

Minimum wages and youth employment

*Does a legal minimum wage tend to price young people out of a job?
Many economists still argue that it does, but the consensus is shifting.*

Grant Belchamber

Senior Research Officer
Australian Council of Trade Unions

“The estimation in which different qualities of labour are held comes soon to be adjusted in the market with sufficient precision for all practical purposes, and depends much on the comparative skill of the labourer and the intensity of the labour performed. The scale, when once formed, is liable to little variation. If a day’s labour of a working jeweller be more valuable than a day’s labour of a common labourer, it has long ago been adjusted and placed in its proper position in the scale of value.”

[David Ricardo, *The principles of political economy and taxation*,
Everyman’s Edition, London, 1973.]

“The higher the minimum wage, the greater will be the number of covered workers who are discharged.”

[George J. Stigler, “The economics of minimum wage legislation”,
American Economic Review, 1946, Vol. 36, pp. 358-365.]

Debates about minimum wages typically generate much heat, but little light. The arguments advanced about youth minimum wages mirror those deployed about minimum wages for adult workers.¹ There are differences in emphasis on certain points, but the basic issues are common.

Trade unions support prescription of effective minimum wages.² Effective minima are enforceable minima. At worst, effective minimum wages limit exploitation of vulnerable groups of workers. At best, minimum wages ensure a living wage for all workers.

Wages are workers’ incomes, derived from sale of their labour power. Other things being equal, higher wage rates enable workers to better meet their needs. For vulnerable (industrially weak) workers, unable to secure collective agreements on

wages and conditions, minimum wages set the floor for labour market outcomes otherwise determined by atomistic haggling.

When they are well designed and maintained, effective minimum wages in conjunction with the provision of robust training infrastructure can also promote skills formation.

Opposition to minimum wages is widespread (though not universal) amongst employers, governments and academic economists, and the opposition to minimum wages for young workers is greater than opposition to minimum wages for adult workers generally.³

Opposition to minimum wages – arguments and evidence

The arguments that are put in opposition to minimum wages fall into two broad groups.

First, mainstream “supply-and-demand” economic theory has a central and pre-eminent role for the price mechanism in clearing markets and establishing “equilibrium”. Price increases signal shortages and profit opportunities from entering the market; price falls signal surpluses and profit opportunities from exiting the market. The price mechanism is the “invisible hand” that balances supply with demand and clears markets. Any intervention that constrains prices from rising or falling impairs the signalling function of the price system and impedes attainment of equilibrium.

In the labour market, wage rates are the price of what is bought and sold.

Under this paradigm, when the labour market “clears”, there is no unemployment and equivalently, the existence of unemployment is held as evidence that the labour market is not clearing. The incidence of unemployment is always higher among workers with basic skills competing for low-paid jobs, and lower among higher-skilled and higher-paid workers.

On this view, minimum wage laws⁴ prevent adjustment of *relative wages* – that is, of wages for low-paid workers falling relative to other groups – and unemployment is the result. According to this neat theory, lower wages impact on both supply of and demand for labour, and result both in fewer persons seeking employment and more employers hiring additional labour for any level of output. By this adjustment process, the wages of workers in “excess supply” fall until the point is reached where the balance between demand and supply has been restored and unemployment has disappeared.

That wages have a significant signalling role in the labour market is, in principle, a testable proposition, and the search to find evidence of it has been long and sustained in labour economics. The search

is for a statistical relationship between excess demand/supply of labour on the one hand, and movement in relative wage rates on the other. For a precept of such fundamental importance to the dominant theory, the search has been staggeringly unsuccessful. One eminent study summarized its findings thus:

The structure of wages and salaries ... is consistent with the provision of broadly indicative signals, rationing scarce talents and acquired skills. We do not believe, however, that relativities are a sensitive signalling device. This comprehends both the following statements: (1) wage relativities do not respond readily to changes in the underlying conditions of demand and supply; and (2) the allocation of labour is insensitive to changes in relativities between the wage levels of major categories of labour.⁵

Labour market deregulation as a strategy for job creation, the central policy bloom of the *1994 OECD Jobs Study*, wilts and shrivels under forensic econometric examination.⁶ Labour market “flexibility”, by which is meant removal of “impediments” like minimum wage laws alleged to fetter or suppress labour market signals and the adjustment of relative prices in the labour market, is no cure-all for unemployment.

