# Chapter 6

# Analysis of Results

## 6.1 Introduction

In this chapter, results of the estimation will be discussed and analyzed. The first section discusses the results of the estimated aggregate wage equation in Malaysian manufacturing. The following section will discuss the results of the wage equations of selected sub-sectors.

## 6.2 Econometric Estimation of Aggregate Wage Formation in Malaysian Manufacturing: 1975-1997

### 6.2.1 Unit Root Test

Prior to analyzing the effect of price (P), labour productivity (PROD), unemployment rate (UNEMP) and union density (UD) on the real wage in the manufacturing sector, a unit root test was conducted to see if these series were stationary or nonstationary. Each of the series was tested according to equation (8) mentioned in section 5.5.1.

**Table 6.1: Unit Root Test on Time Series**

| VARIABLE/SERIES | ADF TEST STATISTICS | ORDER OF INTERGRATION |
|---|---|---|
| LRW | -2.887579* | 1 |
| LPROD | -3.175141** | 1 |
| LUNEMP | -2.933568*** | 1 |
| LUD | -3.659971* | 1 |
| LP | -3.667707** | 1 |

*Reject hypothesis of a unit root at 99% level
** Reject hypothesis of a unit root at 95% level
***Reject hypothesis of a unit root at 90%level

Table 6.1 presents the ADF test based on equation (5.2). Based on the ADF test, we are able to reject the null hypothesis that each series are in first order of differences contains a unit root against the alternative that it is stationary. ADF statistics of LUD and LRW reject the null hypothesis at 99% confidence level. The LPROD and LP reject the null hypothesis at 95% confidence level while LUNEMP rejects the null hypothesis at 90% confidence level. This indicates that all the time series are stationary after first differences. Therefore, the various data series are stationary and cointegrated of order one or $I(1)$.

### 6.2.2 Cointegration Test

The cointegration test using Engle and Granger approach was applied on the model to analysis the long-run relationship between the variables. One requirement before testing for cointegration is that the individual series must have the same order of integration, which must be more than zero. As discussed in previous section (shown in Table 6.1), this requirement is met.

If the wage equation is cointegrated, the random error variables of $e_t$ should be stationary. A unit root test was conducted on the error term based on ADF test (equation 5.4) as mentioned in 5.5.2. ADF statistics of the unit root test reject the null hypothesis at the 99% confidence level indicate the random error variable as stationary and do not reflect the existence of a unit root. Thus, we can conclude that, there is a long-run equilibrium relationship between the variables. The existence of this long-run equilibrium indicates a tendency to move together between the variables.

### 6.2.3 Estimation of Long-Run Wage Equation

**Model:** $$LRW_t = \beta_0 + \beta_1 LPROD_t + \beta_2 LUNEMP_t + \beta_3 LUD_t + u_t$$

**Table 6.2: Results of Long-Run Wage Equation**

| Model | $R^2$ | DW |
|---|---|---|
| $LRW_t$ =-19.347 + 1.966LPROD –0.0.729LUNEMP<br>(-2.702) (14.598) (-3.160)<br>+ 1.219LUD<br>(1.271) | 0.9687 | 1.1652 |

Note: Figures in parentheses indicate t-statistic.

Table 6.2 reports estimates of long-run relationship using the OLS method. The OLS coefficients above are subjected to various tests such as the Durbin Watson (DW) test, Breusch-Godfrey Serial Correlation LM test, White's test and Multicollinearity test to make sure that they have the properties of the best linear unbiased estimator.

DW test is used to detect first order auto correlation problem. Autocorrelation exists if there is serial correlation of lagged residuals. Given that the DW statistic is 1.165, we compare this value to the $d_L$ and $d_U$ bounds of the DW critical value at (k = 3, n=23) and the p-values with the chosen level of significance. If at the chosen level of significance, the critical d value is below the $d_L$ bound, the decision is to reject the null hypothesis Ho: No positive autocorrelation. At 5% level of significance, it shows that lower bound $d_L$ and upper bound $d_U$ are 1.078 and 1.660 respectively. The value of 1.165 falls in the indecisive zone, or region of ignorance, therefore it cannot be concluded whether autocorrelation does or does not exist.

