Gender and the minimum wage

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Introduction

A statutory minimum wage can provide an important counterweight to the gendered effects of institutions on the supply and demand sides of the labour market that produce and sustain gender inequities in pay and employment. While much of mainstream economics still assumes that minimum wages distort the functioning of labour markets, there is by now sufficient evidence that labour markets do not operate efficiently without regulation. Differential rent sharing across industries, imperfect labour mobility and idiosyncratic employer strategies mean there is no tendency towards the law of one price in labour markets. Moreover, these features are gendered, such that women are more likely than men to be employed in industries with low rents (weak employer ability to pay), more likely than men to be hindered by immobility caused by family position and access to welfare benefits and, as a consequence, more likely than men to be vulnerable to monopsony employer power. A minimum wage can act as a strategic instrument in countering these distortionary effects and smooth out some of the imbalances caused on the one hand by sex segmentation of labour supply (and divergent reservation wage positions) among men and women and, on the other, by the interaction of industry wage-setting systems and sex segregation on the demand side of the labour market.

The aim of this paper is to draw on cross-national empirical evidence to highlight the positive role of minimum wages (preferably combined with an ‘inclusive’ industrial relations system) in reducing distortions in the labour market. These distortions – the combined results of institutional arrangements and gendered norms - are examined from the perspective of both the supply and demand sides of the labour market. The paper is organised as follows. Section 1 elaborates the argument of the paper against the pervasive notion in labour economics of the law of one price. Section 2 reviews international evidence on gender pay gaps among the low skilled and low paid and identifies an association with country characteristics of minimum wage and collective bargaining systems. Sections 3 and 4 develop the analysis of women’s relative disadvantage in the labour market, identifying institutional features on the supply and demand sides. Section 5 sums up by arguing for a renewal of minimum wage analysis that takes into account women’s relative employment position.

1. Labour markets and the law of one price

For labour economists, the law of one price still provides the central organising principle for a theoretical framework to understand wage determination. The principle states that in a competitive labour market, workers with similar skill and employed in similar jobs receive the same wage. It is this principle that underpins the bulk of empirical research on wages, with a variety of ‘wage gaps’ identified as evidence of the degree to which labour markets are distorted from competitive outcomes. Of course, few economists would expect the law of one price to hold 100% in real world labour markets, and there are several notable mainstream contributions that have fostered a more nuanced approach to understanding wage structures (see Oswald and Trostel 2000). These include evidence of rent sharing – that is, data showing a positive link between firm profitability and pay

(Slichter 1950, Blanchflower et al. 1996) -, the long-term impact of unions and other institutions such as minimum wage legislation (Bruno and Sachs 1985, Card and Krueger 1995), imperfect labour mobility (especially arising from job search costs, firm-specific training and household decisions – Mortensen 2003) and the influence of firms' payment systems (Lazear 1995).

Despite these observations – and the implication that in fact the law of one price fails in several areas of labour market functioning - the law of one price still provides the core theoretical principle. In a 2007 Presidential address, labour economist Barry Hirsch made the following defense:

> There are numerous reasons why Adam Smith's theory of compensating wage differentials and the law of one wage should not and does not strictly hold in real world labor markets. Yet the law of one wage provides a fundamental and remarkably useful approach not only to describe market wage determination, but also to identify and interpret existing wage gaps. It remains our single most powerful tool and the necessary starting point for most wage analyses. This is no small thing (Hirsch 2008: 931-2).

The motivation for mainstream empirical research on wages is therefore to establish how far away from the theoretical prediction is empirical reality, given the various distorting effects of rent-seeking, institutions, and so on. The argument of this paper is that this 'deregulationist approach' conflicts with evidence from international cross-country research that demonstrates the size of wage gaps varies inversely with the presence and strength of labour market institutions. In their study of the effects of institutions on wage structure, Teulings and Hartog (1998) find that the unexplained variation in wage equations (arising from regressing wages on individual human capital characteristics) is greater in the US and the UK than in countries such as Norway and Sweden. Moreover, Schettkat (2002: table 3.1) demonstrates that these residuals correlate negatively (-0.84) with the centralisation of wage-setting institutions (using the Calmfors/Driffil ranking). In other words, countries with labour market systems characterised by centralised and coordinated wage-setting institutions appear to generate wage structures more in line with the textbook model of competitive, efficient labour markets. While a surprising result for mainstream economists, Schettkat argues it is in fact 'consistent with the view that labour markets are fundamentally imperfect markets and that the transaction costs to achieve the market-clearing equilibrium wage are high in decentralised bargaining systems. From a theoretical perspective, centralised bargaining may collect information and substitute for the auctioneer' (2002: 13).

Following this general insight, our goal in this paper is to explore the evidence associated with cross-national studies of the gender pay gap and to identify institutional features on the demand and supply sides of the labour market that shape gendered patterns of pay and employment. Research documents a significant unexplained gap between male and female earnings, which can be taken as evidence of the absence of a law of one price in labour market functioning. Here, we are interested in identifying the extent to which the size of the gender pay gap varies across country labour markets distinguished by the presence or absence of a statutory minimum wage and strong or weak collective bargaining coverage. Our review of the research evidence focuses especially on gender gaps among the low skilled and low paid as this is where the impact of a minimum wage is greatest. Our expectation is that labour markets without a minimum wage are in fact less likely to conform to the competitive law of one price than those with stronger low wage protection.

2. Evidence in the earnings data

Across countries, the international evidence shows that gender pay gaps are on the whole larger for higher skill and high educated workers, yet still positive at the bottom of the pay hierarchy. In this section, we interrogate the available data on gender pay gaps with the aim of identifying associations with country features of minimum wage protection and collective bargaining coverage. We explore three issues:

- Pay gaps at the lowest earnings decile;
- Gender differences in the incidence of low wage work; and
- Pay gaps among workers employed in elementary occupations

2.1. Gender gaps at the lowest decile

OECD earnings data reveal considerable variation in gender pay gaps among the lowest paid, ranging from a gap at the lowest wage decile of just 2% in Australia to 33% in Germany, and an average for the 17 countries considered of 16%. Part of the inter-country variability is explained by differences in earnings data – some countries report hourly pay data, others report weekly or annual data. Also, the data only cover full-time employees which may be a fair representation of the gender pay gap in countries with a low share of part-time working but is less representative in countries such as the UK or the Netherlands where part-time working is extensive.

Even if these concerns are recognised, it is nevertheless instructive to explore the relationship between size of gender gap at the lowest pay decile and the character of institutions for regulating low wage work. Table 1 presents country data according to three characteristics of wage systems (see appendix table 1 for details). On average, the lowest decile gender pay gap is smallest (6%) for the group of countries with a high relative level of the statutory minimum wage, defined as a minimum wage 40% or higher of average earnings.

