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ARTICLE

The administration and impact of a national minimum wage: lessons for Germany

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Abstract The problem of trying to estimate what the effect of the minimum wage will have on employment (or any other outcome) has puzzled economists for over 150 years. Some factions in Germany have recently contemplated supplementing their extensive system of sector and branch minimum wages with a National Minimum Wage (NMW). Perhaps some of the most valuable lessons for Germany can be drawn from the UK which introduced such a NMW as recently as 1999. This article provides an overview of recent evidence from the UK and other countries on the effects of the NMW and lessons to be drawn from instituting such a policy.

> "...coming up with a Minimum Wage that will not seriously harm the economy and destroy jobs, will require the wisdom of Soloman or extraordinary luck" The Economist 5th June 1997.

1 Introduction

Introducing a national minimum wage (NMW) has been on the political agenda in Germany for several years since the labour market reforms of 2003 to 2005. The arguments for its introduction are complex. Fortunately other countries have many years of experience of such systems. In this article we summarise the basic lessons to be learnt from other countries experience, in terms of what effects such a NMW might have on the labour market, employment and inequality. We also ask the question—of whether these lessons from other countries mean anything for Germany.

We begin by taking a quick look at the most recent applied econometric literature on MWs and rehearse what we now know about its effects. Most of the papers we consider are from the post 1995 period of modern econometric analysis following the important work of Card and Krueger (1994, 1995). We then consider position of Germany and explain why the answer to the issue of its potential introduction in Germany is not straightforward. We go on to consider how one may administer a NMW and specifically look at the recent experience of the UK introducing a NMW in 1999 and explain what was good and bad about this experience and what lessons can be learnt for Germany.

2 A perspective from recent econometric evidence

The early assessments of the effect of the MW focused on the impact of the MW on employment. Since the impact of the MW on employment is still the predominant issue we focus our remarks on this debate. Prior to the 1980s this literature was predominantly time series in nature. Much of the research overviewed by Brown et al. (1982) was published before we really understood the issue of stationarity and the spurious regression problem. In this sense, modern economists would not put much faith in the papers published before around the mid 1980s.[1] It is important to reflect on

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[1]The first Granger paper on the spurious regression problem was published as early as 1974 (Granger and Newbold 1974)—but the more widely known work was later (Engle and Granger 1987) but it took some 15 years or so before the message really got into the applied literature.

this perspective and explain why what we now know (and the methods we now use) may be more appropriate to the evaluation of the impact of the MW.

A significant landmark in the literature was the publication of the book by Card and Krueger (1995) and the papers by these authors which preceded Card and Krueger (1994) (and followed) it (Card and Krueger 1995b, 2000). Simply stated these papers found evidence of a counterintuitive sign on the effect of the MW on employment—namely that the MW may have a positive impact on employment levels. One of these papers, Card and Krueger (1994), was one of the first to use quasi-experimental data to evaluate the treatment effect of a change in the MW using micro level data. These papers sparked a controversy between Card and Krueger and Neumark and Wascher In a series of articles Neumark and Wascher provided evidence of the disemployment effects of the MW.

Since 1995 there has been a rapid accumulation of evidence on both sides of the camp. Much of this literature has been robust and combative in the sense of direct comment and counter comment on both sides with some limited replication of results by opposing camps. It is tempting to try and find a consensus of these results, but a fully informed objective one—arguably does not exist. Here we simply try to provide a brief, subjective overview of what has happened in the literature in the last 15 years.

At first sight anyone seeking an insight into this literature might seek out two recent books by Neumark and Wascher (2008) and Flinn (2010). However these books serve niche markets. The Neumark and Wascher (2008) book provides an elegant summary of one side of the debate from the perspective of their own work. Flinn likewise provides an insightful book which summarises his own approach to modelling the effect of the MW in terms of structural econometric models. A more balanced overview is provided by Brown (1999)—but again this now looks quite dated as it could not know what was going to happen to the literature in the last 13 years—this is what I focus on in my summary below. My quick recap of the recent literature largely side-steps these contributions and is more in the spirit of Kennan (1995)—which is to be thoroughly recommended as an evaluation of the Card and Krueger 'revolution'.