In this case, the autocorrelation problem is further tested using Breusch-Godfrey Serial LM correlation test. For the Breusch-Godfrey test, the null hypothesis of no autocorrelation is rejected if the computed test statistic exceeds the critical $\chi^2$ value at the chosen level of significance. Otherwise we accept the null hypothesis of no autocorrelation. The computed test statistics is represented by $(n-p)R^2$ where p is the number of residual lagged value and n is the number of observation. The $\chi^2$ critical value for three lagged period of residual, AR(1) for 5% level of significance is 5.44. The figures are then compared to the $\chi^2$ value obtained from the table ($\chi^2_{5\%,3} = 7.815$). Since the figure 5.44 is smaller than critical $\chi^2$ value, the null hypothesis cannot be rejected. This implies that there is no existence of autocorrelation problem.

A critical assumption of the classical linear regression model is that the disturbances, $u_t$ have all the same variance. If this assumption is not satisfied, there is heteroscedasticity.

In order to check heteroscedasticity problem, White's test (without cross product terms) has been applied. The null hypothesis that no existence of heteros cedasticity problem is tested against the alternative there is heteroscedasticity problem. From the computer output, the $R^2$ obtained is multiplied by the size of the sample (= 12.24) and compared with the Chi-Square value. The Chi-Square with 6 degrees of freedom at 95% confidence level yields value of 12.5916. Based on the results, a null hypothesis is not rejected if the computed test statistics does not exceed the critical Chi-Square value. Therefore, the model has no heteroscedasticity problem.

Multicollinerity problem (Gujarati, 1995) refers to the situation where high correlation between explanatory variables. To check for multicollinearity, auxiliary equations are generated from the original equations and they are regressed using OLS procedure. If the values of $R^2$ from the auxiliary equations are bigger than the $R^2$ from the original equations, multicollinearity exists in this model.

**Table 6.3: Multicollinearity Test.**

| Auxiliary Regressions Model | $R^2$ |
|---|---|
| LPROD = f(LUNEMP, LUD) | 0.6182 |
| LUNEMP = f(LPROD, LUD) | 0.8832 |
| LUD = f(LPROD, LUNEMP) | 0.9161 |

Note: Figures in parentheses indicate t-statistics.

From the output, the $R^2$ value obtained from the auxiliary equations are smaller than the $R^2$ from the original equations, hence indicating that there is no multicollinearity problem in the model.

Based on the OLS regression, $R^2$ value of 0.9687 means that about 96.87 per cent of the variation in real wage (log) is explained by the model. $R^2$ is high suggesting that the model fits the data satisfactorily. All signs of the coefficients in the long-run wage equation are consistent with the economic theories. The estimated regression shows that the labour productivity is significant at 99% confidence level and positively related to real wage. This can be attributed to characteristics of the labour itself, such as greater skill or effort [efficiency wage theory, Akerlof and Yellen (1986)] For every 1 per cent changes in labour productivity, it will induce real wage increase by 1.96 per cent holding other variables constant. This means that increases in labour cost of producing one unit of production is higher than the growth in labour productivity. Over the long-run, wage rise faster than labour productivity will lead to an increase in unit labour cost, thus, eroding competitiveness of the sector.

Besides that, the coefficient for the unemployment rate appears to be significant at 99% confidence level and it shows a negative relationship. As the number of unemployed workers increase, the excess of labour supply will lower wages. In this case, a 1 percent increase in unemployment rate will decrease real wage by 0.73 per cent. Union density as measurement to union power is also significant at 90% confidence level and asserted positive impact on real wage increases. A 1 per cent increase in the union density will induce a 1.2 per cent increase in real wage. The positive relationship can be explained as strong trade union use the rising labour productivity of its members as a basis for demanding higher wages [wage bargaining theories, Oswald (1985)].

### 6.2.4 Estimation of Short-Run Wage Dynamics

**Model:** $\Delta LRW_t = \beta_0 + \beta_1 \Delta LPROD_t + \beta \Delta_2 LUNEMP_t + \beta_3 \Delta LUD_t + u_t$

**Table 6.4: Results of the Short-Run Wage Equation**

| Model | $R^2$ | DW |
|---|---|---|
| $DLRW_t = 0.1646 - 0.4438DLPROD - 0.463DLUNEMP$ <br> (2.341) (-0.592) (-2.048) <br> $+ 0.9515DLUD - 0.3292ECM(-1)$ <br> (1.014) (-1.526) | 0.3347 | 2.0682 |

Figures in parenthesis indicates t-statistics.