For the eight countries defined as having strong collective bargaining coverage (at least 80%) the average pay gap at the lowest decile is 14%. The pay gap is in fact highest at 21% among the group of countries with neither strong collective bargaining coverage nor a high value statutory minimum wage. This general stylised pattern thus supports the argument that institutional arrangements for regulating low wage work can make a difference in reducing women's vulnerability to low pay. These findings complement the more general finding that more coordinated and centralised wage bargaining institutions generate a more egalitarian wage structure and contribute to closing the gender pay gap (see, most recently, the regression results in EC 2008: 93-94).

Table 1. Gender pay gaps at the lowest decile (D1) (full-timers only) by type of wage system, 2005

	High relative minimum wage (40%+ of average)	Strong collective bargaining coverage (80%+)	Weak CB coverage AND No or low minimum wage
	AS 2%	FR* 9%	US 12%
	NZ 5%	DK 10%	UK 15%
	FR* 9%	IT 10%	CA 19%
	IE 7%	SE 11%	JA 27%
		FI 12%	DE 33%
		ES 15%	
		NL 17%	

		AT 31%	
Average gender pay gap	**6%**	**14%**	**21%**

Note: *France appears twice since it has both strong collective bargaining coverage and a high relative minimum wage. Data for Central and Eastern European countries are excluded. No interdecile earnings data for Belgium past 1995. Missing interdecile data for Portugal.
Source: OECD earnings database for inter-decile wage gap, ICTWSS for collective bargaining coverage and OECD for relative minimum wage data.

Nevertheless, this simple clustering of countries veils considerable variation among countries categorised as having similar wage systems. Among those countries with either a high relative minimum wage or strong collective bargaining coverage, one country stands out as not fitting the expected narrow gender pay gap at the lowest decile - Austria. Austria scores a gender pay gap at the lowest pay decile of 31% - second largest to Germany among the 16 countries considered - despite near complete collective bargaining coverage (99% according to the ICTWSS database). Part of the explanation is likely to be associated with a seemingly longstanding problem in Austria of classifying similarly skilled women at a lower level than men in company grading schemes, partly linked to women's under-representation on works councils (Eironline, 2008). Moreover, the 2005 earnings data reported here reflect problems of differential minimum rates in sectoral collective bargaining agreements, with lower rates in female-dominated sectors than in male-dominated sectors. This problem is likely to be lessened (with a consequent narrowing of the pay gap at the lowest decile) in future years because in January 2009 social partners established a new cross-sectoral minimum of €1000 per month as a result of union campaigns. Reports suggest that 'virtually the entire private sector' has been covered by the new cross-sectoral minimum (Eironline, 2009).

2.2. Gender differences in the incidence of low wage work

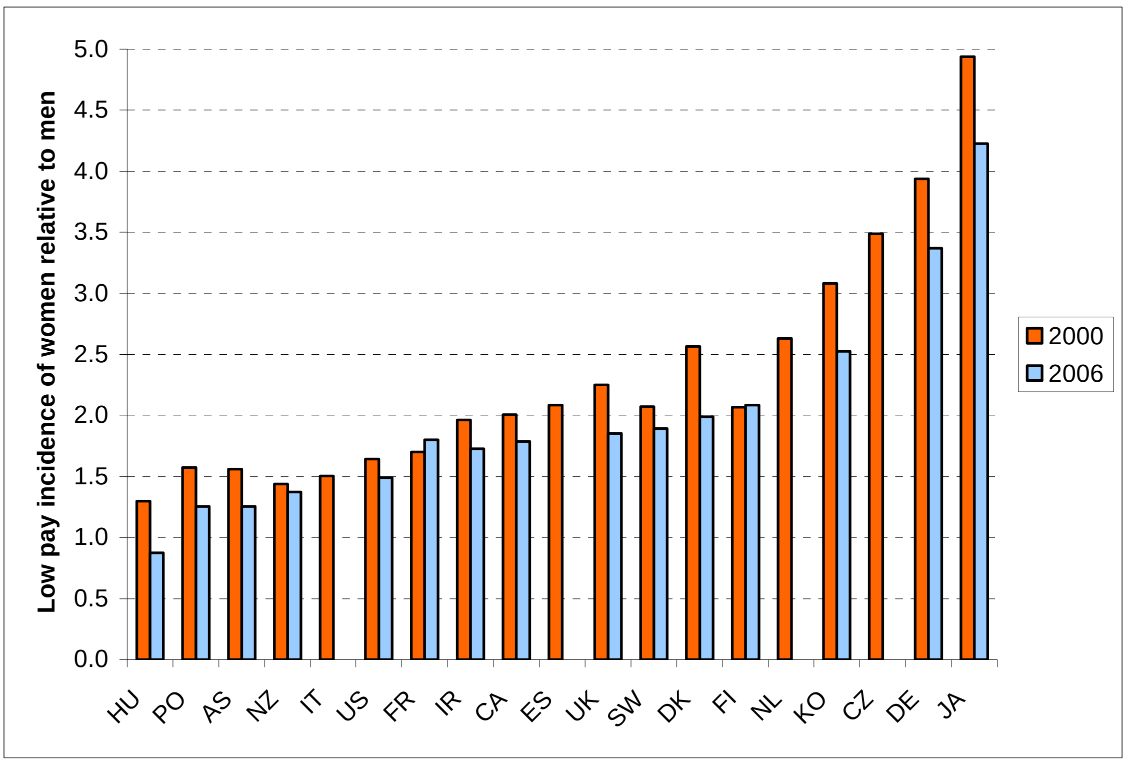
International studies demonstrate the considerable cross-country diversity in incidence of low wage work (eg. Gautié and Schmitt 2010, Vaughan-Whitehead 2009). OECD data for 2006 point to a high incidence of low pay among men (17% or more) in Hungary, Poland, US and Korea, yet less than 9% in Denmark, Japan, Finland and Sweden. Moreover, when we consider low pay among women, the picture of cross-country diversity is even stronger; Korea, Japan, Germany, US and UK register a low pay incidence of 29% or more, while Finland and Sweden score less than 10%.

We know from several studies that wage-setting institutions shape the country-wide incidence of low wage work. Salverda and Mayhew's (2009) recent analysis of data for 13 European countries plus the US underlines the central role of a statutory minimum wage and inclusive labour relations in limiting low pay. Also, Schettkat finds a negative correlation (-0.73) between the incidence of low pay and the Calmfors/Driffil ranking of centralization, for a sample of 14 countries (2002: table 3.1). Rather less clear, however, is the extent to which such wage-setting institutions can also contribute to reducing women's over-representation among the low paid.

