400.43 | 91.48 | 91.16 | 94.11 |
| | 437.58 | 97.68 | 97.51 | 99.93 |
| 1971 | 458.21 | 100.00 | 100.00 | 101.66 |
| | 401.48 | 85.70 | 85.85 | 86.53 |
| | 421.19 | 87.99 | 88.27 | 88.17 |
| | 398.19 | 81.44 | 81.83 | 80.95 |
| 1972 | 452.29 | 90.60 | 91.18 | 89.29 |
| | 404.38 | 79.38 | 79.99 | 77.52 |
| | 445.91 | 85.80 | 86.59 | 82.99 |
| | 483.36 | 91.21 | 92.16 | 87.33 |

*Metal and Engineering* (I)

| | $Y$ | $W$ | $W_a$ | $C$ |
|---|---|---|---|---|
| | 134.48 | 92.11 | 95.80 | 102.49 |
| 1959 | 143.03 | 95.17 | 97.92 | 104.13 |
| | 144.41 | 93.42 | 95.15 | 100.73 |
| | 149.41 | 94.05 | 94.89 | 100.10 |
| | 163.15 | 100.00 | 100.00 | 105.24 |
| 1960 | 163.33 | 97.55 | 96.74 | 101.64 |
| | 162.59 | 94.68 | 93.16 | 97.80 |
| | 161.21 | 91.59 | 89.45 | 93.89 |
| | 176.01 | 97.62 | 94.67 | 99.41 |
| 1961 | 184.59 | 100.00 | 96.34 | 101.24 |
| | 178.64 | 94.20 | 90.54 | 95.26 |
| | 183.81 | 94.41 | 90.55 | 95.42 |
| | 199.74 | 100.00 | 95.71 | 101.04 |
| 1962 | 192.32 | 93.25 | 89.71 | 94.90 |
| | 197.89 | 93.01 | 89.92 | 95.33 |
| | 194.63 | 88.77 | 86.21 | 91.61 |
| | 208.64 | 92.42 | 90.14 | 96.03 |
| 1963 | 208.75 | 89.87 | 88.03 | 94.01 |
| | 227.85 | 95.43 | 93.83 | 100.46 |
| | 233.94 | 95.38 | 94.13 | 101.04 |
| | 250.17 | 99.36 | 98.41 | 105.90 |
| 1964 | 256.10 | 99.15 | 98.53 | 106.30 |
| | 261.01 | 98.57 | 98.27 | 106.28 |
| | 271.30 | 100.00 | 100.00 | 108.41 |
| | 258.10 | 93.03 | 93.03 | 100.46 |
| 1965 | 251.27 | 89.97 | 89.97 | 96.79 |
| | 263.15 | 92.90 | 92.90 | 99.56 |
| | 246.72 | 85.89 | 85.89 | 91.71 |
| | 246.21 | 84.54 | 84.54 | 89.94 |
| 1966 | 248.37 | 84.13 | 84.13 | 89.17 |
| | 268.49 | 89.73 | 89.73 | 94.76 |
| | 270.31 | 89.15 | 89.15 | 93.79 |
| | 265.99 | 86.59 | 86.59 | 90.75 |
| 1967 | 264.80 | 85.10 | 85.10 | 88.84 |
| | 259.94 | 82.48 | 82.48 | 85.77 |
| | 277.19 | 86.85 | 86.85 | 89.95 |
| | 295.65 | 91.49 | 91.49 | 94.36 |
| 1968 | 306.36 | 93.65 | 93.65 | 96.16 |
| | 304.86 | 92.07 | 92.07 | 94.12 |
| | 332.24 | 99.15 | 99.15 | 100.88 |
| | 308.51 | 90.98 | 90.98 | 92.13 |
| 1969 | 343.08 | 100.00 | 100.00 | 100.77 |
| | 326.26 | 94.00 | 94.00 | 94.24 |
| | 340.10 | 96.88 | 96.88 | 96.60 |
| | 313.45 | 88.28 | 88.28 | 87.55 |
| 1970 | 325.69 | 90.71 | 90.71 | 89.44 |
| | 332.68 | 91.64 | 91.64 | 89.83 |
| | 322.41 | 87.85 | 87.85 | 85.58 |
| | 309.50 | 83.42 | 83.42 | 80.76 |
| 1971 | 307.33 | 81.96 | 81.96 | 78.82 |
| | 311.28 | 82.14 | 82.14 | 78.46 |
| | 336.17 | 87.78 | 87.78 | 83.26 |
| | 328.29 | 84.84 | 84.84 | 79.89 |
| 1972 | 333.42 | 85.29 | 85.29 | 79.72 |
| | 346.58 | 87.76 | 87.76 | 81.40 |
| | 380.40 | 95.36 | 95.36 | 87.75 |
| | 398.49 | 98.91 | 98.91 | 90.28 |