The widespread failure to find evidence of a significant signalling role for wages in labour market adjustment has seen the emergence of a substantial literature in labour economics dealing with alternative adjustment mechanisms. The supply of labour and payment of wages is not a once-off impersonal transaction, but a relationship between human beings where the labour supplied is conditioned by the work environment. As celebrated economist Arthur M. Okun put it more than 20 years ago, the labour market is characterized not so much by the “invisible hand” as by the “invisible handshake”.⁷

A second broad objection to minimum wages holds that binding minimum wage levels will price some workers out of employment because the wage is set too high relative to the workers’ output.⁸ From any

initial position, a rise in minimum wages will cause higher unemployment amongst minimum wage workers.

The proposition that minimum wage laws cost jobs is a sacrosanct article of faith for many economists. It is a theoretical deduction from first principles, based on the *marginal productivity theory* of value and distribution that lies at the heart of the dominant paradigm in contemporary economics. To question this proposition is to commit heresy in the eyes of the high priests of orthodoxy, and is met by them with derision.⁹

The proposition can, however, be tested – and more straightforwardly than by attempts to relate excess demand/supply to movements in wage relativities. The conceptually simple test is whether the introduction of minimum wages, or increases in them, causes job losses. And if so, how large is the job loss for any given increase in minimum wages?

Conceptual simplicity does not mean that practical tests are simple or straightforward. The search for a negative relationship between minimum wages and employment is possibly the most tilled field in all of applied economics but has been staggeringly unproductive for the conventional story.

The failure to find clear evidence that minimum wages cost jobs in the labour market at large has seen researchers in recent decades focus on segments of the labour market where, in theory, the adverse effects on minimum wages should be more evident and clearly discernible. The focus group for most studies has been young workers.

Young people moving from the world of school and play to the world of work commence their working lives with fewer skills, less training and less experience than their adult counterparts. Their productivity is accordingly lower and (for market economists) their employment should be at greater risk from minimum wages laws.

The seminal paper in this modern tradition is by Brown, Gilroy and Kohen¹⁰ (BGK). Applying then state-of-the-art

econometric technique to time-series data for the United States over the period 1954 to 1979, BGK's preferred estimate was that a 10 per cent increase in the (adult) minimum wage reduced employment of teenagers by between 1 and 3 per cent.

This ratio (known as the elasticity of employment with respect to wages) has acquired the status of a well-known fact within the economics profession, with the qualification that it referred to employment of teenagers frequently ignored or forgotten. Surveys of professional economists show that most believe a 10 per cent rise in minimum wages will cost between 1 and 3 per cent of the number of jobs – not just teenagers' jobs.

But BGK's estimate does not hold up under critical scrutiny. Subsequent developments in econometrics have demonstrated profound methodological shortcomings with the time-series evidence. And there are abiding concerns about "publication bias" and "specification searching". Moreover, when BGK's preferred model is estimated with data covering the 1980s as well (i.e. 1954 to end-1993), it becomes progressively *weaker*, not stronger, and by 1990 the estimated elasticity is not statistically different from zero.¹¹

Today a plethora of modern rigorous empirical studies casts doubt over the orthodox prediction. Since the late 1980s, David Card, Lawrence Katz, Alan Krueger and others have (singly and jointly) reported results for the United States that *show modest increases in minimum wages have no effect on employment* – indeed, some results suggest that minimum wage rises are associated with *increases* in employment. Richard Dickens, Stephen Machin, Alan Manning and others have produced a similar stream of evidence for the United Kingdom.