Figure 1 identifies country differences in the low pay incidence of women relative to men, with trends from 2000 to 2006. Women are more likely than men to be low paid in all countries, with the exception of Hungary where there are doubts as to the robustness of the data. Especially large gaps in representation are found in Korea, the Czech Republic, Germany and Japan, where data for 2000 suggest women are more than three times at risk of being in low wage work than men.

As with our above exploratory analysis, we can again attribute some of the inter-country differences in gender outcomes to characteristics of the wage-setting systems. In countries with a relatively high statutory minimum wage or with strong collective bargaining coverage, the greater risk of women working in a low wage job compared to men is lessened (table 2). On average, in both groups of countries, women are approximately twice as likely to be low paid compared to men (a multiple of 1.7 in countries with a high minimum wage and 2.1 in countries with strong collective bargaining coverage). In countries with no or a low minimum wage alongside weak collective bargaining coverage, women are almost three times as likely to be low paid compared to men (a multiple of 2.9).

Figure 1. Low pay incidence of women relative to men, full-timers, 2000-2006



Note: See appendix table 2 for details.
Source: OECD earnings database.

Table 2. Low pay incidence of women relative to men (full-timers only) by type of wage system, 2000

	High relative minimum wage (40%+)	Strong collective bargaining coverage (80%+)	Weak CB coverage AND No or low minimum wage
	NZ 1.4	IT 1.5	US 1.6
	AS 1.6	FR* 1.7	CA 2.0

	FR 1.7 IE 2.0	SE 2.1 FI 2.1 ES 2.1 NL 2.6 DK 2.6	UK 2.3 DE 3.9 JA 4.9
Average low pay incidence of women compared to men	**1.7**	**2.1**	**2.9**

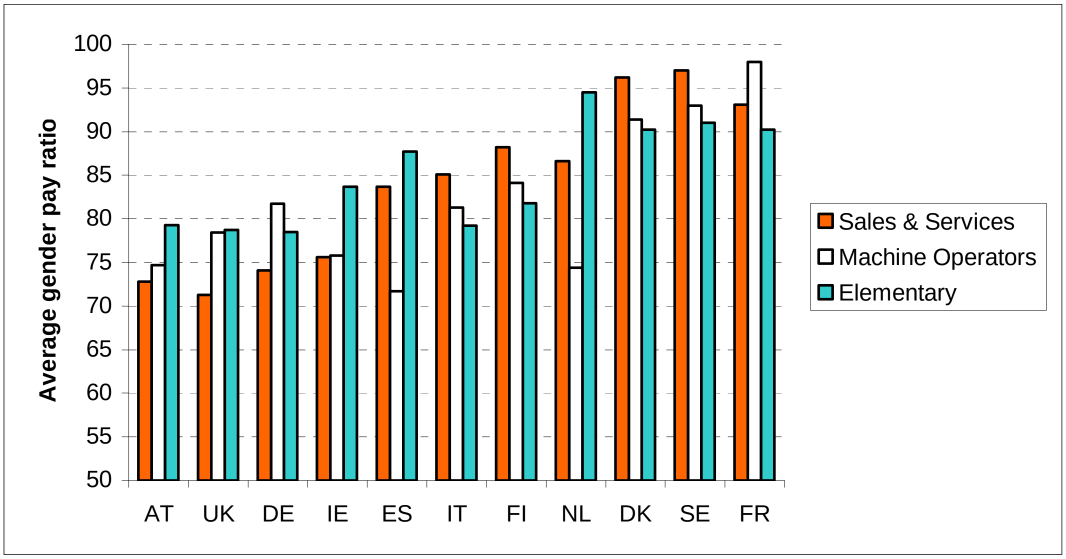
Note: Missing data for Austria. Data for Central and Eastern European countries are excluded.
Source: OECD earnings database for inter-decile wage gap, ICTWSS for collective bargaining coverage and OECD for relative minimum wage data.

2.3. Gender pay ratios in elementary occupations

The general pattern across countries is for a widening of the gender pay gap moving from elementary occupations to managerial and professional occupations, and from the low to high educated. Eurostat 2002 data for the EU25 show an average gender pay ratio of 77% among men and women employed in elementary occupations compared to 71% among managers. Similarly, women's earnings compared to men drop from 87% among the low educated down to 69% among the high educated. Nevertheless, the gender gaps among those working in occupations requiring relatively low skills or with low levels of education are still significant and cross-national comparison reveals considerable variety.

Figure 2 presents the average gender pay ratio (hourly earnings data) in three low skill occupations, drawing on structure of Earnings Survey data for 2002 for a selection of EU member states. The variety is quite considerable, ranging from female relative earnings in the range of 70-80% in Austria and the UK to a range of 90-100% in Denmark, Sweden and France. The sample of countries is smaller compared to our above exploratory analyses, making the identification of wage system effects more difficult; Nevertheless, there appear to be similar patterns. In particular, the two countries (the UK and Germany) in our third category of countries with weak collective bargaining coverage and no or a low minimum wage both have wide pay gaps among these relatively low skill occupations, providing further evidence of the risks for women's pay in countries without strong institutions for regulating low wage employment.

Figure 2. Average gender pay ratio by low skill occupation in selected EU member states, 2002



Source: Eurostat Structure of Earnings Survey (hourly earnings).

Overall, the empirical evidence highlights three key findings. First, even within low paid (the lowest decile) or in low graded jobs – such as elementary occupations or sales/service jobs – women fare less well than men. Second, women are at a higher risk of working in a low paid job than men, which clearly contributes significantly to the aggregate gender pay gap. The risk is generally around a range of 1.5 to 2.0 in most countries, but up to a multiple of 4 in Japan. Thirdly, and most importantly for our exploratory analysis, the presence of institutional arrangements related to the relative level of a statutory minimum wage and the extent of collective bargaining coverage influence the size of gender gaps at the bottom of the labour market. Countries with either no or a low level minimum wage coupled with weak collective bargaining coverage are more likely to register wide gender gaps in the indicators examined here. In the next section, we explore in more detail the supply- and demand-side factors that shape women's vulnerability to low pay. We identify the manner in which these factors are reinforced or reduced by certain institutional arrangements – namely, welfare (especially unemployment benefits) and tax regimes, family position, industrial relations systems and sex segregation by industry and workplace.- in order to determine the likely effectiveness of minimum wages for gender pay equity.

3. The social structuring of labour supply and the reservation wage

In much of the debate on labour market regulation the main focus on gender differences in labour supply is on women's position as discontinuous workers- as outsiders in the labour market. This focus is used to suggest that employment regulations including minimum wages act against the interests of women (Botero et al. 2004, Bertola et al. 2001) despite the likelihood that is it is mainly women who are to be recipients of any pay rise. This improvement in pay is argued to be offset by decreases in employment opportunities that impact most on those trying to enter the labour market – both because they need to bid down their price to encourage job creation and because there are economic reasons, such as the costs of hiring, why employers prefer insiders over outsiders (Lindbeck and Snower 2002) so the downturn in demand will be felt mainly by those at the margins of the labour market. This perspective regards the discontinuity of women's employment as a universal gender characteristic, rather than as a product of particular family, employment and welfare regimes, so that the policy imperative must be not to harm the prospects for women as outsiders, rather than to change policy regimes to encourage women to become insiders/continuous employees (one element of which is to improve pay so that it is more 'worthwhile' for women to work).