## *Other Manufacturing* (J)

| | $Y$ | $W$ | $W_a$ | $C$ |
|---|---|---|---|---|
| | 128.59 | 100.00 | 78.59 | 84.42 |
| 1959 | 136.20 | 89.93 | 80.61 | 87.27 |
| | 174.30 | 100.00 | 100.00 | 108.83 |
| | 179.64 | 100.00 | 100.00 | 109.18 |
| | 182.08 | 98.72 | 98.72 | 107.60 |
| 1960 | 176.77 | 93.40 | 93.40 | 101.48 |
| | 185.58 | 95.63 | 95.63 | 103.42 |
| | 191.36 | 96.22 | 96.22 | 103.45 |
| | 203.69 | 100.00 | 100.00 | 106.79 |
| 1961 | 201.88 | 97.34 | 97.34 | 102.61 |
| | 204.03 | 96.66 | 96.66 | 100.52 |
| | 214.79 | 100.00 | 100.00 | 102.56 |
| | 201.63 | 89.61 | 89.61 | 93.31 |
| 1962 | 212.51 | 90.34 | 90.34 | 95.33 |
| | 215.31 | 87.72 | 87.72 | 93.63 |
| | 222.60 | 87.06 | 87.06 | 93.86 |
| | 240.72 | 90.53 | 90.53 | 98.45 |
| 1963 | 243.42 | 88.15 | 88.15 | 96.60 |
| | 258.37 | 90.22 | 90.22 | 99.52 |
| | 260.67 | 87.89 | 87.89 | 97.49 |
| | 298.33 | 97.24 | 97.24 | 108.39 |
| 1964 | 295.58 | 93.23 | 93.23 | 104.38 |
| | 300.41 | 91.80 | 91.80 | 103.16 |
| | 306.56 | 90.84 | 90.84 | 102.42 |
| | 347.71 | 100.00 | 100.00 | 113.08 |
| 1965 | 345.81 | 96.76 | 96.76 | 109.54 |
| | 367.05 | 100.00 | 100.00 | 113.30 |
| | 359.28 | 96.69 | 95.62 | 108.14 |
| | 314.79 | 83.69 | 81.88 | 92.45 |
| 1966 | 300.41 | 78.91 | 76.41 | 86.13 |
| | 337.32 | 87.56 | 83.95 | 94.47 |
| | 342.68 | 87.92 | 83.47 | 93.80 |
| | 365.20 | 92.61 | 87.12 | 97.77 |
| 1967 | 372.85 | 93.47 | 87.13 | 97.68 |
| | 367.05 | 90.98 | 84.07 | 94.16 |
| | 401.26 | 98.35 | 90.11 | 100.86 |
| | 412.52 | 100.00 | 90.87 | 101.66 |
| 1968 | 418.25 | 100.00 | 90.40 | 101.11 |
| | 417.29 | 95.26 | 88.53 | 99.02 |
| | 417.86 | 91.26 | 87.04 | 97.40 |
| | 452.64 | 94.76 | 92.61 | 103.69 |
| 1969 | 497.46 | 100.00 | 100.00 | 112.07 |
| | 468.56 | 92.36 | 92.36 | 103.88 |
| | 469.60 | 90.81 | 90.81 | 102.51 |
| | 467.04 | 88.63 | 88.63 | 100.45 |
| 1970 | 527.41 | 98.25 | 98.25 | 111.83 |
| | 509.57 | 93.22 | 93.22 | 106.59 |
| | 556.49 | 100.00 | 100.00 | 114.91 |
| | 519.50 | 91.73 | 91.73 | 105.96 |
| 1971 | 554.45 | 96.23 | 96.23 | 111.77 |
| | 554.68 | 94.65 | 94.65 | 110.59 |
| | 551.61 | 92.58 | 92.58 | 108.84 |
| | 319.93 | 52.82 | 52.82 | 62.51 |
| 1972 | 541.89 | 88.04 | 88.04 | 104.92 |
| | 508.54 | 81.32 | 81.32 | 97.63 |
| | 565.28 | 88.99 | 88.99 | 107.68 |
| | 611.06 | 94.73 | 94.73 | 115.58 |