The simple summary of the main conclusions from this literature are:

- That the early time series literature summarised by Brown et al. (1982) predominately finds that there is a negative employment effect of the MW.
- It has been suggested that much of this time series literature is questionable and subject to publication bias (see Card and Krueger 1995b)—i.e. the allegation is that it was only published because it reached a negative conclusion about the likely impact of a MW on employment. Most damning of all these results in this literature has a questionable econometric identification strategy. This is because the time series data requires the MW decisions and interventions to be exogenous and typically the MW changes which occur are a direct result of trying to change the level of employment or safeguard poverty and are hence endogenous interventions. Specifically, most of these studies include as a regressor, some measure of the impact of the Minimum Wage—like the Kaitz index (the level of the Minimum Wage divided by the mean or median wage and normalised by coverage). Such a statistic may simultaneously be being used as a diagnostic to guide potential changes in future levels of the Minimum Wage. Likewise, researchers often include some measure of unemployment (maybe for a different reference group—like adults) on the right hand side of such an employment equation (for youth)—erroneously assuming that such a regressor is exogenous when indeed it may be influencing policy on future Minimum Wages.
- The sequence of papers by Neumark and Wascher (1992, 1994, 2004) find negative effects of the MW by using data across countries and US states and the sequence of papers by Card and Krueger (1994) find positive employment effects by using data relating to two neighbouring US states, one of which changes its MW and the other does not.
- The main debate between Card and Kreuger and Neumark and Wascher has reached a form of stalemate. They seem now to be agreeing that the identification of MW effects is difficult and relies on a set of econometric identification conditions which are rarely satisfied. Quite specifically the exogeneity of the Minimum Wage impact variables as well as any controlling macroeconomics aggregate variable which may attempt to capture the nature of the economic cycle.
- A sequence of papers have explored the effect of the MW in the US and UK using more interesting identification strategies—namely to exploit the variation of the real level of the bite of the MW by geography. Papers by Card (1992), Baker et al. (1999), Stewart (2002), Bosch and Manacorda (2010), Dolton et al. (2008, 2010) suggest that there may be small positive employment effects of the MW. If there is any consensus at all it is that the employment effect of the MW is small and close to zero.
- The limited literature on the effects of the MW in Europe and across countries (Neumark and Wascher 2004, Dolado et al. 1996, and Dolton and Rosazza-Bondibene 2012) suggests that the employment effects of the MW are insignificant—with the possible exception of the youth labour market, but that the effects of the MW on the distribution of income are quite positive.
- The literature relating to the effect of the MW on levels of wages and inequality is clearer. Lee (1999), Dickens and Manning (2004) suggest that the effect of the MW is to raise earnings of those in the lowest decile and

even average earnings and reduce the level of income inequality. To some extent this is predictable in the sense that the mechanism of the MW is to cut off the lowest tail of the earnings distribution and enforce a minimum. In this sense it is more or less definitional that instituting a MW will raise the earnings of the lowest paid and hence raise incomes of the poor and reduce income inequality accordingly. What is less clear in the nature of the spill-over effects on the wage distribution of having a MW as moving the bottom earners up to the MW may result in workers further up the wage distribution (just above the statutory minimum) using relative wage arguments to shift themselves up the wage distribution to a point slightly above the level of the minimum.