While there is widespread 'recognition' of this difference in labour supply between men and women, far less attention has been paid to the ways in which the family, employment and welfare regimes result in different labour supply conditions for women compared to men, with implications for their vulnerability to low pay in the labour market. It is these conditions that tend to influence both differences in 'reservation wages' and the extent of gender differences in commitments to continuous employment which in turn influence the extent of women's overrepresentation in labour market flows. Moreover, as argued within the new literature on monopsony, it is women's vulnerability in the labour market and their responsibilities in respect of family and childcare that may leave them exposed to employer 'exploitation', due to labour supply inelasticity. It is to these three gendered aspects of labour supply - reservation wages, employment continuity and job mobility - that we now turn to provide a framework for understanding the need for minimum wages as an element in equal opportunity policy from a labour supply perspective.

3.1. Gender and reservation wages.

There are two main elements to the argument that women may have lower reservation wages; first they are less likely to receive support from the state – in the form of unemployment benefits; and second they are expected over their lifecourse to be at least partially dependent upon family income, particularly that of their husband's, an expectation which may lead women to have a lower minimum reservation wage as they may only expect to or be expected to make a marginal rather than a full proportional contribution to total family income. As family systems, welfare state arrangements and social norms vary between countries, so will the extent and intensity of these effects vary across societies. That is, these are not 'essential' gender characteristics but while they persist they suggest a need for protection against wage offers that may reflect their reservation wages rather than their productive potential.

The importance of unemployment benefits as an alternative means of providing a wage floor to minimum wages has been pointed out by Gregg (2000). At the same time he notes the patchy coverage of unemployment benefits even in welfare states with well developed unemployment benefits systems.

> 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. (Gregg 2000: 137).

The groups most likely to be excluded from benefits are those with short, discontinuous work histories, those who work in non standard jobs, where these are excluded from social protection, and also in systems where access is means tested, where they are living in households with at least one wage earner. These groups include young people (who may even be ineligible even if they have some work history on the implicit grounds that they will be supported by the family) and women, where their employment is discontinuous and/or in low paid/part-time/informal work outside of the social protection system. Table 3 indicates the much lower access of women to benefits among the unemployed in some countries - while the coverage is more uniform in other societies. The countries in the EU15 with large gender gaps among unemployed benefit recipients are the UK, Ireland, the Netherlands and Spain, while Italy and Greece have low coverage for all (see, also, Gallie and Paugam 2000, Grimshaw and Rubery 1997, Leschke 2007). Evidence suggests that these problems of low coverage for women are likely to be increasing due to restrictions on access for those in non standard jobs (Jepsen and Meulders 1997).

Table 3. Benefit receipt among the unemployed and the gender gap

Country	Male	Female	Gender gap
Spain	34.6	15.9	46%
Greece	13.6	9.4	69%
Italy	4.3	3.3	77%
France	51.0	40.6	80%
Belgium	79.9	74.0	93%
Luxembourg	22.2	17.9	81%
Germany	68.7	69.4	-1%
Denmark	85.8	83.7	98%
Portugal	26.9	23.4	87%
Finland	79.7	75.4	95%
Austria	59.5	43.5	73%
Ireland	87.9	44.9	51%
UK	33.3	17.2	52%

Note: ECHPS – the question asked is 'Do you receive unemployment benefit or assistance?'
Source: Aznat et al. 2004

It is notable that this uniform coverage by gender may be both high and low - and where male coverage is low, as in Italy and Greece, then men as well as women may be reliant on intra family support when they are unemployed, a system made possible by the continuation of more extended family systems based on income pooling in these countries (Karamessini 2008). However, in these countries other systems of support may be available to those laid off from large companies- such as generous lay off pay in Italy, primarily received by men, so that these data may exaggerate uniformity in treatment of men and women (Simonazzi et al. 2009). It is also worth noting that where unemployment benefit coverage tends to be low for both sexes, employment protection tends to be high, possibly to prevent low reservation wages undermining labour standards. What is different for women is that they may have low eligibility in some countries where male coverage is relatively high and employment and wage protection is limited, thereby increasing the possibility that low reservation wages (due to lack of alternative income sources) may lead to low wage employment.

The likelihood of differences in eligibility for unemployment benefits by gender is often not taken into account even in studies testing for the impact of the level of unemployment benefits on employment of women and men. This seemed to be the case even in the detailed and careful study by Bassanini and Duval (2006) for the OECD. They find fairly strong negative impacts on employment for women from high unemployment benefits in a cross country comparison but are surprised to find little difference in the effects on full time and part-time employment as they hypothesise that the effects on the latter might be expected to be stronger; however the analysis is based on levels of benefits not on the eligibility of women in general or part-timers in particular for benefits, conditions that can be expected to vary between countries. The consequence of a lack of eligibility for benefits is that many women who are without work but wish to work are likely to consider themselves inactive rather then unemployed and will enter employment from a position of being 'inactive' rather than unemployed. Furthermore, given the larger share of women in labour market flows, a higher share of women, as Manning (2003) has shown, enter into employment from non employment and those entering jobs from non employment are earning less than those entering jobs from employment after the usual controls including experience, thereby contributing to the gender pay gap. This tendency to receive lower wages is likely to be exacerbated where women are ineligible for unemployment benefits as an alternative to low wage employment.

While for men in societies with developed welfare states their key sources of support are first the labour market and if not the labour market the state, for women the two key sources of support tend to be the family and the labour market, with the importance of the one over the other depending upon the society and the stage of the lifecourse. Lack of access to unemployment benefits for non employed women means that women who are out of the labour market are primarily supported by the family. Indeed societies that expect women to take time away from wage employment to care for children and do not provide substitute income through high paid parental leave assume that women can and will be dependent upon their families at least for a period. This presumption of income pooling can reinforce the tendency for women to have low reservation wages when women return to employment. The potential for women to undercut the wages paid to male workers led to the Webbs (1920) referring to women as parasitic workers and the industries in which they were employed as parasitic industries. As Power explains, this approach locates women's lower wages not in their lower productivity but in their position in the domestic economy and its effect on their use by employers as a source of cheap labour:

> This parasitic-industries analysis is interesting for a number of reasons. First, parasitic-industries arguments began the analysis of wages not with an assumption of freely choosing individuals and clearing markets, but rather with a vision of a disorganized and predatory economic environment, with large and damaging differentials in power and information between workers (particularly women and children) and employers. Second, the analysis presumed that workers' productivity was much more an outcome of the organization of jobs by employers than of workers' own behavior. If employers could get workers cheaply (because of their relative powerlessness), they would not bother to use workers productively. Third, the analysis focused on the effects of low wages on the community as a whole, putting priority on the macro-efficiency of labor market outcomes. (Power 1999:63)

This argument in relation to parasitic workers and industries was deployed in the original debates on establishing a minimum wage in the US and has resurfaced recently in the form of the living wage campaigns in the US (Power 1999). It could be argued that the lack of an effective social welfare systems in the US coupled with a higher predominance of racial in addition to gender inequalities has heightened the importance of low pay in poverty prevention (Schmitt 2009) and also extended the concerns over low pay to men as well as women.