Table 6.4 presents results for a short-run wage dynamic model. The coefficients obtained from the OLS are insignificant except for the unemployment coefficient, which is significant at 95% confidence level. The results suggest that short-run wage equation is not influenced by labour productivity and union density. The relationship between real wages and labour productivity are negative suggesting that labour productivity gain do not bring higher wages in the short-run. The results may attributed to the phenomenon of rigidities or lags in the adjustment of money wages introduce by collective bargaining: the collective-bargaining agreement running for three years. However, the unemployment rate depresses wages. For every 1 per cent change in unemployment rate, real wage decrease by 0.463 per cent.

## 6.3 Econometric Estimation of Wage Formation in Sub-Selected Sectors of Malaysian Manufacturing: 1975-1997

This section impose the same long-run structure found for the whole of the industry with the aggregate data to verify the influences of labour productivity, union density and unemployment rate on wages for 13 selected sub-sectors of Malaysian manufacturing.

### 6.3.1 Estimation of Long-Run Wage Equation

Table 6.5 reports estimates of long-run relationship in 13 sub-sectors using the OLS method. The OLS coefficients above are subjected to various tests to make sure that they have the properties of the best linear unbiased estimator.

**Table 6.5: Long-Run Wage Equation for Selected Sub-Sectors of Malaysian Manufacturing**

Dependent Variable: Log-level of Sectoral Real Wage – Period: 1975 – 1997

| Sub-Sectors | Constant | LPROD | LUNEMP | LUD | $R^2$ | DW | ADF |
|---|---|---|---|---|---|---|---|
| Food | 13.9298 | 1.0613 | 0.036 | -2.0238 | 0.8979 | 1.1922 | -2.2959 |
| | (8.1686) | (3.6187) | (0.1578) | (5.663) | | | |
| Beverage | 6.0500 | 1.1253 | -0.1465 | 0.0724 | 0.7452 | 0.6341 | -2.6705 |
| | (2.4064) | (3.9549) | (-0.4677) | (0.0797) | | | |
| Tobacco | 10.0159 | 0.8519 | 0.2572 | -0.9625 | 0.9000 | 1.2437 | -3.1191 |
| | (33.0156) | (10.7459) | (1.0535) | (-5.7924) | | | |
| Textiles | 10.0159 | 0.8277 | -0.8293 | 0.5987 | 0.9236 | 1.3128 | -3.5237 |
| | (8.8904) | (6.2547) | (-3.6808) | (2.9802) | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Wood Products | 10.2911<br>(8.0349) | 1.3356<br>(4.4043) | -0.4252<br>(-1.1352) | -0.0802<br>(-2.0024) | 0.7703 | 0.9619 | -2.5595 |
| Paper Products | 8.3616<br>(6.2614) | 1.5082<br>(6.6934) | -0.1836<br>(-0.992) | -0.705<br>(-2.4553) | 0.9686 | 1.5799 | -4.0175 |
| Printing & Publishing | 12.3527<br>(6.8556) | 1.2672<br>(9.2384) | -0.7088<br>(-3.4156) | 0.827<br>(3.339) | 0.9674 | 1.9752 | -3.9336 |
| Industrial Chemical | 2.3302<br>(2.6101) | 1.1854<br>(19.3394) | -0.3636<br>(-1.5575) | -0.4197<br>(-2.4477) | 0.9788 | 1.0695 | -3.2078 |
| Petroleum & Coal | 14.7031<br>(22.2671) | 0.2315<br>(2.9689) | -1.4569<br>(-6.3637) | -1.6546<br>(-13.450) | 0.9459 | 1.4036 | -5.0828 |
| Rubber Products | 18.6874<br>(3.9704) | 0.7944<br>(2.7758) | -0.0543<br>(-0.2796) | -1.9573<br>(-6.437) | 0.9365 | 0.9561 | -2.6311 |
| Non-Ferrous Metal | 12.1739<br>(18.3446) | 0.3356<br>(2.6974) | -0.090<br>(-0.5889) | -1.4987<br>(-14.057) | 0.9767 | 1.1104 | -2.7465 |
| Machinery Except Electrical | 20.1499<br>(9.1355) | 0.7588<br>(4.0211) | -1.2394<br>(-6.4357) | -1.2163<br>(-5.7173) | 0.9711 | 2.1977 | -5.3242 |
| Electrical Machinery | 9.4717<br>(10.5087) | 2.5345<br>(13.7059) | 0.0704<br>(0.2262) | -0.737<br>(-1.3567) | 0.9596 | 0.7451 | -3.4555 |

Note: Figures in parenthesis indicates t-statistics.