## *Mining, Quarrying and Turf* (K)

| | $Y$ | $W$ | $W_a$ | $C$ |
|---|---|---|---|---|
| | 111.98 | 54.64 | 54.64 | 79.89 |
| 1959 | 208.38 | 100.00 | 100.00 | 146.49 |
| | 175.43 | 82.83 | 82.83 | 121.33 |
| | 131.53 | 61.11 | 61.11 | 89.35 |
| | 167.30 | 76.51 | 76.51 | 111.46 |
| 1960 | 185.31 | 83.44 | 83.44 | 120.91 |
| | 138.81 | 61.56 | 61.56 | 88.59 |
| | 149.37 | 65.12 | 65.12 | 92.95 |
| | 180.79 | 77.81 | 77.81 | 110.00 |
| 1961 | 201.17 | 85.32 | 85.32 | 119.32 |
| | 177.99 | 74.41 | 74.41 | 102.83 |
| | 200.22 | 82.52 | 82.52 | 112.56 |
| | 169.99 | 69.09 | 69.09 | 92.93 |
| 1962 | 249.48 | 100.00 | 100.00 | 132.53 |
| | 137.11 | 54.24 | 52.47 | 70.74 |
| | 157.84 | 61.63 | 57.78 | 79.04 |
| | 172.69 | 66.57 | 60.58 | 83.91 |
| 1963 | 222.08 | 84.52 | 74.80 | 104.65 |
| | 219.71 | 82.58 | 71.16 | 100.38 |
| | 198.76 | 73.78 | 62.00 | 88·02 |
| | 196.98 | 72.23 | 59.25 | 84.53 |
| 1964 | 201.17 | 72.88 | 58.43 | 83.64 |
| | 279.33 | 100.00 | 78.43 | 112.52 |
| | 203.15 | 70.21 | 55.20 | 79.27 |
| | 221.26 | 73.92 | 58.25 | 83.63 |
| 1965 | 205.50 | 66.43 | 52.46 | 75.24 |
| | 227.38 | 71.20 | 56.34 | 80.65 |
| | 236.76 | 71.88 | 56.99 | 81.35 |
| | 257.69 | 75.93 | 60.31 | 85.78 |
| 1966 | 246.59 | 70.58 | 56.16 | 79.53 |
| | 359.38 | 100.00 | 79.69 | 112.32 |
| | 365.37 | 100.00 | 78.94 | 110.67 |
| | 352.13 | 90.58 | 74.18 | 103.39 |
| 1967 | 356.91 | 86.60 | 73.36 | 101.60 |
| | 352.56 | 80.95 | 70.74 | 97.31 |
| | 390.22 | 85.03 | 76.48 | 104.46 |
| | 383.16 | 79.45 | 73.39 | 99.50 |
| 1968 | 408.11 | 80.71 | 76.43 | 102.83 |
| | 487.97 | 92.23 | 89.41 | 119.32 |
| | 552.44 | 100.00 | 99.07 | 131.13 |
| | 465.46 | 82.30 | 81.73 | 107.28 |
| 1969 | 434.06 | 75.00 | 74.66 | 97.01 |
| | 552.69 | 93.37 | 93.17 | 120.17 |
| | 605.06 | 100.00 | 100.00 | 127.83 |
| | 496.49 | 78.57 | 78.57 | 101.94 |
| 1970 | 485.98 | 73.77 | 73.77 | 97.01 |
| | 433.47 | 63.22 | 63.22 | 84.14 |
| | 597.75 | 83.90 | 83.90 | 112.85 |
| | 739.34 | 100.00 | 100.00 | 135.79 |
| 1971 | 464.35 | 60.60 | 60.60 | 82.99 |
| | 483.71 | 60.99 | 60.99 | 84.15 |
| | 656.21 | 80.03 | 80.03 | 111.15 |
| | 586.89 | 69.31 | 69.31 | 96.81 |
| 1972 | 420.37 | 48.12 | 48.12 | 67.54 |
| | 617.41 | 68.56 | 68.56 | 96.66 |
| | 688.36 | 74.23 | 74.23 | 105.03 |
| | 634.11 | 66.46 | 66.46 | 94.31 |