There are two elements to the notion that minimum wages should provide a living wage that are particularly relevant for gender equality. The first is that a fair return to full-time work must enable an adult to provide for at least their own subsistence, thereby reducing the presumed dependence of women on their husbands due to too low hourly wages (dependence may still apply if women work less than full-time). Second, by targeting clients further up the value chain the living wage campaigners have recognised the interactions between the bargaining power of employers and the bargaining power of workers in leading to low wages; thus firms in competitive sectors may be exploited by more powerful clients to provide services at low wages, causing firms in the competitive sectors to seek out and exploit those with low bargaining power- such as migrant workers or women.

In this respect there are analogies here with the very current debate on how less developed countries can secure a fair reward for their contribution to global value chains; it is powerful clients that are extracting the value and it is the weak bargaining power of workers and firms further down the value chain that is allowing a redistribution of value from less developed to developed economies (Heintz 2007). Seguino (2000) has added a gender dimension to this argument by arguing that export growth in some developing countries has been dependent upon gender inequalities. The result is that both the developed world receiving the exports and the less developed societies experiencing growth have benefitted at the expense of the underpayment of the women actually involved in the export processing zones. The growth may have had some beneficial effects on internal investments but effectively the women may have been subsidizing, through their high efforts relative to wages, the internal growth process as well as the clients and consumers in the developed world. Thus the low wage received by women in such contexts is regarded as reflective of their weak bargaining power- particularly in the face of mobile capital- and not of their weak productivity or productivity potential. This reliance on gender inequality is argued by Seguino to be related to the reduced likelihood that gender inequalities will lead to overt political conflict.

> The economic effects of conflict, it is argued in that work, are transmitted through the negative impact on investment and macroeconomic policy. These differing results may be reconciled by recognizing that inequality is less likely to produce social conflict if the burden is born by women, a group traditionally socialized to accept gender inequality as a socially acceptable outcome. (Seguino 2000: 1212).

The presumption of acquiescence by women in the receipt of low pay may also lie behind the policies adopted by the UK to overcome the increasing mismatch between the jobs and pay on offer to the unemployed and the type of work/ pay levels for which at least the male unemployed would consider it worthwhile to take up. In the 1990s in the UK there was strong evidence that the wages in the jobs on offer to the unemployed on benefits were too low to attract the unemployed to leave their benefit status (Gregg and Wadsworth 1995). Instead the available jobs were being taken by the inactive- primarily women- who were in households with at least one income earner and thus either ineligible for unemployment benefits or only for flat rate benefits than expire after six months. The 'solution' to this problem adopted by New Labour was to provide in-work benefits to encourage breadwinners (the head of a couple household or a lone parent) to leave the passive benefit system and enter employment. Originally only for families with children it was extended to those without children over age 25 but it is means tested on a household basis. The result is that the only groups working for low wages who are now not able to claim state support are those in households with another wage earner- primarily young people and women in couple households where their partner is in work. This approach re-establishes the notion of a family wage - albeit at an implied low level of subsistence - provided partially by employers and partially by the state, and it leaves unchallenged the payment of wages below subsistence or living wage levels to those who are deemed to be supported by the family. However, a rather unintended consequence of the spread of in-work benefits is the recognition that employers might take advantage of state subsidies to reduce the offered wages. This has explicitly led to policies of maintaining and improving upon the level of the national minimum wage in the UK. The possibility that wages are kept down for young people and women because of family subsidies is not, however, directly acknowledged.

3.2. Gender and labour market outsiders

One of the main strands of the argument that employment regulation including minimum wages is harmful is that the main costs of the policy are borne by those who are labour market outsiders in relation to employment opportunities and income (in the form of either foregone earnings for those remaining unemployed or through lower earnings for those who consequently work in the informal sector). There are two main issues for gender equality in relation to this argument. First, an appropriate policy response may be not to focus on the problems for outsiders of insider regulation but to develop programmes to reduce the gap between men as insiders and women as outsiders- by promoting opportunities through paid leave, flexible working and childcare to enable women to retain their position in the labour market. Moreover, women are not only ‘outsiders’ or ‘marginal’ participants because of conflicts between work and care but also as a consequence of specific tax regimes which disincentives which may limit their job choices to short part-time work (for example under regimes that give tax or social security incentives to short hours work such as the German mini jobs system or the UK national insurance threshold). These tax restrictions are not inevitable but arise out of specific tax and welfare regimes, reinforcing women’s position as relative outsiders or as marginal participants.

Second, the costs of women being overrepresented in labour market flows has increased over recent years according at least to evidence for the UK, where the gap between entry wages and wages for those either in continuous employment or who have changed jobs from employment has widened (Gregg and Wadsworth 1999). This is due to more entry level jobs being located at the bottom of the labour market. This means that in the absence of policies to reduce women’s risk of being outsiders, minimum wage regulation may be important in not allowing further widening of gaps between entry wages and continuing employment. Research into this widening of the entry wage gap found little difference between men and women but this finding in fact implies that employers treat a spell out of the labour market for child rearing as equivalent to the same period of unemployment (as this is the cause of most men being outsiders while a high percentage of women will be entering from inactivity due to childcare factors). The same study did, however, find that the wage penalty of part-time work, which correlates with women’s employment in the UK, is significantly higher for entry wages than for continuing jobs (op. cit.: table 7).

There are, of course, two different interpretations of the policy of providing wage protection for new entrants; for some this may help to reduce the penalties of discontinuous employment which according to Gregg and Wadsworth are sufficiently large that given reduced wage mobility across pay deciles in the UK those entering on these low wages may never make up the gap. Alternatively some may take the view that this entry wage gap reflects the real loss in human capital- both formed through education and experience- associated with discontinuous employment, but if so, as Gregg and Wadsworth pointed out, the deterioration in human capital must be much more rapid than any estimates of its formation To reduce gender wage inequalities it is likely that a combination of measures is necessary- minimum wages to prevent exploitation of re-entrants and measures to help women retain their footholds in the labour market.