From table 6.5 we noted that as in most cases of time-series data, there were autocorrelation problem in majority of the industries estimated. In order to detect autocorrelation problem, the DW test and Breusch-Godfrey tests were applied. Based on the decision rule of the DW test, the computed d values are compared to the $d_L$ and $d_U$ bounds of the critical value. At 1% level of significance, $d_L = 0.858$ and $d_U = 1.407$ and at 5% level of significance, $d_L = 1.078$ and $d_U = 1.660$. We found that no autocorrelation in only 4 sectors namely food, paper products, printing and publishing, and machinery except electrical.

However, serious autocorrelation were found in beverages, wood products, rubber products and electrical machinery. For the rest of the sectors, inconclusive evidence of autocorrelation existed since the computed d value falls in the indecisive zone.

Although the d-test is widely used and advantageous, it is nevertheless subjected to certain drawbacks. Among the drawbacks are, it gives inconclusive results, it is also invalid if lagged dependent variables are present and is not applicable if errors follow a higher order of autoregressive process (Gujarati, 1995). To overcome this problem, we applied the Breusch-Godfrey test for autocorrelation.

**Table 6.6: Summary of Breusch-Godfrey Test**

| Sub-Sectors | AR(1) | AR(2) | AR(3) |
|---|---|---|---|
| Food | 2.6808 | 2.5634 | 2.6920 |
| Beverages | 9.3182* | 9.2109* | 8.4775** |
| Tobacco | 3.0016 | 3.9154 | 3.9515 |
| Textiles | 2.3328 | 4.2552 | 4.0555 |
| Wood Products | 5.7438* | 6.0907** | 6.1592 |
| Paper Products | 0.1419 | 2.2313 | 3.1119 |
| Printing & Publishing | 0.0000 | 1.2730 | 4.0172 |
| Industrial Chemical | 5.2987** | 7.2392** | 8.8094** |
| Petroleum & Coal | 0.5305 | 6.1162** | 7.2979 |
| Rubber Products | 8.9774* | 9.6042* | 9.1895** |
| Non-Ferrous Metal | 4.3459** | 4.7782 | 4.8928 |
| Machinery Except Electrical | 0.4012 | 5.3319 | 5.079 |
| Electrical Machinery | 7.6607* | 7.3142* | 7.6326 |

* significant at 1% level (rejected Ho at 1% level of significance)
** significant at 5% level

Table 6.6 summarizes the results of the Breusch-Godfrey test of sub-sectors that were significant at AR(1) and further verified up to the AR(2) and AR (3) levels. For one lagged period of residual (AR(1), $\hat{u}_{t-1}$) the critical $\chi^2$ value of 1% and 5% level of

significance is 6.6349 and 3.8415 respectively. If the computed test statistics exceeds the critical $\chi^2$ value at a chosen level of significance which means that the null hypothesis of no autocorrelation is rejected. Therefore, autocorrelation exist.

Next, a test for heteroscedasticity is conducted using White's test (without cross product terms). Under the null hypothesis that there is no heteroscedasticity, if the $\chi^2$ value ($R^2$ obtained multiplied by the size of the sample) exceeds the $\chi^2$ value at the chosen level of significance, the conclusion is to reject the null hypothesis, indicating the presence of heteroscedasticity. Otherwise if $\chi^2$ value does not exceed the critical $\chi^2$ value, there is no heteroscedasticity. At the 5% level of significance with 6 degrees of freedom, the critical value is 12.5916. Therefore, based on the White's test, we can conclude that there are 2 sub-sectors found with the heteroscedasticity problems. The industries are textiles and industrial Chemical. Details of results are presented in Table 6.7.