The authoritative modern compendium reporting these recent heterodox results is Card and Krueger's *Myth and Measurement*.¹² A steady stream of studies published subsequently has produced similar findings; many of these are listed in the series of reports by the United Kingdom Low Pay Commission.¹³

Minimum wages and income distribution

Some studies continue to report negative minimum-wage/employment elasticities, especially for young workers. For example, the OECD *Employment Outlook 1998* reports cross-country regressions for a sample of OECD countries that have minimum wage legislation. It found a statistically significant, but *very small* negative relationship between minimum wages and youth employment.¹⁴

This is noteworthy in its own right. A *small* negative relationship – anything less than proportional – between minimum wages and youth employment means that higher minimum wages improve the welfare of young workers as a group.¹⁵ The evidence for *any* statistically significant negative relationship between minimum wages and employment for young workers is problematic and well short of conclusive – the estimates cluster around zero, suggesting that minimum wages are on average neutral for employment.

But what studies there are reporting negative minimum-wage/employment findings overwhelmingly report *small* magnitudes. This means that minimum-wage laws can help to improve the distribution of income. It also means that cutting youth minimum wages is at best an expensive strategy to create more jobs for young people.

It should also be noted that the empirical evidence on the employment impact of minimum wages relates to *modest* increases. It is not difficult to see the importance of this qualification. Imagine that, overnight, the minimum wage for teenagers was raised to twice the adult minimum wage rate. Such a development would surely wreak havoc on teenage employment. But there are no propositions of this ilk under policy consideration in any country, so the question remains, how modest is modest?

The evidence suggests there is substantial room for movement in most countries. The introduction of minimum wages in the United Kingdom and the adjustment

of minimum wages for teenagers in New Zealand show that substantial increases in minimum wages from previously low levels have had little or no impact on employment outcomes.¹⁶

Regular, moderate, predictable changes in minimum wages from a higher base – such as have occurred in Australia over the past two decades – have not had any discernible employment consequences, positive or negative, for young (or indeed adult) workers.¹⁷

The driving determinants of employment outcomes, it seems, lie elsewhere than with minimum wages within the range of real-world observed levels.¹⁸

Current practice and good design

It thus seems safe to embrace effective minimum wages for youth, recognizing that care is required in establishing and varying them. Presently, provisions differ widely across countries.

Table 1 sets out youth minimum wages and selected labour market data for a range of countries for which information was available. The first block of columns showing minimum wage rates as a percentage of the applicable adult minimum¹⁹ demonstrates that a wide range of approaches applies across countries.

Australia, Belgium and the Netherlands have an increasing scale of minimum wages for teenage workers. Entitlement to the full adult minimum wage applies at age 21 in Australia and Belgium, but not until age 23 in the Netherlands. The proportions of the adult minima for each year of age differ greatly across these three countries.

Canada, Greece, Portugal and Spain apply the full adult minimum wage at all ages, as does the United States, except that for the first 90 days of employment, the applicable minimum is a little over 80 per cent of the adult rate.²⁰ France, Ireland and New Zealand apply the full adult minimum from age 18 with (different) lower minima for workers aged 16 and 17; while the United Kingdom has a

Table 1. Minimum wages and employment/population ratios – Selected countries

Country	Youth minimum wages as % of adult minimum (at end 2002), at age:					Minimum wage for 18-year-olds in 1997 (m) US\$ PPP	Employment/ population ratio – persons aged 15 to 24	
	16	17	18	19	20		1990	2002
Australia ^a	50	60	70	80	90	5.75	61.1	59.6
Belgium ^b	70	76	82	88	94	5.25	30.4	28.5
Canada ^c	100	100	100	100	100	5.33	61.1	57.3
France ^d	80	90	100	100	100	5.56	29.5	24.1
Greece ^e	100	100	100	100	100	3.06	30.3	27.0
Ireland ^f	70	70	100	100	100	N/A	41.4	45.3
Netherlands ^g	34.5	39.5	45.5	54.5	63.5	2.73	53.0	70.5
New Zealand ^h	80	80	100	100	100	4.46	58.3	56.8
Portugal ⁱ	100	100	100	100	100	2.32	54.8	41.9
Spain ^j	100	100	100	100	100	2.94	38.3	36.6
UK ^k	Exempt	Exempt	85	85	85	N/A	70.1	61.0
USA ^l	82.3	82.3	100	100	100	5.15	59.8	55.7

