CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter discusses the findings from a review of empirical studies concerning the impact of trade union on wages, wage differentials, productivity, and the role of capital intensity on wages. There is extensive literature on the topic of trade unions, but these studies are confined mainly to the developed countries. We find that this is due to the transparency of data and data availability in the developed countries, which enable research to be carried out. There is limited researches carried out in less developing countries, mainly due to inavailability of data.

In the Malaysian context, the only recent study is by Guy Standing under the World Employment Programme of the Geneva based International Labour Organisation. Standing's study employed the survey method, where questionnaires were sent to 2,682 manufacturing establishments drawn from all states of Peninsular Malaysia in the year 1988. The present study differs from Standing's as we intend to utilise secondary data obtained from the Department of Statistics and the focus is on the food manufacturing industry alone, whilst Standing's study covers the manufacturing industry as a whole.

The study by Standing in 1988 found that the second school of thought, where unions are depicted "as a source of "dynamic efficiency" obliging enterprises to pay efficiency wages rather

than "market clearing" wages and forcing management to raise productivity by inducing technological change and cost-saving practices rather than reliance on low cost labour" is relevant in Malaysia. As we have put forward earlier, the late 1980s is a period of recovery from the severe recession of 1985 – 1986 whilst the 1990s is a period of robust economic growth. Therefore, our findings during the 1990s may produce a different set of results altogether.

2.2 THE IMPACT OF UNIONIZATION ON WAGES IN GENERAL

Jean-Francois Hennart (1984) argues that "unions present themselves as organizations that seek to better the welfare of the working person, mainly by increasing wages". The general sentiments accorded to trade unions are that they increase wages of its members either through collective bargaining with employers, or when that fails, to go on strike to demand for their rights. Some economists in turn have argued that this creates wage rigidity whereby wages are no longer efficient. With the current drive towards globalization, it has been noted that the ability of unions to press for "union wage premium" for its members are limited by capital and labour mobility which thus precludes the notion of monopoly union.

2.2.1 Union-nonunion wage differential in general

Gregg Lewis is one of the pioneers in providing analysis of union-nonunion wage differential. The estimated differential in the various years of his study is presented in Table 1. The study is conducted on various industries between the years 1920 to 1958.

Table 1 : Variation of union / non-union wage differential over time (Lewis, 1963)

eriod	Estimated differential (%)
920 – 1924	17
925 – 1929	26
930 – 1934	46
935 – 1939	22
940 – 1944	6
945 – 1949	2
950 – 1954	12
955 - 1958	16

ource : Table 11.3 of Whitehead and Baruch, 1981 (p.247)

Table 2 below sets out the estimated union versus non-union wage differential in studies onducted by other researchers using different categories of workers during the years 1958 to 973.

able 2 : Estimated union/non-union wage differentials

nvestigator	Period	Group	Estimated differential (%)
Pencavel	1964	various UK manual workers	0 – 10
Ashenfelter and Johnson	1960	US manufacturing production workers (simultaneous method)	4

Investigator	Period	Group	Estimated differential (%)
Schmidt and Strauss	1967	US full-time workers (simultaneous method)	7
Schmidt and Strauss	1967	US full-time workers	10
Mulvey and Foster	1973	99 varied UK occupations (coverage)	22
Johnson and Youmans	1966	all US blue-collar male workers	30
Rosen	1958	US production workers : industries 80% unionization	10 - 35
Mulvey and Foster	1973	83 UK manual occupations (coverage)	36
Ashenfelter and Johnson	1960	US manufacturing production workers	40

Source : Adapted from Table 11.2 of Whitehead and Baruch 1981 (p. 246)

Table 2 shows that in the United States, using single equation models, a differential of .0 per cent (Schmidt and Strauss, 1967) to 40 per cent (Ashenfelter and Johnson, 1960) between union and non-union wages have been reported. Ashenfelter and Johnson, however, noted a differential of only 4 per cent when the simultaneous method was employed. In the case of Britain, the estimated differential ranges from 0 per cent (Pencavel, 1964) to 36 per cent Mulvey and Foster, 1973). Recent research into wage differential between union and non-union workers in Britain are presented in Table 3.