3.3. Gender, job mobility and monopsony

Monopsony implies that employers may have power in the labour market and are able to use that power to reduce wage levels below 'competitive' levels. This power derives in part from the restricted options available to the labour that they employ. There are three main sources of restricted options when it comes to female labour; first women have less access to unemployment benefits and thus a lower reservation wage; second they are more often entering employment from inactivity and there is evidence to suggest that this allows employers to pay them lower wages than equivalent workers entering directly from employment (see above); and thirdly, the element not so far discussed, they have more limited job mobility options due to their family position. This family position may mean that they are only able to take jobs within a certain geographical area or with certain working hours, due to childcare commitments. Manning (2003) has argued that women in the UK are increasingly long term committed workers, with a reduced tendency to work intermittently, thereby increasing the inelasticity of labour supply to the specific firm. Indeed as argued above they may have limited incentives to seek better paid or longer hours jobs due to specific tax incentive structures. Likewise geographical mobility reflects local transport options, internal family dynamics (for example who has access to the family car, who has the responsibility for childcare) and to welfare and education institutional arrangements, such as the length of the school day, the availability and costs of childcare at different times or lengths etc.. These vary across societies- for example the notorious short school day in Germany compared to the much longer school day in France increases the importance of short hour local jobs. Conditions also change over time; there has been a marked increase in women's access to private transport in the 1990s and onwards in the UK, even though gender differences remain (Smith et al. 2006), but the extent of private car ownership varies across societies. Women are also still more likely to benefit from transport improvements focused on the immediate locality rather than longer distance commuting, so that different policy priorities will impact on monopsony effects.

The impact of women's lack of alternative income sources and their limited job choices is to expose them more to the risk of monopsony power than is the case for men. In neoclassical terms their labour supply to the individual firm is less price elastic than is the case for men, even if women at a more aggregate level are regarded as having a more price elastic demand curve[1], that is there is a distinction between general rises in real wages which may attract more women into the labour market by changing the trade off between domestic work and wage work (Mincer 1962) and the extent of labour market choices for women who are committed to employment. Although there are other policies, as indicated above, that can be developed to reduce their vulnerability to monopsony power, the most obvious form of protection is legal minimum wages. Indeed this policy under a monopsony argument has the advantage of not only raising wages but also employment so that there is no apparent income/ employment trade off. There are disputes over whether there is robust

[1] It is also arguable that women's labour supply is only price elastic in an upward direction, thus once women have entered the labour market they are les likely to withdraw even in a downturn (Humphries and Rubery 1984, Rubery 1988)

evidence of employment increases following minimum wage hikes (Card and Kreuger's 1994 results have been called into question by Neumark and Wascher 2006) but there is in fact more consensus that the employment effects of minimum wage rises tend to be small (Freeman 2005, 2007), at least within the range of minimum wage increases experienced in most OECD countries over recent years. Even where minimum wages have been raised significantly - in some transition countries such as Bulgaria (Vaughan Whitehead 2009) - there is evidence of employment growth, suggesting the presence of monopsony effects in these economies. However, to a large extent the degree of monopsony, or vulnerability to low wages that women experience, will also be influenced by the organisation of the demand side the topic to which we now turn.

4. Organisation of the demand side

The argument of this paper is that minimum wages are needed to counter the impact of family, welfare and labour market institutions on women's employment position; that is, it is not minimum wages that introduce 'distortions' into labour markets but instead minimum wages that may help to create a more level playing field or fairer treatment. This argument has been developed so far primarily in respect of gender differences in reservation wages and vulnerability, for supply side reasons, to monopsony. Here we turn to demand side factors and labour market institutions that may create or sustain gender inequalities that could be reduced if not eliminated by minimum wages. There are two primary arguments to be made here; first there is no tendency in the absence of a minimum wage for firms or sectors to pay uniform minimum wage levels. Instead wage levels even for the lower skilled tend to reflect differences in sectoral ability to pay (economic rents). Not only do women tend to be located in sectors where rents are low but they may also not benefit to the same extent from the sharing of rents in sectors where these are sizeable. As such national minimum wages may tend to reduce disparities between male and female dominated sectors and workplaces, thereby contributing to a narrowing of the gender pay gap. Second there are significant variations between societies- linked to their industrial relations institutions and their approach to gender equality- that influence the extent of women's vulnerability to low pay and the need for minimum wages to improve their protection. These differences relate to what has been called the extent to which the labour market is inclusive or exclusive (Gautié and Schmitt 2009), but even within these categorisations, some differences in gender effects are also likely to exist.

4.1. Gender segregation and wage setting arrangements.

Recent empirical research in the US and elsewhere has established that wages do not tend in the absence of regulation towards the law of one price or similar wages for apparently similar groups of workers (Krueger and Summers 1999, Schettkat 2002- and see Gannon 2006 for a review). Instead weak regulation tends to increase wage dispersion while more coordinated wage setting arrangements tend to reduce wage dispersion. Although industry effects are widely found, their size not only varies between countries but may also vary for men and women. Thus Gannon et al. found in their exploration of inter-industry differences in six countries that,

> 'simple t-tests, reported in Table 2, show that between 43 per cent and 71 per cent of the industry wage disparities are significantly different (at the .10 level) for women and men. For Ireland and the UK, this percentage is quite high at 68 per cent and 71 per cent respectively, compared to only 43 per cent in Belgium. Moreover, Chow tests indicate that sectoral wage differentials are significantly different (at the .01 level) as a group for both sexes in all countries'. (Gannon et al. 2006: 146).

Moreover the paper goes on to find that inter-industry wage differentials explain important but variable shares of the gender pay gaps between countries, with the importance of differences in distribution across sectors, and differences in gender industrial wage premia also varying. Wider dispersion of industry wage premia is associated with more decentralised or less extensive wage bargaining. Ireland has the largest industry effects related to large differences in gender wage differentials by sector; indeed dispersion of wages by industry is much larger for women than for men indicating that men have been able to escape low pay even in low paying sectors. These results all relate to 1995 and the example of Ireland provides a potentially interesting case for further research as the implementation of a national minimum wage after 1995 might have done something to narrow gender wage differentials within sectors and to narrow the female dispersion of wages relative to male wages.

The lack of a tendency towards a law of one price in setting wages for similar workers, suggests that minimum wages could increase comparability in wages between sectors, thereby potentially reducing the scope for gender inequalities to become embedded in specific wage structures of sectors or firms. It is not only gender segregation across workplaces that matters but the potential size of the penalties for gender segregation. Coordinated bargaining systems may do more to reduce these penalties than minimum wages as minimum wages can at most affect the wage floor, not the overall level of inequalities but minimum wages may be easier to implement than full coordinated wage setting institutions with high coverage. Moreover, not all coordinated systems promote gender equality as evidence with respect to Austria suggests that wages tended to be low in female dominated sectors.