**Table 6.7: Summary of White's Test Results (without cross product terms)**

| Sub-Sectors | $\chi^2$ value ($nR^2$) | p-value |
|---|---|---|
| Food | 5.3384 | 0.5012 |
| Beverages | 8.5768 | 0.1988 |
| Tobacco | 10.5175 | 0.1045 |
| Textiles | 13.7194* | 0.0329 |
| Wood Products | 8.1673 | 0.2261 |
| Paper Products | 5.2994 | 0.5060 |
| Printing & Publishing | 4.2305 | 0.6455 |
| Industrial Chemical | 12.5916* | 0.0458 |
| Petroleum & Coal | 10.7573 | 0.0962 |
| Rubber Products | 3.4266 | 0.7537 |
| Non-Ferrous Metal | 4.7306 | 0.5788 |
| Machinery Except Electrical | 4.6657 | 0.5887 |
| Electrical Machinery | 3.6235 | 0.7275 |

* significant at 5% level

The presence of autocorrelation and heteroscedasticity problem will result inefficient of OLS estimators. The autocorrelation problem was removed after the number of lagged periods was determined from the results of Breusch-Godfrey test. As for the heteroscedasticity problem, the correction measure is using the White's heteroscedasticity-consistent covariances and standard errors. The White's heteroscedasticity consistent covariances show that The OLS estimates do not change but only standard error change. The re-estimations of sub-sectors with serious autocorrelation are resented in Table 6.8.

As for multicollinearity problem, since most of the t-ratios are significant and $R^2$ is high, we conclude that multicollinearity does not exist.

**Table 6.8: Re-estimations of OLS for Sub-Sectors with Serious Autocorrelation Problems.**

Dependent Variable: Log-level of Sectoral Real Wage – Period: 1975 – 1997

| Sub-Sectors | Constant | LPROD | LUNEMP | LUD | $R^2$ | DW | ADF |
|---|---|---|---|---|---|---|---|
| Beverage | 10.964 | 0.0779 | -0.4215 | 0.1386 | 0.772 | 0.9194 | -4.2499 |
| | (4.0031) | (0.2266) | (1.7931) | (0.2317) | | | |
| Wood Products | 13.3523 | 0.7838 | -0.2863 | -0.8796 | 0.8165 | 1.0546 | -3.8465 |
| | (8.201) | (2.8424) | (-0.783) | (-1.427) | | | |
| Industrial Chemical | -0.1236 | 1.1552 | -0.8173 | 0.2614 | 0.9828 | 1.3535 | -3.0207 |
| | (-0.079) | (6.9628) | (-3.0345) | (0.5831) | | | |
| Petroleum and Coal | 15.0379 | 0.2189 | -1.4587 | -1.7508 | 0.95 | 1.8356 | -4.1645 |
| | (25.9005) | (3.0732) | (-8.8244) | (-17.627) | | | |
| Rubber Products | 16.2943 | 0.0068 | -0.2896 | -0.3485 | 0.9672 | 2.0622 | -3.1332 |
| | (4.1368) | (0.028) | (-1.0983) | (-1.1669) | | | |
| Electrical Machinery | 16.6518 | 0.7404 | -0.6052 | -0.1193 | 0.9654 | 0.9513 | -2.891 |
| | (6.7347) | (1.6671) | (-2.33) | (-0.309) | | | |

Note: Figures in parenthesis indicates t-statistics.

In general terms, the estimated long-run relationships between real wages, labour productivity, unemployment, and union density performed rather well. $R^2$ in all the sub-sectors is high suggesting that the model fits the data satisfactorily. The residuals of the estimated equations appearing stationary for all the sectors at 5 % level of significance based on ADF test.

The estimated regression shows that the labour productivity is significant and positively related to real wage in all the selected sub-sectors. For most of the sectors, a 1 per cent increase in labour productivity will induce real wage increase but less than 1 per cent, which implies that increases in wages do not overstripped increases in labour productivity, thus lowering unit labour cost. However, there are exception in Paper Products, Printing & Publishing, and industrial chemical sector which showed that for every 1 per cent changes in labour productivity, it will induce real wage increase by 1.51 per cent, 1.27 per cent, and 1.16 per cent respectively.

Unemployment attracted negative coefficients are consistent with the economic theories with the exception in food sector. As for union density, it asserted negative sign in most of the sectors which are incorrect. The negative signs can be explained as real wage respond negatively to union power.