Table 3 : British union wage-gap estimates

Author	Year and survey	Earnings	Union measure	Mean union markup (%)
Stewart (1983)	1975 NTS individual	weekly	membership	7.7 full-time manual males
Stewart (1987)	1980 WIRS1 private sector plants	weekly	recognition	8 semi-skilled manual 3 skilled manual (insignificant)
Green (1988)	1983 GHS household	weekly hourly	membership	12 manual 4 non-manual 14 manual 4 non-manual
Stewart (1990)	1984 WIRS2 plants	Weekly	recognition	0 - 10 semi-skilled manual
Symons and Walker (1990)	pooled 1979-84 FES individual, male	hourly	membership	13 manual males 5 non-manual males
Yaron (1990)	1983 GHS individual	hourly	membership	18 manual males 10 manual females
Main and Reilly (1992)	1986 SCELI individual, female	hourly	membership	14.6 full-time females 15.3 part-time females
Stewart (1991)	WIRS1 and 2 private sector plants	weekly	recognition	6.6 semi-skilled, 1980 8.4 semi-skilled, 1984 1.7 skilled, 1980 (insignificant) 2.8 skilled, 1984 (insignificant)
Metcalf and Stewart (1992)	WIRS2 private sector plants	weekly	recognition and membership	semi-skilled manual: 7 - 10 density > 95 or post-entry closed shop 17 - 19 pre-entry closed shop
Murphy, Sloane and Blackaby (1992)	1986 SCELI individual, male	Hourly	membership	13 manual males 10 non-manual males

Author	Year and survey	Earnings	Union measure	Mean union markup (%)
Stewart (1994)	WIRS3 private sector plants	Weekly	recognition	1 skilled (insignificant) 7 semi-skilled 7 unskilled

SCELI Social Change and Economic Life Initiative (a survey of six distinct local labour markets sponsored by the Economic and Social Research Council)
FES Family Expenditure Survey
GHS General Household Survey
BSA British Social Attitudes Survey
WIRS Workplace Industrial Relations Survey

Source : Table 6.1 of Booth, A.L. 1995 (p.165 – 6)

From Table 3, a mean union markup of 0 per cent to 19 per cent has been noted. Stewart in 1990 "finds that for semi-skilled British workers, union-non-union wage differentials in establishments facing competitive market conditions are zero, while in establishments that have some degree of product market power as a result of facing limited competition, the mean union pay differential is between 8 and 10%" (Booth, 1995). Therefore, the wage differential is partly induced by the product market. Pencavel also made the same assumption that "if the union's other activities do not offset the higher costs thus imposed on the firm, and if the pay of workers in competitive firms is not raised accordingly, the wage-making activities of the unions cannot persist in the long run unless the firm's product markets possess some monopolistic features" (Pencavel, 1995).

Blanchflower in his 1997 study found that the "union wage gap averages 15 per cent in

he United States and 10 per cent in Great Britain". Hildreth in his 1997 cross-sectional estimate ound that union members' wage premium over non-union workers is about 10 per cent. lowever, Hildreth's study, being longitudinal estimates, may have been downward biased and tated that the 'true' union wage differential may be around the region of 30 – 35 per cent. The atest US Department of Labor's Bureau of Labor Statistics also reported that in 1998, union vorkers' median salary was USD659 as compared to a non-union worker's median salary of JSD499, representing a 32 per cent wage premium. Schultz and Mwabu (1998) by using survey lata collected in 1993, found that for male African workers, the unionized worker obtain wage)remium ranging from 19 per cent to as high as 145 per cent compared to non-union workers.

On another level, Freeman and Medoff (1978), found the extent of unionization has a)ositive and significant impact on the union wage advantage. Union power is viewed as a tool vhich determines the wage advantage of a unionized worker over the non-unionized worker. An nteresting question to ponder would be whether it is union power which causes the wage idvantage or that higher wages is the attraction which contributed to the increased union nembership. In the present study, we have ignored this causal effect and assumed that the first :riteria holds in our analysis.

2.2.2 Union-nonunion wage differential after contolling for size of establishments

The Australian estimates of union impact on wages and the wage differential between inion and non-union worker include Christie (1992) of 15 per cent, Hatton and Chapman (1987)

of 5 per cent and Kornfeld (1993) of 7.3 per cent. However, Miller and Mulvey pointed out in their 1996 study that all the earlier findings may have overstated the union wage effect as firm size was omitted as a variable in their specification of the wage equation. Miller and Mulvey's study, employing the Training and Education Survey of 1993, estimated that the omitted variable caused an upward bias of 5 and 3.8 per cent on male and female earnings respectively.