A second important conclusion of the Gannon et al (2006) study is that different industrial relations systems provide for different interactions with the gender pay gap and that targeted policies are needed. This is supported by other research into the particular interactions between the gender pay gap and forms of wage setting. For example, in the decentralised and deregulated economy of the UK problems of low pay are particularly associated with workplaces dominated by women and in particular by part-timers. In a study by Forth and Millward (2001) it was found that once gender segregation at the workplace was included the impact of gender as an individual characteristic on wages became insignificant, suggesting it was the opportunity to pay low wages to all provided by the patterns of gender segregation that was most significant in generating low pay for women. These organisations were almost all outside the collective bargaining systems and were thus most likely to be affected by the introduction of a national minimum wage.

In other contexts a focus on setting a minimum wage might provide opportunities for evading more beneficial collective agreements. Finland does not have a minimum wage as such but has a hierarchy of collective agreements; research suggests that segregation by collective agreements was a separate and increasing cause of the gender pay gap, particularly applying to part-time workers (Laine 2008). Thus the impact of wage floors depends upon starting points; they may provide a new floor to the labour market, thereby reducing gender pay gaps or new but lower collective agreements may provide opportunities for companies to switch between agreements to the detriment of women workers, especially in the context of outsourcing. There is some evidence that companies in both Germany and Austria have been evading high paying collective agreements, with companies in Germany switching more to no collective bargaining or the use of the new but low wage agreement for temporary workers (Mitlacher 2007), while in Austria there has been more a

process of switching from high paying to low paying agreements (Hermann and Flecker 2009). It is this wide variation among collective agreements in Austria that led to pressure from the unions to establish a new $1000 minimum wage which has finally been agreed to in 2009 while in Germany the issue of whether or not to introduce a statutory national minimum wage is still unresolved. Women, particularly those in mini jobs have been the sufferers from the decline in collective bargaining coverage in Germany (Bosch and Kalina 2008) although women were already much more likely to be low paid and outside collective regulation even before the recent decline such that the fastest rate of increase among the low paid is among men (Bosch and Kalina 2008). It is perhaps the increasing effects of deregulation on men that have promoted an active debate on minimum wages in Germany when previously the low wages paid to women excited little interest among trade unions.
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It is not only the industrial relations systems but also other institutional arrangements and practices that may impact on women's vulnerability to low pay, and thus their need for protection through minimum wages. A major example of the differences in the importance of the minimum wage in protecting women applies to the care sector across EU countries. From a comparative study of the organization of the care sector (Simonazzi 2008) it is clear that minimum wages have currently limited impact in those societies where care work is organised as a skilled profession, with wage protection based on public sector pay and conditions in Sweden and on the strong social norms of paying above minimum wages for qualified workers in Germany. Minimum wages are also not very effective in providing protection where care work is informal and often provided by migrant workers as in Italy. However, it has significant importance in the UK where care work has been outsourced from the public to the private sector and outside of any collective agreements. While care work is very poorly paid compared to the demands of the work, there is little doubt it would be even lower paid if it had not been for the introduction of the NMW as all actors agree that increases in the minimum wage have been important in the determination of any increase in the price paid for outsourced services. It is also likely to affect wages in France where care work is provided through schemes for the unemployed to re-enter employment. In contrast, as Seguino (2003) points out, the relative value attached to women's work in highly internationalised sectors such as textiles and clothing is more difficult to vary at a national level and in these sectors minimum wages take on significance for women workers in all societies.

The extent to which women's vulnerability to low pay is actually manifest in particular sectors, firms, occupations or contract types is thus highly dependent upon the industrial relations systems and as such the importance of minimum wage protection as a means of countering this vulnerability will vary across countries and over time. Industrial relations and employment systems are, however, dynamic in nature and the potential for employing women at low wages may emerge as an element in processes of restructuring, even in highly regulated labour markets.

5. The need to refocus minimum wage debates on gender equity

The above analysis facilitates an understanding of how low wage segments may develop along gendered lines, with women facing particular forms of discrimination and disadvantage. These tendencies towards low pay and pay discrimination among women are not inevitable as the size and form of low wage labour supply groups is historically and culturally contingent and the impact of the segmentation of labour supply on the structure of jobs in the economy is mediated through the effects of regulations, collective bargaining, industrial structure, state policy and the like. However, the dominance of the deregulationist approach among economists means many of these mediating factors are being called into question, just at a time when the potential supply of other disadvantaged groups, such as migrants, may be increasing. Although our analysis provides a general approach to understanding how low wage segments develop and why labour standards are required, in this final section we consider the need for minimum wage debates to focus on the issue of gender pay equity. Table 4 outlines the advantages and disadvantages of minimum wages for promoting gender pay equity.

The refocusing of the minimum wage debate towards issues of gender discrimination and disadvantage is necessary for three main reasons. First, debates about minimum wages typically consider their impact on household poverty and are dismissive of their impact where secondary earners (often women who are dependent on their male partner's earnings) dominate. Studies that consider how far low wage labour markets involve prime workers (male household heads) or marginal, secondary workers and then underplay the significance of low pay where the latter dominate are missing the importance of the increase in sources of what Siltanen (1994) calls 'component wage' labour - a trend associated both with the growth of low pay and with the spread of non standard working. The expansion of labour markets for these groups will not necessarily leave those in the higher paid segments undisturbed; low wage groups can destabilize conditions for higher wage workers, calling into question the provision of expensive fringe benefits, the recognition of custom and practice in working hours as well as wage levels. Such problems are particularly acute in countries where the weakness of minimum wage regulation and collective bargaining has allowed the development of low wage segments below subsistence levels (for example US, UK, Spain), in contrast to countries such as France where the minimum wage has been based on some notion of minimum wage subsidence for a single adult. Moreover, the assumption that there are few problems of social justice because household income is brought to above poverty levels through the wages of other household members, mainly husbands, is questionable. There is the issue of intra household distribution, which affects not only women's welfare but also that of children. And there is the issue of the dynamics of household formation and dissolution, and indeed changing patterns of wage working within households. Dependence upon another adult does not just contravene human dignity but also introduces major economic risks that show up in poverty distributions at subsequent time periods.