## *Total Manufacturing* (L)

| | $Y$ | $W$ | $W_a$ | $C$ |
|---|---|---|---|---|
| 1959 | 107.98 | 92.02 | 92.02 | 96.02 |
| | 109.94 | 92.07 | 92.07 | 96.04 |
| | 115.32 | 94.92 | 94.92 | 98.97 |
| | 117.39 | 95.00 | 95.00 | 98.99 |
| 1960 | 122.52 | 97.52 | 97.52 | 101.52 |
| | 122.71 | 96.08 | 96.08 | 99.93 |
| | 125.52 | 96.71 | 96.71 | 100.46 |
| | 127.01 | 96.32 | 96.32 | 99.92 |
| 1961 | 133.94 | 100.00 | 100.00 | 103.58 |
| | 134.48 | 98.87 | 98.87 | 102.24 |
| | 135.73 | 98.29 | 98.29 | 101.45 |
| | 136.63 | 97.48 | 97.48 | 100.41 |
| 1962 | 142.24 | 100.00 | 100.00 | 102.80 |
| | 140.37 | 96.83 | 96.83 | 99.77 |
| | 141.85 | 96.04 | 96.04 | 99.16 |
| | 146.25 | 97.23 | 97.23 | 100.56 |
| 1963 | 147.43 | 96.27 | 96.27 | 99.73 |
| | 146.26 | 93.83 | 93.83 | 97.33 |
| | 152.05 | 95.87 | 95.87 | 99.56 |
| | 157.80 | 97.82 | 97.82 | 101.67 |
| 1964 | 164.05 | 100.00 | 100.00 | 104.01 |
| | 165.90 | 100.00 | 99.21 | 103.52 |
| | 165.32 | 98.63 | 97.02 | 101.54 |
| | 169.34 | 100.00 | 97.56 | 102.38 |
| 1965 | 170.28 | 99.85 | 96.34 | 101.35 |
| | 170.81 | 99.46 | 94.94 | 100.09 |
| | 169.40 | 97.95 | 92.52 | 97.73 |
| | 174.15 | 100.00 | 93.50 | 98.94 |
| 1966 | 173.39 | 97.31 | 91.53 | 97.01 |
| | 166.88 | 91.58 | 86.64 | 91.96 |
| | 179.16 | 96.43 | 91.74 | 97.48 |
| | 180.89 | 95.05 | 90.92 | 96.71 |
| 1967 | 186.89 | 96.17 | 92.46 | 98.43 |
| | 189.46 | 95.50 | 92.28 | 98.31 |
| | 188.79 | 93.27 | 90.56 | 96.52 |
| | 194.36 | 94.14 | 91.83 | 97.92 |
| 1968 | 201.42 | 95.69 | 93.76 | 100.00 |
| | 209.09 | 97.46 | 95.91 | 102.31 |
| | 211.24 | 96.64 | 95.51 | 101.88 |
| | 216.49 | 97.25 | 96.50 | 102.92 |
| 1969 | 206.61 | 91.16 | 90.81 | 96.83 |
| | 230.69 | 100.00 | 100.00 | 106.59 |
| | 226.55 | 97.69 | 96.93 | 103.20 |
| | 224.19 | 96.17 | 94.69 | 100.70 |
| 1970 | 220.11 | 93.93 | 91.79 | 97.50 |
| | 227.74 | 96.69 | 93.79 | 99.48 |
| | 236.76 | 100.00 | 96.30 | 102.01 |
| | 233.81 | 97.14 | 93.94 | 99.36 |
| 1971 | 233.61 | 95.49 | 92.73 | 97.93 |
| | 240.50 | 96.75 | 94.33 | 99.45 |
| | 239.82 | 94.97 | 92.96 | 97.84 |
| | 244.39 | 95.29 | 93.63 | 98.38 |
| 1972 | 241.92 | 92.90 | 91.62 | 96.09 |
| | 250.32 | 94.69 | 93.72 | 98.11 |
| | 252.06 | 93.95 | 93.32 | 97.50 |
| | 264.60 | 97.19 | 96.87 | 101.01 |
| | 276.18 | 100.00 | 100.00 | 104.06 |