Some other studies which put forward the same arguments include Schaffner (1993), who used urban male Peruvian workers data, finds that once the size of establishment is taken into account, the wage differential between union and non-union workers differs only slightly. Kim (1993) also reported a wage differential of only 2.2 per cent for South Korean male production workers and 2.8 percent for female production workers in 1988 when the skill level and size of firm variables are controlled. Closer to home, Mazumdar (1981) in his analysis of urban Malaysian workers in 1975 commented that after accounting for other characteristics of an individual and establishment size, the unionization variable is insignificant (Pencavel, 1995).

On the other hand, Mazumdar (1995) found that unionized enterprises in the African manufacturing industies paid 18 per cent higher wages even after "controlling for enterprise size, worker characteristics, industry and ownership".

2.2.3 Spillover effect of collective bargaining

Although unions tend to have a positive impact on wages in general, the threat model

autions that there may be spillover effects of higher union wages to the non-union workers as ompanies are willing to pay higher wages to non-union workers to prevent them from joining r forming unions. The other view is that nonunion firms have to pay the level of union wages egotiated to prevent its employees from leaving and joining the unionized firm. As noted by uess Jr (1999), the Japanese shunto (Spring Wage Offensive) which negotiates centrally on a early basis industrial increment and benefits would set the scene for nonunion employers and maller firms, who act as price takers. Also, collective agreements negotiated normally covers ll workers of the firm rather than just the union members alone. In extreme cases, a collective greement negotiated for 10 – 15 per cent unionized employees were extended to cover 75 per ent of employees in Spain (Jimeno and Toharia, 1991).

2.2.4 Union-nonunion wage differential under severe government restrictions

Another reason where wage differential may not be significant even with unionization s when there is severe restrictions placed on trade union activity which thus reduced their ability o negotiate for higher wages. South Korea in the pre-1987 period is a good example. (See eguino (1997), Park (1980) and Richardson and Kim (1986)). Other countries which exhibited overnment repression of unions include Chile and Turkey in the 1970s and early 1980s (Benerji nd Ghanem, 1995).

2.2.5 Other union-nonunion wage differential matters

Following the Marshallian law, unions should be more successful for craft and craft-type workers as substitution for skilled labour is more difficult than semi-skilled or unskilled labour. This also reinforces our understanding that positive wage differential is just a re-distribution of the economic rent from capital to labour. Similar arguments have been put forward by Freeman, Karier and Salinger that "unions primarily capture monopoly rents associated with industry concentration" (Hirsch and Addison, 1986).

We should also note that the labour demand curve is downward sloping. Investigations by Nickell and Andrews (1983), Symons (1985), Bruno and Sachs (1985), Bean, Layard and Nickell (1986) have all provided evidence that a trade-off between wages and employment does exist. In the Malaysian context, however, this does not pose a problem as the earlier part of the 1990s is a period of robust economy, where full employment was observed.

2.3 THE EFFECTS OF CAPITAL (ASSETS EMPLOYED) ON THE WAGES OF UNIONIZED, IN-HOUSE UNIONS AND NON-UNIONIZED WORKERS

The elasticity of demand for a factor of production is influenced by the percentage of this factor's total cost to the total production cost. If total labour cost only forms a small portion of the firm's total production cost, these companies are more capital-intensive and, *a priori*, we should expect a larger positive wage differential between unionized and non-unionized workers

because companies are less able to refrain from granting wage increases since wages will account for a smaller percentage of the total production cost.

In the absence of union influence, the larger the plant size, the higher the wages that is granted to its workers (See Brown and Medoff, 1989; Main and Reilly, 1993; and for Australia, Hatton and Chapman, 1987 – all cited from Miller and Mulvey, 1996). It is well established that the more capital intensive a firm is, the higher the capital-labour ratio, which in accordance to the capital-labour ratio theory, every increase in labour would bring about even greater productivity. This higher demand would then be translated into higher wages.

