

THE USE OF WAGE FLOORS AS POLICY TOOLS

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INTRODUCTION

Wage floors are currently in use in all developed nations and have been in one form or another in continuous use for most of the post-war period. The one exception to this was the United Kingdom in the recent past where, after a long period of erosion, the wage floor system was abolished in 1992. The new government has just reinstated a wage floor on a more complete basis than has ever been previously used in the United Kingdom. It is part of a broader policy agenda aimed at reducing inequality and improving work incentives. Ireland is set to do the same in 2000. Despite this universal usage, wage floors are far from uncontroversial. They are widely seen as having a distortionary impact on wage setting and for many economists, but not all, that implies reduced employment. In America, the debate about the impact of minimum wages on employment has been heated in a way few other microeconomic topics have. This heat has rarely been reflected among politicians and policy makers with the odd exception (*e.g.* the United Kingdom around the time of the 1992 general election).

This paper discusses why wage floors are used in general and their implications for labour demand and supply. It also discusses their interaction with other welfare policies designed to address similar issues.

THE USE OF WAGE FLOORS

Wage floors in various forms are used in all developed nations. They normally either take the form of a single National Minimum Wage (NMW) or as a system of legal backed industry or region minima set by employers and trade unions. In the latter case coverage of the workforce is not always complete, *e.g.* the old Wages Councils system in the United Kingdom left many low-wage sectors uncovered. This is also true, I believe, of the current systems in Ireland, Germany and Italy and perhaps others. The effective coverage of wage floors will also reflect the wage levels set. Freeman (1994) or OECD (1998) suggest that the employment spike at minimum wage levels covers from around 5 per cent of the workforce in the United States to 12 per cent in France. This is one way the bite of minimum wages have been measured. An alternative is to express the minimum relative to the average or median wage. Both of these measures are poor proxies for the true impact of wage floors. These proxy measures fail to capture the effect on

employment in the covered zone, the knock-on effects on wages just above the wage floor as firms seek to restore differentials and the shape of the wage distribution below the minimum that would occur in their absence. To measure the degree of constriction on the wage distribution implied by wage floors, the best representation is the implied increases in wages expressed as a percentage of the total wage bill. To estimate this, you would need to observe the shape of the earnings distribution without any wage floor and again with. This is, however, normally impossible (although the new United Kingdom minimum may allow us to get close). So one of the opening problems in looking at the impact of minimum wages is measurement.

Why are they used?

The first question about wage floors should be why are they used at all. There are four major responses from policy makers or the wider public.

A. Fairness: to restrict the degree of wage inequality between the bottom and the middle of the earnings distribution. This is defended as an aim in terms of fairness being included in the implicit welfare function of a society. Some give it the status of a basic human right, although such language is not helpful in forming an opinion about what level the minimum should be set at. Whilst in theory economics can incorporate fairness into a societal welfare function which governments seek to maximise, this approach gives little for policy makers to base decisions on. Since we find it hard to measure the extent of the desire for fairness and have little idea of the nature of the trade-offs between wage inequality and other factors in any welfare function.

B. Poverty: reducing wage inequality is often confused with tackling relative poverty or wider income inequality but these two concepts are only weakly related. Even among working-age households the poorest are typical those without any workers. Among working-poor households, low pay, at least the bottom decile or so likely covered by minimum wages, is only weakly correlated with household poverty. OECD (1998) shows that in most countries only around 10 per cent of low paid workers are in poor households, with only Italy and the United States significantly above this at around 20 per cent. This is simply because household size, the number of earners and hours of work are all making a substantial contribution to household income and needs assessment implicit in poverty measures. The relationship is simplified for single earner, single adult households without children. Here own earnings dominate household income sources but even here hours worked can complicate the picture. It is thus difficult to use minimum wages to give minimum income guarantees which are sensitive to family structure. You can, however, set a minimum wage designed to eliminate full-time working poverty for a target family size and then use the tax or benefit system to smooth the edges of this income guarantee. Doing so for more than single childless adults though, implies a high minimum wage.