^a Minima vary by industry. Most youth employment is in the retail sector; these wages figures are for retail employment and are percentages of the shop assistant minimum wage (which in 2002 was 113.5 per cent of the Federal Minimum Wage). Thus the minimum wage for a 20-year-old shop assistant in Australia is 102 per cent of the FMW. ^b Full minimum wage applies at age 21. ^c Full minimum wage at all ages in most provinces. ^d Workers aged 16 and 17 receive the discounted minimum wage only for the first six months of their employment, then the full rate. ^e Full minimum wage applies at age 15, but restrictions apply to employment of workers under 18 years. ^f Full minimum wage applies two years after first commencing work, from age 18 (unless in structured training). ^g Full minimum wage applies at age 23. ^h From 1991 to 1994, workers aged under 18 years were exempt from the minimum wage. From 1996 to 2000, workers aged under 20 years were entitled to 60 per cent of the adult minimum. Current rates apply from 2000. ⁱ Full minimum wage at all ages, except for certain apprentices and trainees. ^j Full minimum wage at age 16. ^k Full minimum wage at age 22. Workers aged under 18 years currently exempt from minimum wage; the Low Pay Commission has recommended introduction of a minimum rate, to be set at approx 60 per cent of the full minimum, for these workers. ^l Lower rate applies for the first 90 days of employment; the full minimum rate applies at all ages thereafter (excluding certain callings in hospitality industry). ^m Calculated using statutory minimum wages, exchange rates and PPPs as at 1997, from Blau and Kahn Table 3.3, p. 82; except that the Australian figure is based on the shop assistant minimum wage which is 12.5 per cent higher than the FMW.

Sources: *OECD Employment Outlook* (various); *UK Low Pay Commission Reports* (various); *At Home and Abroad – US Labor Market Performance in International Perspective* by Francine D. Blau and Lawrence M. Kahn, Russell Sage Foundation, New York, 2002.

lower minimum for young adults (aged 18-21) and no minimum for workers aged less than 18 years.²¹

Beyond these differences in practice, the relevant adult minimum is set at different levels across countries – whether expressed in a common currency or as a proportion of (say) median earnings. To provide some indication of the impact of this difference in a globalized world, the middle column in table 1 applies the minimum wage proportion for 18-year-old workers to the national minimum wage

to express the rate in a common currency using purchasing power parities (PPPs) in 1997.²²

The final two columns show the employment density amongst young people for these countries, measured as the ratio of employment to population (the E/P ratio). Unfortunately, the comparative employment density for 18-year-olds across these countries is not easily discerned, as data for corresponding employment-to-population ratios is only readily available for 15- to 24-year-olds as a group.

Accordingly, firm conclusions cannot be drawn here. That said, measured in PPPs, the minimum wage for 18-year-olds is relatively high – between US\$5.15 and US\$5.75 – in Australia, Belgium, Canada, France and the United States. Of these, the three English-speaking countries have high E/P ratios (between 55 and 60 per cent) whereas the two continental European nations have low E/P ratios – less than half as high.²³ In all five countries, E/Ps fell between 1990 and 2002.

New Zealand has mid-range minimum wage with a high E/P.

Greece, Portugal, Spain and the Netherlands have low minimum wages for 18-year-olds – between US\$2.32 and US\$3.06. The first three of these countries have low E/P ratios, which have fallen over the 12-year interval.