Miller and Mulvey (1996) have also postulated that firm size is positively associated with union density. Union density is said to be higher in larger firms as it is more cost effective to organize labour in larger firms than in small firms. Menezes-Filho, Ulph and Van (1998) have used a cross-section of plants and company panel for 1983 – 1990 in the United Kingdom and found that research and development intensity is also higher in companies with low levels of union density compared to non-union companies. Research and development activities would naturally entail capital expenditure. Research and development activities should translate into higher productivity if the research is successful. Therefore we expect the relevant firms to pay higher wages which commensurate with productivity.

In surveying the literature of assets employed on wages on unionized, in-house unions and non-unionized workers, we find that the above view is shared by Dickens and Katz (1987)

who find that profitable capital intensive industries pay higher wages. Troske (1994), by using matched worker firm data also finds that capital intensity explains a major portion of interindustry wage differential for production workers. Although his conclusion is for interindustry wage differentials, we can postulate this relationship to apply to intraindustry as well.

Macleod and Malcomson (1998) also acknowledge that productivity in capital intensive jobs is higher than labour intensive jobs. With the higher productivity, there would also be higher wages. In other words, capital intensive firms would pay higher wages to its workers.

Haworth and Rasmussen (1971) have found a strong positive relationship between capital-labour ratio and industry average wages. Mazumdar (1995) also put forward the argument that larger firms have more expensive machinery and a higher capital-labour ratio. Thus the training cost associated with new recruits to replace resigned employees would be much higher than small firms because labour would have a higher value-added in a higher capital intensity firm.

Soon (1991) noted in her study on wage behaviour in Malaysia that "plant size may interact with union power – firstly because recruitment and organization of union members are easier in large plants and secondly, because the nature of union-management communications often breed militancy among union members". Her estimation for both 1979 and 1985 shows those firms which are more capital intensive do pay higher wages. Hammermesh and Rees (1988)

have argued that "employer resistance to trade unionism will be negatively related to the degree of capital intensity since the lower the proportion of total costs made up the labour costs, the less will be the potential impact of union-won wage rises on the costs of the firm" (Miller and Mulvey, 1996).

However, based on Jean-Francois Hennart (1984) regression using data from 39 goods producing industry, it was found that "managers of labour intensive industries have more to gain from unionism than their counterparts in more capital-intensive industries" (Jean-Francois Hennart, 1984). This could happen in the short run as firms have more to lose if these unions go on strike. The firms may not be able to find replacement for the labour immediately and this would cause losses as production schedules cannot be met. Similarly, Fajana (1989) on her analysis of multinational companies find that "the capital intensity of multinational companies' production tends to weaken the actions of trade unions", hence it is not surprising if capital intensive firms pay their unionized workers lower wages.

2.4 DIFFERENCES IN THE RELATIVE IMPACT OF NATIONAL VIS-A-VIS IN-HOUSE UNIONS ON WAGES

Enterprise or in-house unions originated from Japanese firms which advocate co-operation and consultation by management with the union on all major management decisions. This ensures that workers are motivated and have a higher productivity. It is generally observed that enterprise unions are concentrated in large firms and medium-sized firms in conventional

ndustries. It is postulated, however, that national unions, being parties independent from the employers would negotiate for higher wages than in-house unions, who are representatives of management.

Our survey of the literature on this area reveal that there is limited studies which have been conducted on national union and in-house union wage differentials. One of the reason is due to the prohibition of enterprise unions in certain countries. One such example is the United States after the passing of the National Labor Relations Act 1935 ("NLRA") which prohibits company unions. "Workers must choose between an independent union or no workplace representation at all" (Extreicher, 1993).

Table 4 shows the results of Guy Standing (1990), under the World Employment Programme which conducted a survey on 2,682 manufacturing establishments drawn from all states of Peninsular Malaysia. National (industrial) unions secured a higher average wage differential as compared to in-house (company) unions.