C. Exploitation: a stated aim is sometimes that of reducing the power imbalance in employment relations between firms and vulnerable groups in the workforce. Most often the term “exploitation” is used in this context. Winston Churchill used this language when establishing the United Kingdom Wages Councils in the early years of this century. The closest analogy in modern economics would be monopsony, where employers have market power in the labour market akin to monopoly in the product market. The study of minimum wages within this framework is still in its infancy, but it could lead to a knowledge base of why observed employment effects of minimum wages are small (see Manning, 1999, for the most comprehensive look at monopsony). In time, perhaps, this might lead to a sense of where minimum wages can be safely set and the nature of the employment trade-off at higher levels of minimum wages. (This is discussed more in the fourth section). Within a monopsonistic framework, however, the lowest wage offers are not necessarily the most monopsonistic. Indeed many large public sector bodies may be the most monopsonistic as they are the dominant user of a particular skill (*e.g.* teaching or nursing). So whilst monopsony may offer an explanation of why employment effects of minimum wages are small, it is a shaky justification for having a minimum wage.

D. Work incentives: the role of minimum wages in shaping work incentives depends crucially on the nature and extent of the benefit system available to the workless and the tax and benefit system in play for low income workers. These incentive issues can be viewed from the perspectives of those in or those out of work. For those in work, this normally takes the form of replacing actual earnings with the benefit rates available to the unemployed, to calculate a replacement ratio. In this case the benefit regime and the minimum wage are used to inform discussion about the outside options facing wage bargainers in macroeconomic analyses such as the commonly used NAIRU framework. The benefit rates are fairly easy to predict and thus give a reasonably accurate prediction of work incentives for those in work.

For those not in work this information is normally presented as the unemployment trap facing the workless and sometimes extended to look at the poverty trap for low income workers. Typical replacement ratios, marginal and average deduction rates are calculated with stylised wages and for stylised family types. For example, OECD (1994) and Martin (1996) use the average and two thirds of the average production wage. More sophisticated work in this vein uses a predicted wage based on earnings of those in work with similar characteristics. These stylised representations are less informative. Work incentives here depend crucially on the distribution of entry wages available after a spell of worklessness. These will be shaped by the past (lack of) employment records of the current workless population, which will be radically different from the norm for those currently in work. These entry wages, however, can be observed in panel data and using this informa-

tion radically shifts our picture of work incentives (see Gregg, Reed and Johnson, 1999, for the United Kingdom). This kind of analysis suggests an important role of minimum wages, along with in-work benefits, in shaping work incentives.

LABOUR MARKETS WITHOUT A WAGE FLOOR

In the absence of minimum wages, benefits paid to those not in work are likely to act as wage floors. The variation in eligibility and generosity means that they are individual wage floors not society wide ones. Hence they do not mimic a minimum wage but create an upward sloping labour supply curve, whereby a higher wage broadens the proportion of the workless willing to work at the offered wage. In the case of earnings related benefits, this profile may mimic the individuals' potential wage quite well. In other circumstances there is no reason why it should. Of course, there are many other influences on reservation wages including personal tastes, travel and child-care costs, non-wage costs or benefits and foregone home production. These will create variations around the pattern given by the benefit system.

Firms operating in low wage labour markets have to set a wage to generate a sufficient applicant pool, to produce the desired quality level of staff, and to retain and motivate existing staff. There are two major theoretical avenues to think about how this end of the labour market works. The neo-classical view suggests that people can command a single wage in the labour market based on their productivity. Those whose reservation wage is above the available wage become economically inactive after a period of fruitless job search. They then stay inactive until their reservation wage or productivity changes for whatever reason. Here then benefits or minimum wages will cause worklessness for those whose potential wage is low. A defining feature of this model is that both the size of the applicant pool for vacancies and the degree of staff turnover are extremely sensitive to the wage offered.