But the clear outlier in the table is the Netherlands. Its minimum wage for 18-year-olds is the lowest of all countries, bar Portugal. And its E/P ratio has risen from 53 to 70 per cent over the 12 years to 2002 to become (by 10 percentage points) the highest among all countries shown. Over the past two decades the Netherlands has instituted and revamped the array of active labour market programmes that apply in its labour markets, through its Foundation of Labour and Social-Economic Council. The policy initiatives implemented have “social partnership”, not “neo-liberal” origins and character.²⁴ The Dutch initiatives exhibit deep integration between training and skills formation and employment. There is no reliance on regulation and low wages in the youth labour market, in isolation from a concerted programme of active measures.

The profound differences across countries, in a globalized world, in national levels of youth minimum wages and in employment density among young people are not plausibly accounted for by corresponding differences in young workers’ productivity.

Ricardo, it seems, was on to something – the structure of relative wages in a country reflects social mores and customs in substantial measure. There is scope in all countries to improve the lot of young

workers by establishing and maintaining effective minimum wages.

What are good design features? What constraints apply?

Minimum wages are and should be recognized as an essential component of *active labour market policies*. Effective minimum-wage laws raise the earnings prospects of job seekers without damaging their employment prospects.

Minimum-wage provisions for young workers should be clear, transparent and readily understood.²⁵ This helps young people contemplating their future options to make informed decisions. It also keeps the information set that employers must know and comply with, simple and straightforward.

In the transition from school to work, apprenticeships and traineeships and similar structured forms of work and learning have historically facilitated the passage, and continue to do so. Delivering recognized and portable qualifications, such arrangements improve participants’ expected lifetime earnings profiles.

There are cogent arguments for recognizing the time spent in training as an offset to minimum wages that would otherwise apply. However, such provisions require close and careful monitoring to ensure minimum wages are not circumvented and their effectiveness undermined. Some employers seek to pay young workers trainee/apprentice wage rates, but fail to provide the corresponding training.²⁶

This is especially the case for young adults. In some countries where the age of majority is 18 years, persons who can drive and vote and fight as soldiers for their country and are adults for all other purposes, are not entitled to receive the full adult minimum wage in employment. Where they are not engaged under a traineeship or a similar structured contract of training, the reasons for this are obscure at best. Where the minimum wage is discounted in the name of skills formation, it is incumbent on employers and governments to ensure that the requisite training infrastructure is to hand and the training provided.

For younger workers (i.e. not legally recognised as adults), entitlement to the full adult minimum wage, as presently applies in several countries, may be appropriate. While some work experience is a desirable and valuable complement to schooling and education, during the younger teenage years paid employment must remain the second-order priority. Child labour is an anathema and should not be encouraged by heavy discounts on minimum wages for children, pricing them into jobs.

Where some reduction vis-à-vis the adult minimum is agreed to be appropriate, for young workers and/or as part of structured training provision, a lower limit is provided by need, efficiency wage considerations, and any social security payments which may be available. A young person living at home may share domestic infrastructure; for as long as the young person's primary activity is schooling, some reduction vis-à-vis the adult minimum wage may be supportable. This may particularly apply in countries where the adult minimum is set at comparatively high levels.

Where the adult minimum is set at low levels, insufficient to insure an adult worker against wage poverty, any further reduction for young workers will be inadvisable. Efficiency wage²⁷ considerations put a natural floor to wage minima too; in the United States, measures enabling employers to pay teenagers in their first job a "sub-minimum" wage are rarely used at all.²⁸

The existence, conditions and rates of payment attaching to unemployment insurance and education allowances to which young people may be entitled are also relevant to establishing minimum-wage rates for this group. Such entitlements, where they exist, set a practical "reservation wage",²⁹ a lower limit for youth minimum wages.

In some callings, it is utterly inappropriate for any reduced wage minima to apply for younger workers. For example, teenage boys full of testosterone and intent on demonstrating their machismo should not be available to building and construction industry employers at discount wages

to run around on roof trusses high above the ground engaged in dangerous work.