*Total Manufacturing* (L')

| | $W'_i$ | $W_a'$ | C' |
|---|---|---|---|
| | 93.07 | 91.45 | 99.24 |
| 1959 | 92.27 | 91.51 | 98.81 |
| | 94.25 | 94.22 | 101.70 |
| | 94.23 | 93.76 | 101.23 |
| | 97.65 | 96.86 | 104.81 |
| 1960 | 94.69 | 93.76 | 101.29 |
| | 94.37 | 93.31 | 100.57 |
| | 93.26 | 92.17 | 99.64 |
| | 98.40 | 97.22 | 105.45 |
| 1961 | 94.73 | 93.57 | 100.52 |
| | 94.56 | 93.50 | 99.74 |
| | 93.97 | 92.91 | 98.68 |
| | 95.84 | 94.68 | 100.87 |
| 1962 | 92.45 | 91.48 | 97.35 |
| | 90.69 | 89.83 | 95.50 |
| | 92.92 | 92.23 | 98.12 |
| | 93.35 | 92.72 | 98.72 |
| 1963 | 90.77 | 90.22 | 96.52 |
| | 91.04 | 90.53 | 97.18 |
| | 93.18 | 92.76 | 99.72 |
| | 96.29 | 95.95 | 103.56 |
| 1964 | 95.62 | 95.08 | 102.87 |
| | 93.59 | 92.94 | 100.59 |
| | 94.04 | 93.28 | 100.94 |
| | 94.78 | 93.83 | 101.69 |
| 1965 | 93.26 | 92.40 | 100.08 |
| | 93.03 | 92.24 | 99.85 |
| | 91.97 | 90.73 | 98.52 |
| | 88.54 | 87.12 | 94.68 |
| 1966 | 83.59 | 82.12 | 89.64 |
| | 89.50 | 87.64 | 96.04 |
| | 88.46 | 86.25 | 94.69 |
| | 88.01 | 85.69 | 93.96 |
| 1967 | 91.31 | 88.54 | 97.97 |
| | 88.07 | 85.40 | 94.65 |
| | 89.88 | 87.24 | 96.78 |
| | 91.26 | 88.69 | 97.83 |
| 1968 | 93.50 | 91.16 | 100.91 |
| | 93.93 | 92.11 | 103.29 |
| | 90.93 | 89.62 | 100.24 |
| | 87.00 | 86.08 | 95.15 |
| 1969 | 95.14 | 94.61 | 104.54 |
| | 90.49 | 90.16 | 99.24 |
| | 89.77 | 89.42 | 98.11 |
| | 84.97 | 84.67 | 92.40 |
| 1970 | 88.05 | 87.76 | 96.40 |
| | 90.33 | 90.04 | 98.51 |
| | 90.13 | 89.97 | 97.49 |
| | 88.75 | 88.72 | 94.68 |
| 1971 | 89.87 | 89.94 | 97.10 |
| | 86.69 | 86.85 | 93.99 |
| | 86.71 | 86.96 | 92.96 |
| | 80.35 | 80.76 | 84.34 |
| 1972 | 85.84 | 86.36 | 92.06 |
| | 83.90 | 84.51 | 89.48 |
| | 88.92 | 89.52 | 95.19 |
| | 91.33 | 91.88 | 97.21 |