There are a number of search based theoretical models with significant labour market frictions which produce differing pictures. The models of Akerlof and Yellen (1985) style efficiency wages or Burdett and Mortensen (1998) or Manning (1995) monopsony or other search based frameworks all suggest that there can be a range of available entry wages. This variation means that employed workers in lower paid entry positions will often continue search to progress up the wage distribution (see Pissaridies, 1994). Here then, those with no or low benefit entitlements will have a larger pool of available and attractive vacancies and are likely to be observed entering into work more frequently. Firms offering lower wages in the distribution can still recruit (from those with lower reservation wages) but suffer greater staff turnover. Firms in monopsony models are now in a position to profit maximise but not employment maximise. Lowering the wage raises profits but lowers output and employment, as fewer workers are available.

How far the world is away from the perfectly competitive model changes the picture a lot. If turnover is still moderately sensitive to the wage but not infinitely so, then lowering wages substantially raises turnover costs and increases the applicant pool a firm can choose among, but the degree of monopsony is trivially small. If staff turnover is relatively insensitive to the wage the firm has more monopsonistic power but changing the wage does not change turnover costs very much.

THE IMPACT OF MINIMUM WAGES

The impact of minimum wages on the employment levels and patterns is much the same as labour taxes that are not fully proportional to the wage or the non-wage costs of employment regulation (which are not normally proportional to the wage). This overlap and large amounts of other variation between economies means it is not easy to identify the separate impact of minimum wages through simple cross-country comparisons at a point in time. Rather it is better to look at the impact of changes in minimum wages. This can be through changes in minimum wage levels over time or changes within countries that have some variation across regions (Card and Krueger, 1995), industry (Dickens *et al.*, 1999) or age group (the Spanish study in Delado *et al.*, 1996). The debate here is usefully split into two components: *i*) the impact on levels of employment; and *ii*) on the composition of employment and unemployment.

Employment levels

The impact of minimum wages on employment levels has been a heavily contested subject in the United States in the past few years. There is nothing resembling a consensus view forming which leaves policy makers with little to go on, except perhaps a sense of caution, in this crucial aspect of the impact of minimum wages.

Time series: the time series evidence is reasonably consistent. For instance Brown *et al.* (1982) and Deere *et al.* (1995) find clear results that raising the United States federal minimum wage reduces teenage employment. In recent times the minimum wage only had substantial coverage among teenage Americans and the size of the effect is somewhat smaller than standard estimates of the sensitivity of employment to real wage rises.

Within country policy shifts: studies which use policy changes within a country where there is a direct comparison group are more varied in their predictions. Card and Krueger (1995) report a number of studies where variation across states in the United States is used. At various times individual states have set minima above the Federal level. This provides a natural source of variation. Machin and Manning (1999) use the industry variation across different United Kingdom Wages Councils

over time as their impact waned. These studies surprisingly show small employment gains from higher minimum wages. Although these results are normally not significantly different from zero. Delado *et al.* (1996) use the change in the lower minimum that applied to Spanish teenagers in 1990. They conclude that the net effect across age groups was zero but there is interesting shifts between groups (more in the next section). Other studies by Neumark and Washer (1992) and Kim and Taylor (1995) find small negative effects for teenage Americans.

A recent paper by Burkhauser *et al.* (1999) summarises the differences in results attained for the impact of minimum wages on United States teenage employment rates between these two approaches. It considers the minimum wage binding all US states from 1979 to 1997. The paper adopts a pooled cross-section time series modelling strategy with and without time dummies. The time dummies take out the variation in the impact of Federal minimum wage changes across time and hence just use state variation. The two models produce significantly different results. Including the impact of Federal changes produces clear results that increases in minimum wages harm teenage employment. However, if the time series variation is taken out and only state variation is used (by including time dummies) the observed impact is zero. What is surprising is that intuitively, a single state going it alone should be more vulnerable to relative wage changes than the whole United States economy, not less.