### 6.3.2 Estimation of Short-Run Wage Dynamics

**Table 6.9: Short-Run Wage Dynamics for Selected Sub-Sectors of Malaysian Manufactuirng**

Dependent Variable: Change in Sectoral Real Wage – Period: 1975-1997

| Sub-Sectors | Constant | ΔLPROD | ΔLUNEMP | ΔLUD | ECM(-1) | $R^2$ | σ |
|---|---|---|---|---|---|---|---|
| Food | 0.0977 | 0.0577 | -0.2654 | -0.3892 | -0.2825 | 0.2448 | 0.1789 |
| | (2.0419) | (0.1981) | (-1.0629) | (-1.2245) | (-1.676) | | |
| Beverage | 0.1249 | -0.234 | 0.0349 | 0.3315 | -0.0109 | 0.3119 | 0.1896 |
| | (2.7156) | (-1.8074) | (0.1272) | (0.9963) | (-0.066) | | |
| Tobacco | 0.0395 | 0.3772 | 0.0864 | -0.5269 | -0.4864 | 0.4069 | 0.1848 |
| | (0.7533) | (1.2544) | (0.3178) | (-1.9721) | (-2.0978) | | |
| Textiles | 0.0682 | 0.2808 | -0.533 | 0.0809 | -0.4278 | 0.2557 | 0.1933 |
| | (1.2875) | (0.9682) | (-1.9181) | (0.4056) | (-1.9539) | | |
| Wood Products | 0.1074 | 0.0147 | -0.5206 | -0.0107 | -0.1671 | 0.2953 | 0.1933 |
| | (2.4153) | (0.0616) | (-1.9385) | (-0.818) | (-1.5446) | | |
| Paper Products | 0.1533 | 0.2515 | -0.134 | -0.1278 | -0.4486 | 0.2702 | 0.1667 |
| | (3.0422) | (0.7145) | (-0.5861) | (-0.4963) | (-2.1645) | | |
| Printing & Publishing | 0.1064 | 0.1492 | -0.4965 | 0.5838 | -0.7839 | 0.5782 | 0.1306 |
| | (2.8007) | (0.5584) | (-2.608) | (2.242) | (-4.323) | | |
| Industrial Chemical | 0.0678 | 0.3635 | -0.2603 | -0.3445 | -0.2909 | 0.3968 | 0.1193 |
| | (1.846) | (1.6108) | (-1.2936) | (-2.3873) | (-1.0963) | | |
| Rubber Products | 0.0918 | 0.0689 | -0.2506 | -0.621 | -0.3475 | 0.3075 | 0.1633 |
| | (2.0789) | (0.2447) | (-1.0674) | (-1.8038) | (-1.8513) | | |
| Petroleum and Coal | 0.1405 | 0.0547 | -0.2608 | -0.7759 | -0.3555 | 0.6188 | 0.1193 |
| | (2.9464) | (1.3335) | (-0.8149) | (-4.955) | | | |
| Non-Ferrous Metal | 0.1193 | -0.0205 | 0.1922 | -0.7208 | -0.7812 | 0.80 | 0.1153 |
| | (3.6146) | (-0.2385) | (1.1725) | (-4.2598) | (-5.731) | | |
| Machinery Except Electrical | 0.07576 | 0.4428 | -0.7859 | -0.5323 | -0.7217 | 0.50 | 0.1843 |
| | (1.5506) | (2.3385) | (-3.0394) | (-2.101) | (-3.1523) | | |
| Electrical Machinery | 0.2036 | -0.1283 | -0.0803 | -0.1269 | -0.194 | 0.1629 | 0.1847 |
| | (4.8023) | (-1.0202) | (-0.2731) | (-0.4222) | (-0.1742) | | |

Note: Figures in parenthesis indicates t-statistics

The estimated coefficient in Table 6.6 show that changes in sectoral real wages are positively influenced by changes in labour productivity, with the exception of three sectors (Beverage, Non-Ferrous Metal, and Electrical Machinery) which showed a negative association between labour productivity and wages. The relationship between real wage and union density also appear negatively correlated. In short-run, the degree of real wage respond to labour productivity is small and less significant statistically. This may due to lag in the adjustment of real wage to sectoral performance.

The changes in unemployment appeared correctly signed theoretically in most of the sectors except in Beverage, tobacco and Non-ferrous Metal (the positive coefficient are hardly significant). Overall, the coefficients are low remaining around –0.25 for 4 out of the 10 sectors in and hardly significant. The error correction term (ECM) attracted the theoretically consistent negative coefficient. The speed of adjustment of short-term disturbances from the steady state equilibrium given by the coefficient of the ECM term, was generally quite high staying above 30 per cent in most cases (the exception being beverage, wood products, and electrical machinery).