Table 4 : Average monthly wages, 1988 - ordinary least squares regression results

Variable	Log Wage	Average Wage	Log Hour Wage
Industrial union	0.183	73.26	0.180
Company union	0.139	55.31	0.102

Source : Table 5 of Standing, G. 1990 (p.11)

The surveys conducted by the Trade Union Division, Bureau of Labour Administration ınd Ministry of Labour in Japan during the years 1955 to 1977 have found that negotiated wages ıy the unions have grown significantly since the 1960s. One of the major reason in this increase s due to the *shunto* drive (centralized wage bargaining during the winter and early spring ıetween enterprise unions – Rengo; the national confederation of unions and the Federation of ;mployers' Associations - Nikkeiren) which "was conducted by the concerted action of unions .ligned on an industrial basis, with national centres playing a leading and co-ordinating role mong the industrial federations, it has enhanced the authority and power of the national ırganizations over their affiliated enterprise unions" (Shirai and Shimada, 1978).

In the 1920s (prior to the passing of the NLRA), Fairris (1995) found that there is no ignificant relationship between the concentration of company unions to changes in real wages. n other words, company unions did not negotiate for any significant wage increases for its nembers. Miller and Mulvey (1996) also do not note any wage advantage gained by enterprise ınion negotiations in their analysis of the 1993 Training and Education Survey in Australia. 'suru and Rebitzer (1995) also found that the wage premium and benefits accorded to Japan's ınion workers over non-union workers is very small. This is because most Japanese unions are nterprise unions which work on the concept of co-operation with management of a company. Naturally these enterprise union representatives would not force management into granting wage ;ains which is detrimental to the company.

A Mexican study by Roxborough, 1984, however, found that plant (in-house) unions

managed to negotiate for higher wages compared to the official (national) unions. Further, Bhattacherjee, 1987, conducted a study in Bombay on 119 plant-level agreements and also found that "company unions had negotiated a pay level 15 per cent higher than the national unions for comparable work" (Gus Edgren, 1990).

Some arguments put forward on in-house unions having a wage advantage over national unions are that management are willing to pay higher wages to deter these in-house union workers from getting affiliated with national unions which may impose stricter conditions during negotiations as they are privy to industry practise and are stronger as compared to in-house unions. Another reason could be the increased productivity in firms with enterprise unions as a result of loyalty of the workers, who may have discovered more efficient ways of production and is willing to share these ideas with his superior.

2.5 THE IMPACT OF UNIONIZATION ON AVERAGE MALE-FEMALE WAGE DIFFERENTIALS

Theoretically we expect a positive differential on male-female wages. Unionization, on the other hand, reduces this differential. Citing from Gregory and Dwordin (1997) "Unions, by demanding work rules and objective (for example seniority-based) criteria for employment decisions, lessen the chance that decision makers can engage in ....gender discrimination in the workplace (Freeman and Medoff, 1984; Kochan & Katz, 1988; Leonard, 1985). Unions also

educe wage inequalities across workers, including .....female-male wage differentials (Cook, 991; Freeman and Medoff, 1984; Leonard, 1985)". Based on the US Department of Labor's lureau of Labor Statistics published data for 1998, it was found that "union women earn 39 per ent more than non-union women, African American union members earn 45% more than their on-union counterparts and for Latino workers the union advantage totals 54 per cent". In other vords, the increase in female earnings reduced the male-female wage gap with unionization.

Table 5 : Union-nonunion log wage differentials by race and sex in USA, 1967, 1973 and 975

All workers		Male workers		Female workers	
		White	Black	White	Black
1967	0.12	0.10	0.22	0.14	0.06
1973	0.15	0.16	0.23	0.13	0.13
1975	0.17	0.16	0.23	0.17	0.17

Source : Table 5.1 of Hirsch & Addison 1986 (p.132)

Table 5 was obtained by Ashenfelter using CPS microdata on nonfarm wage and salary workers for the years 1967, 1973 and 1975 and estimated by Ordinary Least Squares cross-sectional log wage equations by race and sex. The wage differential between White male and female workers appear to be small. Indeed, it has been commented by Hirsch and Addison that 'differences between males and females....have rarely been found to be sizeable" (Hirsch and Addison, 1986). A larger differential is seen between Black male and female workers. Skill level

lifference rather than pure male-female wage differential should explain this. Dell Aringa and ucifora (1994) studied the union effects on wage dispersion in the Italian labour market and ound that there is less wage differential among skill categories and wages of low pay members rrespective of gender are also raised.