Table 4. Advantages and disadvantages of minimum wage policies for promoting gender pay equity

Minimum wage policies	*Coverage*	*Effectiveness*	*Costs of implementation*	*Side effects/spin offs*
Advantages	Covers all low paid women where costs of discrimination are highest	Changes external market wage for women	Simple to understand and can be enforced by employee awareness, even in informal sector	Reduces incentives to subcontracting
	Can extend to groups often not include within collective bargaining or organisations' internal pay hierarchies	Can provide a mechanism for regular increases in pay	Costs may be borne by whole community, through higher prices and may even be skewed towards the wealthier consumers of services; therefore acts	Can complement and reinforce gender pay policies; reduces wage dispersion and gender pay gap lower where wage dispersion narrower.

			as a good redistributive tool	
	Applies to all disadvantaged groups, not just women	Can be used as a numeraire for social benefits, thereby integrating wage and social security policy		Can provide basis for reducing extensive hours of work necessary to achieve subsistence income
				By setting a universal norm could help to establish an ideology where pay differentiated by demographic/social group is no longer legitimised
Disadvant-ages	Some low paid women may be excluded for administrative and other reasons- homeworkers, part-timers, informal sector	May be set at a very low level if not differentiated by sector or skill	Could cause wage inflation if leads to compensating claims	Hours of work may be adjusted to offset costs
		Effectiveness over time depends on mechanism for indexation	Underpaid workers may not have the power to complain	May be used as a tool of macro economic management; this objective may conflict with gender pay equity objective
		May either be difficult to enforce in small firms or may promote informal sector growth	Workers close to minimum may bear the cost if skill differentials squeezed	
		Link to social security may lead to erosion of real value of wage if there are public spending cuts		

Source : Rubery (2003)

Second, minimum wages are an effective and important means of reducing pay inequities between male and female workers by establishing a fair price for individual effort among low paid workers. The case for taking action to reduce gender pay discrimination should stand in its own right and not be dependent upon other arguments, such as the impact on household income distribution. The principle of equal pay for equivalent work is in fact assumed within the mainstream economics framework; therefore the argument against minimum wages as a means of reducing pay discrimination implies that current wage structures are independent of the sex of the worker taking the job. However, most mainstream studies do find evidence of discrimination and, if discrimination by gender is prevalent in the labour market as a whole, it would be remarkable if this was not found and indeed concentrated among the lowest paid groups. Efforts to remedy discrimination should therefore first be concentrated here.

The third reason is that the minimum wage is typically more encompassing, in terms of coverage of labour force groups, than many other welfare and labour market institutions and therefore is more likely to provide protection to all disadvantaged groups, including women, who otherwise might beexpected to work at very low wages. Other floors to the labour market are less encompassing: as we described above, unemployment benefits have a significant indirect gender bias in their coverage because of the rules governing entitlement and level and duration of payments and this also applies to other disadvantaged groups such as the young and migrants. Also, although a particular country may be categorised as having an inclusive system of industrial relations, collective bargaining and union representation may be weaker in many low wage sectors where women are over-represented, particularly personal services and domestic work.

Nevertheless, a minimum wage is only one element in ensuring gender pay equity and ought not to be viewed as a substitute to developing an inclusive approach to wage-setting, since union representation and widespread collective bargaining coverage are valuable props needed to ensure wage comparisons across segments of the economy and the forging of a unified vale structure. Moreover, in the absence of institutions to regulate the pay structure, there is a risk that women workers experience wage compression among jobs at and above the minimum wage – a scenario that appears consistent with changes in the UK earnings distribution in recent years. It is also possible that a statutory minimum wage substitutes for a higher minimum in collective wage agreements in some contexts.

Thus minimum wages are not a panacea for gender pay equity but an essential element in a more comprehensive policy approach to tackle the persistent gender pay gap. The first requirement is to reject the notion that it is institutions which distort fair and efficient labour market outcomes. Instead there is a need first for a comprehensive- labour market wide- approach that provides a universal rather than a partial wage floor. However this needs combining with a targeted policy approach based on the identification of the specificities of the interactions of gender inequalities with the particular national system of welfare, employment and industrial relations in order to develop policies to mitigate these specific effects.

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Appendix table 1. Country data on collective bargaining coverage, the relative level of statutory minimum wage and the gender pay gap at the lowest pay decile

	% Collective bargaining coverage		Relative level of minimum wage (compared to average wage, 2007)		Lowest decile gender pay gap (2005)
US	14%	Weak	0.24	Low	12%
JA	16%	Weak	0.30	Low	27%
NZ	30%	Weak	0.49	High	5%
CA	32%	Weak	0.36	Low	19%
HU	35%	Weak	0.35	Low	-9%
PO	35%	Weak	0.33	Low	2%
UK	35%	Weak	0.38	Low	15%
IE	44%	Weak	0.40	High	
CZ	44%	Weak	0.32	Low	23%
AS	60%	Weak	0.45	High	2%
DE	63%	Weak			33%
IT	80%	Strong			10%
ES	81%	Strong	0.31	Low	15%
DK	82%	Strong			10%
NL	82%	Strong	0.38	Low	17%
FI	90%	Strong			12%
SE	92%	Strong			11%
FR	95%	Strong	0.51	High	9%
AT	99%	Strong			31%
AVERAGE	**59%**		**0.37**		**14%**

Source: OECD earnings database for inter-decile wage gap, ICTWSS for collective bargaining coverage and OECD for relative minimum wage data.

Appendix table 2. Low pay incidence by gender

	Men		Women		Women's low pay incidence as a multiple of men's	
	2000	2006	2000	2006	2000	2006
AS	12.1%	16.0%[5]	18.9%	20.1%	1.6	1.3
CA	15.6%	15.4%	31.3%	27.5%	2.0	1.8
CZ	7.0%[1]	--	24.4%	--	3.5	--
DK	5.5%	8.2%[5]	14.1%	16.3%	2.6	2.0
FI	4.6%[2]	4.6%[4]	9.5%	9.6%	2.1	2.1
FR*	11.5%	9.2%	19.6%	16.2%	1.7	1.8
DE	6.3%	9.2%[5]	24.8%	31.0%	3.9	3.4
HU	20.4%	24.7%	26.5%	21.6%	1.3	0.9
IE	13.2%	13.9%[4]	25.9%	24.0%	2.0	1.7
IT	8.9%	--	13.4%	--	1.5	--
JA	6.7%	8.0%	33.1%	33.8%	4.9	4.2
KO	15.6%	16.6%	48.1%	41.9%	3.1	2.5
NL	11.1%[1]	--	29.2%	--	2.6	--
NZ	13.3%	12.6%	19.1%	17.3%	1.4	1.4
PO	15.0%[1]	20.9%[4]	23.6%	26.2%	1.6	1.3
ES	12.0%[3]	--	25.0%	--	2.1	--
SE	4.3%	4.7%[4]	8.9%	8.9%	2.1	1.9
UK	14.0%	15.7%	31.5%	29.1%	2.3	1.9
US	19.3%	19.7%[5]	31.7%	29.4%	1.6	1.5

Note: * Data for France from a separate source – and therefore not comparable - since missing from OECD database. 1. 1999 data. 2. 2001 data. 3. 2002 data. 4. 2004 data. 5. 2005 data. Same years for women.
Source: OECD earnings database. For France see Howell and Okatenko (2008: figure 4).