- A recurrent theme in many recent papers is the clear understanding that the econometric identification of MW effects is non-trivial. Much of the previous literature which relies on cross section or time series variation and exogeneity assumptions is dubious. Indeed, it is doubtful whether any of these papers was ever going to possibly identify the causal effect of a MW on employment, earnings or the distribution of income. Specifically, it is unlikely that time series variation or cross section studies alone can ever retrieve a reliable estimate of these effects. Recent papers which rely on geographical variation (Card 1992, Stewart 2002, 2004a, 2004b, Bosch and Manacorda 2010 and Dolton et al. 2008, 2010, 2011) and difference-in-difference identification strategies provide a more sophisticated advance. Even so, the conditions under which econometric identification is assured in the latest literature are quite restrictive (specifically the 'common trends assumption'—see Bertrand et al. 2004). In addition, a prominent assumption of this literature is that geographical units of observation are independent units which are completely unrelated. Patently, local labour markets do not work in isolation and these interconnections need to be considered. Two papers which do this (Dube et al. 2010, and Dolton et al. 2012) show how the estimated parameters from the early literature are likely to have effects which have a spurious validity in the sense that there true standard errors are understated and hence they are most likely to be insignificantly different from zero (in the case of employment effects).
- A recent key finding (Dolton et al. 2012) is that it matters considerably if you distinguish between invoking a MW and uprating a MW. The econometric identification strategy for doing this requires an 'off period' prior to the NMW policy, as well as good data on both the timing of the up-ratings to the MW. It is also necessary to have exogenous regional variation in the NMW or its implementation.[2]
- A further consideration which must be taken into account is that nearly all the literature on the MW has ignored the effect of the business cycle in trying to determine the true effects of the MW on the demand and supply of labour. A recent paper (Dolton et al. 2012) seeks to explicitly model the effect of regional demand shocks and simultaneously considers the effect of the autoregressive nature of the employment process—namely that the key regressor in the determination of employment is what was happening to employment in the previous period. The problem in this econometric setting is that such a variable will be endogenous. Hence the latest GMM IV estimation methods need to be used to solve this problem. The results of this exercise again show that the likely effects on employment of a MW will be attenuated.

3 The unique position of Germany

For some years, since the Hartz reforms in fact, Germany has considered introducing a NMW as a statutory minimum wage for all workers. Two things have happened since then. Firstly there has been new legislation to extend sectoral minimum wages to include workers such as security guards, carers and waste collectors. Secondly, there has been a series of 'needs-based' wage top-ups (since the Hartz reforms of 2005) to alleviate working poverty. This has delayed the need for legislating to introduce a NMW. There is a continuing debate as to whether there should be a NMW as well as these sectoral minima and changes in the social security provisions. As a consequence there has also been a continuing debate about whether the responsibility for low wages should be borne by forcing employers to pay higher wages at the low end—or whether the state should shoulder the responsibility through increased state basic security benefits. The debate seems to be on-going—and hence it is timely to consider some of the basic issues.

The position of Germany is not the standard one of a country facing a decision of whether a National Minimum Wage is, on balance a beneficial intervention in the labour market. There are two reasons that this is so. The first reason is since Germany presently has a system of minimum wages in 12 sectors and branches of industry then we are talking about imposing a lower bound on all manner of manual, unskilled or semi-skilled jobs which have, hitherto, not subject to a MW. This system of MWs in each sector and branch is

[2]This is valid in the case of the UK since the NMW is set nationally and one can measure the degree of the 'bite' of this national level at the local geography.

bargained over by employers and unions. So in reality not really the determination of a MW but rather a 'going rate' lower bound negotiated wage for that sector. This is quite different than the NMW that operates now in the UK[3], or the SMIC in France, or the Federal MW in the US. Here the concept is a lower bound on an acceptable wage for these, typically, unskilled jobs which constitutes a lower level on earnings which amount to a living wage.

The second reason is that, by default the present level of social benefit assistance in Germany, *de facto*, operates as a minimum wage which individuals are prepared to work for in the labour market. So, in some sense, this level of assistance acts as a minimum remuneration that an individual is prepared to work for—knowing that anything lower provides an income which can be strictly dominated by the level of social assistance.

Therefore to be meaningful a NMW in Germany would have to be some level of hourly earnings which is strictly above the (unemployment benefit) social assistance level—but presumably strictly below the level of minimum earnings in other recognised sectors. At present rates (at the time of writing) this would mean a (hourly) NMW of between 4.50 Euros.[4] and 7.00 Euros[5] The obvious problem is that this is a huge range and to make an informed decision about exactly what any new NMW would have to be set at would require a lot of detailed research on the present distribution of hourly wages and what the counterfactual impact might be of raising this with immediate effect. Based on the UK experience it might be better to set the new rate of the NMW slightly too low in the beginning—with the expectation that it might need to be raised quite quickly afterwards.