Standing (1990) also found that "far larger proportions of unionized firms (in Malaysia) ad ratios of male to female wages close to unity...firms with house unions were more likely than hose with industrial unions to have very narrow wage differentials.....(After) controlling for ndustry, employment size and other characteristics of establishment, unionised firms, with either ype of union, did indeed have narrower wage differentials between male and female workers in obs of comparable skill" (Standing, 1990). Panagides and Patrinos (1994), using the 1989 Mexican household survey also found substantially lower wage differentials for men than for women, signifying that there is a narrower wage differential between unionized men and women. The results indicate that there is a 17.5 per cent wage differential between non-union male and female whereas it is not significant in the unionized sector.

Table 6 : The union / non-union differential by sex for Britain in 1972 (%)

	Men	Women
Britain	18	19

Source : Table 8.7 of Mulvey 1978), (p.115)

Using the results from Nickell , 1977, reproduced here in Table 6, it was found that there minimal differential for male and female workers. As Mulvey suggested, "the British result .... may be connected with the growing influence of women in trade unions and also the effects f the Equal Pay Act" (Mulvey, 1978).

Jean-Francois Hennart tested on 39 goods-producing industry in France for 1969 excluding mining and tobacco and match manufacture) and found that "no significant ifferences between male and female wages when differences in the level of schooling and xperience are taken into account" (Jean-Francois Hennart). This finding is similar to Riboud's 1979) regression on individual data.

Borland (1995) finds that the variance of Australian full time male and female earnings ıave increased by 30 and 15 per cent respectively due to the decline in union density (Borland ınd Wilkins, 1996).

Another view on trade union impact on male-female differential is that a centralised ɔargaining system would decrease gender wage differentials as compared to a decentralised ɔargaining system. For illustration, the Swedish labour market have a centralised bargaining ıystem since the 1930s which promote an egalitarian wage regime. However, in the 1980s, wage lrift (centrally negotiated wages being topped up at the local level) increased considerably, ıignalling the loosening of the centralised bargaining system (Ramaswamy, 1994). Zetterberg (1994) in his study of the Swedish labour market have also found a smaller wage differential in

ıblic sector as compared to the private sector, implying that trade unions can successfully e the gender wage gap only if there is centralization of wage negotiations before the ıtional conditions could be realised. Wage differentials would still be present if negotiations ːcentralized.

THE IMPACT OF UNIONIZATION ON PRODUCTIVITY

Profit maximization theory claims that in the long run, only firms which are profitable ıl remain in business. Trade unions cannot succeed in negotiating for higher wages if this ı erodes the firm's profits to the extent that it is no longer profitable. One method of oming this is by increasing the productivity of employees.

Freeman and Medoff (1979) argued that "unions not only tend to improve working tions but also have a positive effect on the firm's productivity". In their study, it was found .nionized manufacturing firms in the United States is 22% more productive than their non- ıised counterpart.

Table 7 presents some estimates of union-nonunion productivity differentials.

Table 7 : Selected production function estimates of union-nonunion productivity differences

Study / sample Manufacturing / economy-wide	Type of data	Output measure	Union effect (logarithmic productivity differential)
Brown and Medoff (1978); Manufacturing, 1972	State-by-industry aggregates	Value added	0.22 to 0.24
Brown, Medoff, and Leonard (as cited in Freeman and Medoff, 1984); Manufacturing 1972 1977	State-by-industry aggregates	Value added	 0.10 0.27
Clark (1984); North American manufacturing, 1970-80	Product line businesses	Value added	-0.02 to -0.03
Warren (1985); private domestic business economy, 1948-73	Time series	Real gross private domestic product	-0.81
Study / sample Industry-level (private sector)			
Frantz (1976); Wooden household furniture, 1974	Establishments	Value added	0.15

Study / sample Industry-level (private sector)	Type of data	Output measure	Union effect (logarithmic productivity differential)
Ichniowski (1984a) paper mills, 1976-82 (monthly data)	Establishments, 10 union and 1 nonunion	Physical output in tons	0.10 to 0.15
Clark (1980a); cement, 1953 - 76	Before-and-after comparison of (6) establishments that changed from nonunion to union status	Physical output in tons	0.06 to 0.08
Allen (1984d); construction, 1972	State-by-industry aggregates	Value added deflated by price / cost index	0.14 to 0.18

Note : The percentage differential can be calculated by $(e^d - 1)100$, where d is the logarithmic differential

Source : Table 7.1 of Hirsch and Addison 1986, (p.196 – 197)

Per Table 7, some of the studies which found a positive impact of unionization on productivity include Frantz, Ichniowski and Allen. Reasons cited for the improvement in productivity include, amongst others:

- the collective voice theory which states that workers could communicate their preferences or grievances to management on a collective basis, hence it carries more weight and problems can get resolved;
- the shock effect on management theory which states that the increase in wages "shocked" management into seeking more efficient and productive methods of

production; and

- the reduced quit rates in unionized firms, which eliminate the need to constantly train new entrants when there is high turnover and replacement workers are employed.