*Total Transportable* (M)

| | $Y$ | $W$ | $W_a$ | $C$ |
|---|---|---|---|---|
| | 108.42 | 96.61 | 93.92 | 94.91 |
| 1959 | 115.49 | 100.00 | 97.89 | 99.35 |
| | 117.98 | 99.35 | 97.89 | 99.73 |
| | 118.66 | 97.25 | 96.42 | 98.57 |
| | 125.27 | 100.00 | 99.73 | 102.27 |
| 1960 | 126.07 | 100.00 | 98.37 | 101.15 |
| | 126.04 | 97.47 | 96.43 | 99.38 |
| | 128.47 | 96.92 | 96.42 | 99.56 |
| | 135.79 | 100.00 | 100.00 | 103.43 |
| 1961 | 137.62 | 99.48 | 99.48 | 103.03 |
| | 137.14 | 97.35 | 97.35 | 100.92 |
| | 139.26 | 97.10 | 97.10 | 100.74 |
| | 144.21 | 98.80 | 98.80 | 102.55 |
| 1962 | 145.32 | 97.85 | 97.85 | 101.59 |
| | 141.17 | 93.46 | 93.46 | 97.02 |
| | 148.08 | 96.41 | 96.41 | 100.06 |
| | 149.45 | 95.73 | 95.73 | 99.32 |
| 1963 | 149.17 | 94.00 | 94.00 | 97.45 |
| | 154.28 | 95.69 | 95.69 | 99.12 |
| | 160.83 | 98.20 | 98.20 | 101.61 |
| | 166.32 | 100.00 | 100.00 | 103.34 |
| 1964 | 166.49 | 98.86 | 98.86 | 101.75 |
| | 170.41 | 99.94 | 99.94 | 102.44 |
| | 172.60 | 100.00 | 100.00 | 102.06 |
| | 173.69 | 100.00 | 100.00 | 101.04 |
| 1965 | 172.27 | 98.28 | 97.02 | 98.59 |
| | 172.43 | 97.48 | 95.03 | 97.09 |
| | 178.49 | 100.00 | 96.31 | 98.89 |
| | 176.85 | 96.71 | 93.47 | 96.41 |
| 1966 | 169.38 | 90.47 | 87.72 | 90.87 |
| | 187.55 | 97.89 | 95.22 | 99.03 |
| | 187.31 | 95.59 | 93.26 | 97.34 |
| | 192.64 | 96.16 | 94.10 | 98.54 |
| 1967 | 196.33 | 95.91 | 94.12 | 98.86 |
| | 195.62 | 93.57 | 92.07 | 96.98 |
| | 201.04 | 94.20 | 92.92 | 98.12 |
| | 208.42 | 95.70 | 94.63 | 100.16 |
| 1968 | 217.50 | 97.90 | 97.05 | 102.92 |
| | 222.85 | 98.38 | 97.74 | 103.85 |
| | 227.52 | 98.54 | 98.12 | 104.41 |
| | 215.79 | 91.72 | 91.53 | 97.54 |
| 1969 | 239.63 | 100.00 | 100.00 | 106.69 |
| | 239.99 | 98.36 | 98.55 | 105.25 |
| | 235.37 | 94.77 | 95.14 | 101.69 |
| | 229.48 | 90.80 | 91.33 | 97.68 |
| 1970 | 239.63 | 93.21 | 93.92 | 100.50 |
| | 245.03 | 93.71 | 94.60 | 101.26 |
| | 244.19 | 91.86 | 92.88 | 99.44 |
| | 249.48 | 92.33 | 93.51 | 100.13 |
| 1971 | 251.18 | 91.48 | 92.80 | 99.36 |
| | 250.07 | 89.65 | 91.09 | 97.50 |
| | 256.94 | 90.69 | 92.29 | 98.75 |
| | 254.74 | 88.55 | 90.24 | 96.51 |
| 1972 | 257.92 | 88.32 | 90.13 | 96.34 |
| | 268.22 | 90.49 | 92.47 | 98.78 |
| | 278.52 | 92.60 | 94.76 | 101.14 |
| | 289.48 | 94.87 | 97.20 | 103.66 |