Cross-country studies

There is more potential variation in policy across countries and so this is an attractive avenue for research. However, there are numerous and diverse differences in policy and economic performance across countries and isolating the impact of minimum wages is not straightforward. The OECD has done a pooled cross-country time series study for fourteen countries. To separate out the impact of minimum wages they include country fixed effects and time trends. So the impact of the minimum wage is identified through changes in its value relative to wages over time. The variation in the minimum rates across these countries is from around 35 per cent of the median wages to around 55 per cent. In terms of coverage this range is from around 5 to 11 per cent of the workforce. Moving a person from the bottom of this range to the top represents a huge pay increase of around 60 per cent. However, as this applies to a fraction of the workforce who make up an even smaller fraction of a country's wage costs, a back of the envelope calculation says that it represents about 2 per cent of a country's total wage bill. Given standard estimates of the impact of real wages on employment of -0.5 , this would predict that a rise in the minimum of this magnitude would result in a 1 percentage point fall in total employment. The OECD results predict a response that is around half of this, taking a weighted sum of the age group estimates. So here overall job losses occur but are small.

Neumark and Washer (1999) do a similar exercise but only concentrate on the impact of minimum wages on youth employment. They show a strong cross-section correlation whereby countries with higher minimum wages have lower youth employment. However, the findings are very sensitive to the inclusion of country time trends and fixed effects. The thrust of the results is that there are small negative effects on youth employment.¹ They go on to suggest that youth sub-minima eliminate such effects for teenagers (they normally only apply to under 18s or 21s).

Why would employment effects be smaller than for average wage rises or even zero?

There are three main potential influences that offset the impact of minimum wages on employment:

1. **Wage assimilation:** employers may be able to rejig the wage package by incorporating bonuses, shift payments, etc., to raise the basic wage. They may also reduce non-wage perks by charging or reducing subsidies for meals, uniforms, uniform cleaning, transport, accommodation, etc.
2. **Turnover costs:** lower paying firms in the United Kingdom can have turnover rates of above 100 per cent per annum. That is more people leave in a year than are employed at any single point in time. Costs of recruitment, training and low productivity of starters mean that turnover costs can reach 20 per cent of the total wage costs over the expected duration of a worker with the firm. As turnover is related to the wage paid, wage floors may reduce staff turnover and spread these costs over longer tenures.² In a similar vein, as labour becomes more expensive firms may invest in training (or machinery) that raises productivity.
3. **Monopsony:** the offsets above represent repackaging of wage costs or lower non-wage costs. They therefore imply little or no profit or price impact as well as no substantive employment effect. With monopsony, firms are profit maximising but not employment maximising as they are facing an upward sloping labour supply curve. A higher wage allows firms to increase employment (and output) but the return is less than the increase in the wage bill.

Monopsony is not the same as the costs-of-turnover story. Monopsony is greatest where staff turnover is insensitive to the wage, whereas reduced turnover costs will offset any wage change most where turnover is high and is very responsive to the wage. Wage assimilation and reduced turnover type offsets can at best be partial. They are never likely to lead to minimum wages having no damaging employment effects. Monopsony, however, can predict increased employment for modest minimum wages.

Composition of employment and unemployment

Non-proportional costs which raise wage costs at the bottom of the earnings distribution tend to shift the nature of the employment relationship to longer term and higher productivity job matches. Wage floors may well have a bigger effect on the composition of employment than the level of employment levels. A shift toward longer tenure employment relationships sounds like a plus but it can have down sides. Groups disproportionately reliant on entry points to secure work find life more difficult. The young, women returning to work after child birth and the unemployed are the “at risk” groups. We thus may expect to find unemployment falls disproportionately on the young and women and for there to be more long-term unemployment in countries where wage floors are high. The greatest worry is probably about the young. OECD (1998) estimates of the employment effects of minimum wages suggest a much greater impact on teenage employment than overall, whereas prime age men, if anything, have slightly improved employment prospects from minimum wages. More clear cut evidence of substitution away from young to older workers comes from Delado *et al.* (1996). They show a large shift away from the employment of teenagers toward young adults when a lower teenage minimum wage was abolished in Spain. Such concerns lie behind the use of lower minimum for younger age workers in most countries with minimum wages. Even so the proportion of workers paid at the minima is always much higher for youth than adults.