In some sense—the decision to be considered is at what point in the existing income distribution should the NMW be set. This 'bite' of the NMW is crucially strategic issue. In France there are about 17 % of people covered by the SMIC—in the UK this figure is more like 5 %. This is in some sense the way to gauge where, if Germany wants a NMW—such a hourly rate should be set. That is, what I am suggesting is that—to specifically decide what fraction of the wage distribution do they wish to affect by this measure. Then to mechanically retrieve, from the administrative labour force data, what the wage is at that percentile in the hourly earnings distribution. The issues of the measurement of the bite of the NMW and its importance are discussed at length in Dolton and Rosazza-Bondibene (2012) with a full presentation of the trends in different countries over time.

[3]This is more like the Minimum Wage system which operated in the UK prior to 1993 with the Wage Councils, see Bayliss (1962).

[4]This is the hourly equivalent UB II level for a solitary person with a 40 hour working week without additional earnings.

[5]This is the lowest current level of MW paid in Germany to the author's knowledge. Although at this low level of earnings, the recipient could also be entitled to additional unemployment benefit.

Evidence would suggest that the fraction of workers in Germany who are presently on low pay has grown considerably in the last 20 years (Bosch and Weinkopf 2006). The worst affected are: hotel workers, sales people, food processing and catering personnel. From this evidence it would appear that the lowest wages in Germany are in occupations which are not well organised or unionised—for example barbers and hairdressers—especially if they are employed in a spatially dispersed industry, like the retail sector. Clearly what is not a problem in Germany at the moment are public sector occupations which have negotiated good contracts, workers who work in manufacturing industry, or workers in large companies like BMW who have well organised routes for the eradication of low pay via union or multi union and employer negotiation. It is tempting to suggest that a NMW would look after those groups who are not organised sufficiently well to exert any power for themselves in the labour market.

At the practical level, the issue of whether there should be a NMW for the low paid requires a detailed knowledge about low pay in Germany and how much likely impact a NMW would have. Bosch et al. (2010) suggest that there is a lot of evidence of substantial amounts of low pay in Germany and therefore the likely impact of a NMW could be quite extensive on the distribution of income. Nevertheless, one should be careful about reaching premature conclusions with regard to how a NMW, could or should, work in Germany. What is clear, is that the institutional structure in any country, vis-à-vis how labour is organised in terms of trade unions, occupational structures, and trade organisations, how employers federations are organised and how the government operates in the labour market in terms of its ministries of labour and education, means that caution should be exercised in advocating radical reform without considering how the reform might be implemented and what its short, medium and long term consequences might be. Some countries favour a very centralised control of public sector and minimum wages—like France—others like the US favour a hands-off approach espousing the virtues of a flexible labour market and therefore allow different states to have different MWs. This, may of course, be one approach for Germany—to legislate a NMW on a Federal level—but then permit each regional government to have its own version of the MW which takes account of regional considerations in local labour markets. But this requires that the present institutional structure of unions and employers federations is sufficiently well organised at the local and regional level to administer such a system.

Another important dimension to the possible introduction of a NMW in Germany is the regional and local dimension of low pay. Clearly there is huge heterogeneity in the economic health of different parts of Germany today. Contrasting Bavaria, and Baden-Württemberg, with Westphalia,

Mecklenburg-Vorpommern makes this point very clearly. Quite logically, having a high NMW to be operational in the economically vibrant regions would be crippling for employers in the less economically advantaged regions—likewise having too low a NMW to cater for the latter states would render it meaningless for the first three states. Some political forces are in favour of having different MWs for different regions (and even different sectors in different regions). However this then means you don't effectively have a NMW—you simply have more sectoral MWs differentiated by geographical location. But this is, *de facto* what is happening. The obvious cost of this is the enormous complexity of the position and the difficulty in administering it. Clearly there are substantial virtues in simplicity and a real advantage in having a single national level which is regarded as such for the whole economy.