## *Total Transportable* (M')

| | $W'_i$ | $W_a'$ | $C'$ |
|---|---|---|---|
| | 89.61 | 88.13 | 97.50 |
| 1959 | 93.45 | 92.88 | 106.04 |
| | 92.83 | 92.81 | 104.14 |
| | 91.12 | 90.70 | 100.11 |
| | 95.32 | 94.62 | 105.54 |
| 1960 | 93.33 | 92.51 | 103.66 |
| | 91.36 | 90.39 | 99.47 |
| | 90.54 | 89.55 | 98.99 |
| | 96.19 | 95.14 | 105.94 |
| 1961 | 93.60 | 92.58 | 102.79 |
| | 92.42 | 91.47 | 100.06 |
| | 92.63 | 91.69 | 100.30 |
| | 93.24 | 92.20 | 100.10 |
| 1962 | 93.49 | 92.65 | 102.20 |
| | 87.75 | 86.81 | 93.50 |
| | 90.17 | 89.20 | 96.44 |
| | 90.86 | 89.72 | 97.34 |
| 1963 | 90.04 | 88.42 | 97.47 |
| | 90.08 | 88.34 | 97.55 |
| | 91.25 | 89.70 | 98.56 |
| | 94.03 | 92.51 | 101.77 |
| 1964 | 93.47 | 91.61 | 101.05 |
| | 94.40 | 91.09 | 102.11 |
| | 91.80 | 89.70 | 98.90 |
| | 92.71 | 90.30 | 99.90 |
| 1965 | 90.78 | 88.70 | 97.78 |
| | 90.83 | 88.61 | 97.91 |
| | 89.90 | 87.25 | 96.75 |
| | 87.11 | 84.19 | 93.67 |
| 1966 | 82.13 | 79.20 | 88.50 |
| | 91.02 | 86.49 | 98.40 |
| | 90.15 | 85.18 | 97.03 |
| | 88.38 | 84.05 | 95.30 |
| 1967 | 90.67 | 86.48 | 98.46 |
| | 87.10 | 83.40 | 95.01 |
| | 89.19 | 85.70 | 97.88 |
| | 89.64 | 86.59 | 98.06 |
| 1968 | 91.72 | 89.11 | 101.18 |
| | 93.66 | 91.68 | 105.82 |
| | 92.54 | 91.29 | 105.72 |
| | 86.26 | 85.40 | 97.05 |
| 1969 | 92.45 | 91.95 | 103.56 |
| | 90.97 | 90.66 | 102.76 |
| | 91.61 | 91.33 | 103.47 |
| | 83.95 | 83.70 | 93.92 |
| 1970 | 85.86 | 85.61 | 96.49 |
| | 86.82 | 86.57 | 96.65 |
| | 89.08 | 88.94 | 100.09 |
| | 91.03 | 91.01 | 103.03 |
| 1971 | 85.98 | 86.04 | 95.23 |
| | 83.12 | 83.25 | 92.62 |
| | 85.52 | 85.73 | 96.20 |
| | 78.43 | 78.77 | 86.51 |
| 1972 | 81.37 | 81.82 | 89.16 |
| | 81.35 | 81.86 | 90.67 |
| | 86.42 | 86.92 | 96.86 |
| | 87.50 | 87.97 | 96.76 |