Overall this literature is not easy to call. As a microeconomist I find the evidence with a clear comparison group more convincing than single country time series studies. Here there is genuine variation in the impact of a wage floor across sections of society or countries and these changes are separable from time. Even here though results vary but definitely appear small or even zero. The strong sense of concern over teenage employment rates concurs with the widespread use of sub-minima for youths. My best bet is that a moderate minimum wage combined with lower rates for youths (if utilised) will have no discernible impact on employment levels. This is, of course, the system the United Kingdom Government has just introduced.

WAGE FLOORS VERSUS IN-WORK BENEFITS/TAX CREDITS

Even if the impact of minimum wages on employment is small, it does not mean they are the best policy route to reduce poverty or improve work incentives. There are a set of trade-offs between the use of wage floors and in-work benefits. Both impose some costs, a minimum wage may not be paid directly through taxes but its not a free lunch. Price rises and profit reductions must fall somewhere in the system. They are, though, less obvious than taxes and there may be some offset from reductions in turnover costs. Yet the targeting of a minimum wage on poverty

is weak and the implied redistribution through price increases and profit declines are largely unknown. The broader trade-offs have been discussed in OECD (1998). However, one feature is not widely appreciated. As tax credits become more widespread in the low wage population then firms can induce labour supply at lower wages. Thus some of the tax credit is captured by the firm through lower wages. This, in itself, might argue for a wage minimum to be in place. However, lower wages are normally expected to boost employment. But note the marginal deduction rate implicit in tax credits also reduces the sensitivity of turnover to wages as a large slice of the wage gain to changing jobs is absorbed in reduced tax credits. Hence, with steep tapers you induce far greater monopsony into the labour market. Thus firms can now reduce wages below the previous going rate, as workers have little incentive to quit for another job. Wages could fall into a non-employment generating zone. Widespread tax credits with a low minimum wage could limit this but may create a zone where no wage offers are made just above the minimum wage. There is little point offering wages just above the minimum when the effect on labour supply is minimal because of the high withdrawal rate in tax credits. Such a hole in the pay distribution may make pay progression upwards from the minimum wage difficult for these workers, inducing greater low pay persistence and lifetime earnings inequality.

Both wage floors and means tested in-work support systems have unpleasant side effects. Universal in-work support systems avoid these at the expense of poor targeting. Another method of targeting is through time limited payments when people move off benefits. Here moves off benefit into work create eligibility for time limited extra in-work support. The idea is to address low incentives to take jobs at entry wages and promote pay development by making it temporary. Such temporary packages may also reduce some of the employer responses discussed earlier. Though they have the cost of perhaps inducing people to return to jobless benefits when support ends.

To some degree using wage floors and in-work support in combination, looks an attractive policy package. It offers a route for setting a universal wage minimum with selective in-work income support supplements for those groups where incentives are weak and poverty levels and persistence are high. The most obvious target groups for in-work supplements are families with children, especially lone parents. Where the dividing line is across other groups is not obvious. Whether to include childless couples and singles, those with identifiable housing costs through to partners of higher paid workers or youngsters living in the family home will no doubt be widely debated. The arguments for keeping the coverage of both elements narrow are compelling. A too high minimum wage will undoubtedly start to have damaging employment effects. Widespread in-work support will induce undesired wage setting consequences and is likely to induce employer/employee collusion to wangle or even defraud the system.