One thing we do know about the operation of a NMW is that it works most effectively to affect the labour market for those who work at the margin—namely in part time jobs, in occasional and in seasonal employment. This means that such legislation would be most likely to affect the labour markets for: less well qualified women, young mothers, immigrants, students and other young people. Hence special consideration needs to be given to these groups in framing the legislation. Specifically most countries have lower minimum wage levels for youth and apprenticeships. These features are specifically designed to help protect jobs for these workers. It seems likely that Germany would need to learn from the lessons of other countries when framing their legislation to have separate levels of the NMW for such vulnerable groups. Setting the differential, for example, between the youth rate (payable at age 16) and the adult rate is a delicate balance which needs to be finely judged. Countries vary in this ratio—from as little as 34.5 % (The Netherlands) to 100 % in Greece and Canada. Such a level is crucial for determining the incentives for young people to stay in full time education or leave and enter the labour market.

4 The practicalities of setting up a national minimum wage

Assuming that a country has decided to institute a NMW when it has not previously had one—how should it go about it? In this situation the country is faced with a number of logical questions and issues:

- How should it administer the NMW—who decides what level it should be set at, how often should it be revised, who should decide this?
- Should it be administered by a committee made up of unions and employers—or should it be set in an objective manner by outsiders appointed for the task? Or should it be left to the government to determine inside a government ministry with little or no accountability (as in France)?
- Should the MW be a uniform NMW or should it be set at different levels for different regions, different sectors/branches, and different age groups?
- How much should the uprating of the NMW be determined by the changes in the cost of living?
- Should there be any exceptions for the MW—should groups like the Police and Armed Forces be subject to these minima as well?
- If the National Minimum Wage were to be set by an independent body then what role control should the government have over agreeing the rate. In addition, what would be the legal, constitutional compliance position if the government did not agree to the rate set by the independent body?

Different countries have all chosen quite different institutional mechanisms for setting and uprating their own NMW[6]—but none of them have done so when they already have a detailed system of occupational/sectoral MWs operating in a complex way in the economy—like Germany. If Germany is to proceed to institute a NMW it needs to proceed with caution being fully aware of the potential consequences of doing so. This would require a substantial period of research before implementation, a detailed plan of the logistics of implementation (including compliance and control) and a realistic evaluation of the effects of its imposition and the possibility of a flexible readjustment (in the light of new post introduction labour market information.)

I believe the way the NMW is administered in the UK is a sensible one and one from which other countries may learn some valuable lessons.

5 The British system of setting and uprating the NMW

The UK had a system of MWs for most industries and trades from 1909 to 1993. The system was run by a set of Wage Councils which determined the MW in most of the low paid occupations and industries which were regarded as 'sweated labour industries'. The system consisted of a series of bargained wage agreements between union representatives and employers which determined the hourly pay rate for each occupation. At its height in 1947 this system had WCs in 61 industries—but slowly the number of WCs declined as many of the old manual and semi-skilled occupations they looked after became obsolete as many industrial processes

[6] For a good summary of the rules which operate in different countries see LPC (2009) Appendix 5.

died out. By 1969 there were 52 WCs.[7] In 1993 the WCs were finally abolished—with the sole exception of the Agricultural Wages Board (which is to be abolished in 2012).

From 1993–1999 the UK had no MW (with the exception of the Agricultural Minimum Wage). The introduction of a NMW was a key part of the Blair Labour government agenda which came to power in 1997. The NMW was duly enacted in 1999. This provided for the determination of a NMW with the recommendation of a Low Pay Commission charged with the task of annually reviewing conditions in the economy and making a recommendation as to what the annual change in the NMW should be. This it has done since then.