Prior to the passing of the NLRA, company unionism is practised by certain enterprises n the United States. As noted by Fairris (1995), "statistics on labour productivity and industrial ccidents provide suggestive evidence that worker voice produced benefits for both labor and nanagement. Labor productivity in manufacturing grew at an average annual rate of 5.6 per cent ıetween 1919 and 1929 (1.2 per cent during 1909 – 1919)". Fairris (1995) further analysed data ources from 8 different manufacturing industries for 1923 and a strong positive relationship was ound between company union concentration and productivity.

Clark (1980a) has found a positive productivity differential in the cement industry whilst ıis study (1984) on North American manufacturing revealed a negative union effect on ıroductivity. Warren (1985) also noted a negative productivity effect on unionized companies n his time series analysis on the private domestic business economy during the period 1948 to 973.

In the Malaysian context, Guy Standing (1990) noted that "it is clear that unionized ıstablishments had higher productivity than others and that this was primarily the case in firms vith industrial (national) rather than (in) house unions" (Standing, 1990).

Other than Standing (1990), most of the studies have compared productivity differential with reference to national unions and non-unions. Tachibanaki, Noda, Andersen and Kirman (1996) used an innovative new firm data and found that the same positive productivity effect is experienced by enterprise unions as well.

The study by Ulman in 1968 focussing on productivity issues found that "the structure of unions and the nature of bargaining relationships in Britain tended to inhibit productivity" (Doeringer). A study of the British coal mining industry for the period 1900 – 1913 conducted by Pencavel in 1977 also reported sizeable negative union productivity effects. Pryke (1981) estimated the negative productivity effect of unions in the coal industry to be –7 per cent between 1968 and 1978, when the manufacturing industry recorded a labour productivity growth of +30 per cent during the same period! Denny (1997) on analysing productivity and trade unions in the British manufacturing industry from 1973 to 1985 finds that there is a negative relationship from the year 1979 onwards. On another level, the United States studies on manufacturing by Bemmels (1987) and Lovell, Sickles and Warren (1988) also support the notion that unionization lowers productivity. Hirsch (1991) further found that union shops have a 20 per cent lower market value as compared to non-union companies.

A system of collective bargaining which disregards the impact of productivity on wages may have contributed to the lower productivity result. For example, Germany have been experiencing escalating unemployment rates and dwindling union membership (Seewald Jr, 1997/98) due to its union negotiated wages which does not commensurate with productivity and

hus firms cannot remain in business.

Studies which found no positive or negative relationship between union and labour ›roductivity included that of Bowden and Turner (1991). They analysed labour productivity in he United Kingdom from 1924 to 1968, and "find little evidence of any significant negative elationship between unions and productivity" (Smith, 1994). Denny's (1997) same analysis vhich found a negative relationship between unionization and productivity after 1979, found that here is no relationship in the 1970s. Similarly, the case study carried out by Blum and 'ataranapich (1987) on in-house union productivity on Singapore International Airlines also ound no evidence of in-house unions generating improvements in the Singapore economy.

A new concept on productivity that has emerged in the recent decade is total factor ›roductivity, which is defined as the ratio of output and all inputs in the process of production. t is a more reliable measure of efficiency as compared to the earlier approaches of labour ›roductivity or capital productivity as it takes into account the contributions of all factor inputs. 3ean and Symons (1990) reported in their study that "unionized industries experience the fastest ;rowth in total factor productivity not only during 1980 – 86 but also between 1973 and 1979" Smith, 1994).

As presented in the preceding sections, studies on unionization impact on wages, capital ntensity and productivity have yield differing results. This study hopes to shed some light on vhether in Malaysia's food manufacturing industry, which of these findings are relevant.