Finally, regular adjustment of minimum wages by moderate amounts keeps the minima in touch with the market, obviating the need for large and potentially disruptive changes.

Conclusion

In defending and advancing the interests of ordinary working people, trade unions seek to raise wages and working conditions, and thus to raise the human condition in society generally. This quest has sustained and motivated unionists for the better part of 200 years.

For fundamentalist market economists, any and all attempts to raise wages and conditions of employment above what the unfettered market would provide, are futile and will inevitably deliver less employment and lower welfare for the community at large. Though there have always been a few heretics, this belief has long dominated economists' labour market policy prescriptions.

This is now changing. The emerging international consensus based on current evidence suggests strongly that it is possible to reduce poverty and improve living standards generally by shaping the labour market with minimum-wage laws, and supplementing these with active training and skill formation policies.

On this issue, unions have been right all along. We must not give up the fight.

Notes

¹ Ignoring for the moment the question of when "youth" ends and "adult" life begins.

² It is a separate issue *how* these minima are effected – whether minimum rates are directly set by parliament, or collectively bargained rates are extended generally by legislation, or whether minima are determined by tribunal processes at arm's length from the legislature.

³ A number of academic economists purport to support minimum wages, as long as they are ineffective (i.e. set at very low levels and/or not enforced).

⁴ Indeed, all labour market regulation.

⁵ *Report of the Committee of Review into Australian Industrial Relations Law and Systems* (the “Hancock review”), Vol. 3, Appendix 2, p. 29 (Canberra), AGPS, 1985.

⁶ See the collection of papers in *Fighting unemployment: The limits of the free market orthodoxy*, D. Howell (ed.) (OUP forthcoming).

⁷ Ricardo’s observation 200 years ago is entirely consonant with this view.

⁸ This is the foundation for Stigler’s assertion quoted above.

⁹ See Gary Becker’s review of Card and Krueger’s work, in *Business Week*, 1994.

¹⁰ Charles Brown, Curtis Gilroy and Andrew Kohen. 1982. “The effect of the minimum wage on employment and unemployment”, *Journal of Economic Literature*, Vol. 20, pp. 487-528. This study originated in work for the Presidential Study Commission on the Minimum Wage established early in his first term by Ronald Reagan. It resulted in the US Federal Minimum Wage being frozen in nominal terms for nine-and-a-quarter years – from 1 January 1981 to 1 April 1990.

¹¹ For a detailed exposition, see Chapter 6 of *Myth and measurement: The new economics of the minimum wage* (Princeton University Press, 1995) by David Card and Alan B. Krueger. “Publication bias” and “specification searching” refer to the tendency of researchers and journal editors to report results that accord with theoretical predictions, and not publish inconclusive findings and results that are at odds with those predictions.

¹² Op. cit. As Card and Krueger emphatically acknowledge (see for example p. 8), the modern results challenging the orthodox view are actually in a long and strong tradition within the economics discipline.

¹³ Available at www.lowpay.gov.uk

¹⁴ OECD. *Employment Outlook 1998*, pp. 47-48. “... it is important to note that these estimated effects are relatively insignificant in terms of explaining the large decline that has occurred in the teenage employment–population ratio in some countries. In France, for example, the teenage employment–population ratio declined by over 18 percentage points between 1975 and 1996, but the rise in the minimum wage relative to average wages accounts for less than half a percentage point of this decline.”

¹⁵ See Richard Freeman. 1996. “The minimum wage as a redistributive tool”, *Economic Journal* 106, pp. 639-649. Suppose there are 100 minimum wage workers and the minimum wage is \$10 per hour. Now suppose the minimum wage is raised to \$11 an hour, and employment falls by three to 97. The initial hourly wages bill was \$1,000; following the minimum wage rise and employment reduction the wages bill has risen to \$1,067. It follows that, in principle, the 97 employed workers as a group could pay

each of their three unemployed colleagues \$10 an hour, and still be better off themselves.