The British system for the determination of the MW is that a statutory body, the Low Pay Commission (LPC), takes evidence on an annual cycle, making recommendations to government on the appropriate uprating of the MW each year. The LPC is a form of social partnership made up from three members from three constituencies. It consists of: three employer representatives, three employee representatives and three independent members—one of which is the chairperson. These commissioners are part time employees, appointed on the basis of their diverse relevant experience. They are appointed in their personal capacity and not mandated from their constituencies. The most important characteristics of the LPC is its independence from the government of the day. The reputation of the LPC is based on its widespread consultation—both formal and informal—and its objective appraisal of the evidence. It is these features that ensure the widespread acceptance of its recommendations.[8]

Each year since the establishment of the NMW the recommendation of the LPC has been adopted by the government. Hence the NMW is up-rated via a consultative process based on the full evidence set before a committee. The evidence put before the LPC is summarised in an annual report and made available to the public. All the detailed background research which goes into the recommendations of the LPC are also made available on the web for any interested party to consult,[9] although the LPC deliberations over the change in the rate each year are kept secret. This is another positive advantage of how it operates.

All of the organisational features of the British system have advantages—namely its transparency, its accountability, its objectivity and its ability to make decisions based on the best available research evidence on an annual basis. It also a clear advantage that the system is not seen as being unduly influenced by trade unions or employers in a disproportionate way. Clearly such organisations should have the right to present evidence to such a body but the recommendation is solely the province of the LPC and not any specific pressure group. It is widely seen as a success because of the widespread acceptance of its conclusions which are not determined by any specific interest group.

One issue which the UK has yet to face—and maybe it never will—is what would happen if the LPC made a recommendation that the government rejected? We do not know the answer as there are no compliance rules, control or contingency procedures laid down by law to deal with this situation. The default position would be that the government's will must prevail—but it is unclear what the political consequences of this rejection would be. Hence the institutional arrangements in the UK are typically 'British'—but maybe it is this feature which makes it viable—because no party wishes to test it to destruction. This, in turn, means that the LPC must be duly rigorous and responsible in its recommendation, and that the government equally circumspect about any rejection of this objective recommendation. It is potentially the threats and consequences to both sides that ensure it will be a success.

The system also has some disadvantages: the inability to react quickly—as the annual cycle cannot be short-circuited; the lack of control that a government can impose on the process (although many would see this as an advantage); the cost of a standing body—the LPC and its requirement to engage in lengthy research on an annual basis. Although the British system sets the youth, apprenticeship and adult rate of the NMW—it does not have an opportunity to specify a higher MW in specific occupations or in particular regions of the country. Again this means the LPC has no flexibility to modify the MW to different local or regional labour markets conditions. This is a direct limitation of the way the British system works as there is a huge difference in the cost of living in London compared to many rural locations in the North of England—for example. Nevertheless, it is arguably the case that a different MW by geography would exacerbate regional disparities and cause wider inequalities.

6 Conclusion

The huge body of evidence we now have on the employment effects of the MW suggests that there is little conclusive evidence on systematic disemployment effects. What is even clearer, in the view of this author, is that there are little or no consequences of marginal up-ratings of the MW on an annual basis. However, there are grounds for believing that having a MW could lead to lower levels of employment than

[7] See Bayliss (1962) for a detailed description of WCs and Dickens et al. (1999) and Dickens and Dolton (2010) for the exploitation of this data.

[8] See Butcher (2012) for more details of the current working of the LPC.

[9] Further details and a perspective of the working of the LPC can be found in Metcalf (2002).

would otherwise be the case—especially for young people and part time workers who are at the margins of the labour market, typically on short term contracts that employers can terminate when labour becomes more expensive relative to capital. On the positive side, it would appear that the effect of having a MW on the income distribution is clear and positive—specifically that it gets rid of the extreme lower tail of the wage distribution and hence acts to illuminate the lowest levels of paid earnings.

A consideration of how it might be possible to introduce a NMW on top of the present system of occupational and sectoral minimum wages in Germany suggests that it would be a different proposition than invoking a NMW—as in the UK or a Federal MW as in the US. Hence the German government should carefully assess the pros and cons of different ways of introducing a MW before its possible introduction. Specifically it needs to address the issues of how: this would affect vulnerable groups and, how this would play out geographically across different regions. High quality econometric research is required to begin to try and answer these questions.

Notwithstanding the caveats described above—it is possible that Germany could learn a lot from how the NMW was introduced in the UK in 1999 and specifically how the LPC runs and manages to uprate the NMW each year.

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