CONCLUSION

Some form of a wage floor is in existence in all developed nations. In academic economic circles their use is highly controversial, whereas in policy circles the debate is more about the rate to set than their use at all. The motivations for using minima are probably diverse and never very explicit. They cover fairness, tackling poverty, reducing exploitation and promoting work incentives. In the case of the more tangible goals of poverty and work incentives, minimum wages are very blunt instruments. They can not allow for varying family structure, housing costs or hours of work. There is also a concern that they destroy the very opportunities open to lower skill workers, especially entrants or returners to the labour market.

In my view both the potential positive and negative stories of wage floors are exaggerated. Minimum wages cover between 5 and 12 per cent of the workforce. The United Kingdom recently joined this band with a new minimum wage set at a level predicted to put it just below the middle of this range. The reactions of employers are informative. The Confederation of British Industry has declared that the moderate minimum wage has had little noticeable impact on employment according to their members. Such a judgement is probably a little premature but more interestingly they cite that businesses, especially small businesses, are more concerned by the costs and red tape produced by the European Working Time Directive. This gives a sense of balance to the debate about minimum wages as well as highlighting the importance of non-wage regulation. Whilst this introductory rate may prove to have been cautious, even a significant increase (say 10 per cent) in the minimum wage will not eliminate work incentive problems or working poverty. To get a childless couple across the poverty threshold of half average household income after housing costs requires a minimum wage of over £5 per hour for one full-time worker.³ At this rate about a third of the workforce would be on the minimum wage.

The limitations of minimum wages drive policy makers to look at in-work support packages for families and/or housing costs. Means testing these aggressively improves targeting but could have nasty side effects on the wage structure and pay progression opportunities. The United States, Canada, Australia, New Zealand and now the United Kingdom are heading toward a system of a wage floor buttressed by in-work family support which is tapered slowly or tapered away before and after the high density region of family incomes. Other countries such as Ireland and the Netherlands are actively considering related packages. In addition temporary back to work packages are being experimented with in Canada, the United States and the United Kingdom, at least.⁴ Hence, for Anglo-Saxon economies a loose policy consensus seems to be forming. The arguments for keeping the coverage of both elements of minimum wages and in-work support systems narrow are compelling. High minimum wages will undoubtedly start to have damaging employment effects

for marginal groups. Widespread means tested in-work support will induce undesired wage setting consequences and is likely to induce employer/employee collusion to wangle or even defraud the system. But intervention is necessary to prevent growing working poverty and the polarisation of work across households when low entry wages conflict with an aggressively means tested welfare system.

Minimum wages are a legitimate member of the pantheon of policy tools open to governments. Their use in moderation appears not to significantly damage overall economic performance. However, there is one major drawback. They do appear to restrict employment opportunities for marginal groups, most notably teenagers. As this group also has few work incentive problems and a low correlation between individual pay and household poverty, the use of youth sub-minima looks very attractive to policy makers. The ability to introduce youth sub-minima that are used on the ground is probably the key determinant of how effectively minimum wages can be used to tackle poverty without adverse employment side effects.

NOTES

1. I refer to the numbers where country fixed effects and time trends are included. Results with only fixed effects are generally insignificant and those based on cross-sectional variation show strong negative effects.
2. These numbers are drawn from Brown *et al.* (1999).
3. Half average household income, adjusted for family size, is around £130 a week, after housing costs. Adding in housing costs of £45 a week, a rough average for lower income households, gives a required net pay of £175. Gross pay then, needs to be around £200 a week. At 35 hours this represents an hourly gross wage of £5.70 or £5 at 40 hours. An income of £200 a week leaves the couple about £50 a week above benefit levels. This implies an average deduction rate of 75 per cent of gross pay.
4. Canada is testing the Canadian Self-sufficiency Programme for lone parents on welfare benefits for a year who return to work (see Greenwood and Voyer, 1999, in this conference). The US has tried UI re-employment bonuses paid to those that return to low paid work quickly (see Meyer, 1995) and the United Kingdom is introducing a similar programme for older workers (over 50's) who have been on welfare benefits of any sort for six months or more.

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