¹⁶ For New Zealand, see Dean Hyslop and Steven Stillman. Forthcoming. *Youth minimum wage reform and the labour market* (New Zealand Treasury and New Zealand Department of Labour). The increases (over two years, relative to adult minimum wages) were 41 per cent for 16- and 17-year-olds, and 70 per cent for 18- and 19-year-olds. For the United Kingdom, see *Low Pay Commission Report 2004*; establishment and uprating of a “development rate” for young adults (age 18-20) in conjunction with the introduction of an adult minimum wage in the United Kingdom had no discernible adverse employment impact. The Commission recommends introduction of a (lower) minimum wage for 16- and 17-year-olds (previously exempt) and expects no adverse employment consequences.

¹⁷ In a 1998 Staff Research Paper, Australia’s state-sponsored neo-liberal policy think tank, the Productivity Commission, purported to find a significant negative trade-off between youth minimum wages and youth employment (see A. Daly, N. H. Duc, D. Eldridge, O. Gabbitas and P. McCalman, *Youth Wages and Employment* (Canberra, AusInfo), 1998). Unfortunately (for them) the econometric analysis was deeply flawed; in fact no minimum wage data were used in the analysis at all! See P. Junankar, M. Waite and G. Belchamber, “The youth labour market: Anecdotes, fables and evidence”, *Economic and Labour Relations Review* 2000, Vol. 11, supp. pp. 159-86.

¹⁸ See “Tackling the dilemma of disadvantaged youth: Priorities and policies for international action” by Robert Kyloh, published in this issue.

¹⁹ These are drawn from the United Kingdom Low Pay Commission reports.

²⁰ Waiting and waitressing are subject to lower minima because of the prevalence of tipping.

²¹ The latest Low Pay Commission report recommends introduction of a lower minimum for these workers.

²² Drawn from Blau and Kahn, p. 87.

²³ Note that Australia has the highest E/P in this group, and the highest minimum wage (in common currency). Note also that the minimum wage divergence between Australia and the other countries increases further for 19- and 20-year-olds.

²⁴ See “Innovation through co-ordination – Two decades of social pacts in the Netherlands”, A. Hermerijck, M. Van der Meer and J. Visser, in *Social pacts in Europe – New dynamics*, G. Fajertag and P. Pochet (eds.), ETUI and OSE (Brussels), 2000.

²⁵ Australia has an extensive array of minimum wage rates and conditions for young workers – see J. Munro, D. P. Duncan and C. Raffaelli, *Junior Rates Inquiry*, Australian Industrial Relations Commission, 4 June 1999, Print R5300. By far the greatest proportion of young persons employed work in the retail and hospitality sectors as shop assistants and food and beverage workers. In these sectors, minimum wages

are amongst the highest in the country. Employment of young persons is scant and diminishing in traditional manufacturing, where minimum wages are low. There is both scope and need to overhaul these obsolete provisions.

²⁶ There is increasing evidence of this occurring in Australia at present.

²⁷ The concept of an “efficiency wage” originated in development economics; where the wage paid is insufficient to meet physiological requirements of workers (leaving them tired, weak and/or inattentive), higher wages improve worker productivity. The argument carries over to social and psychological needs. Low wages bring low morale, high labour turnover and low productivity.

²⁸ See Card and Krueger, *op. cit.*, p. 14.

²⁹ The concept of a “reservation wage” derives from search theory in economics. According to this theory, in a free labour market unemployed persons will search for work until they find a job with attributes (including the wage) which are acceptable to them. The “reservation wage” is the lowest wage rate a particular worker would be prepared to accept in return for the job, weighted by the probability of finding a better-paying job. The idea is that, as the length of time unemployed grows, the individual adjusts (lowers) his or her expectations about the probability of finding a job that pays a sufficient wage, and his or her reservation wage falls. For most young workers, this idea is an irrelevant academic abstraction – their prime concern is finding a job that pays a decent wage, and a decent wage is something more than unemployment benefits or education allowances.