Reconciling Facts with Fiction, or: A Theoretical Speculation of why the Minimum Wage has no Discernible Effect on Employment

Heise, Arne

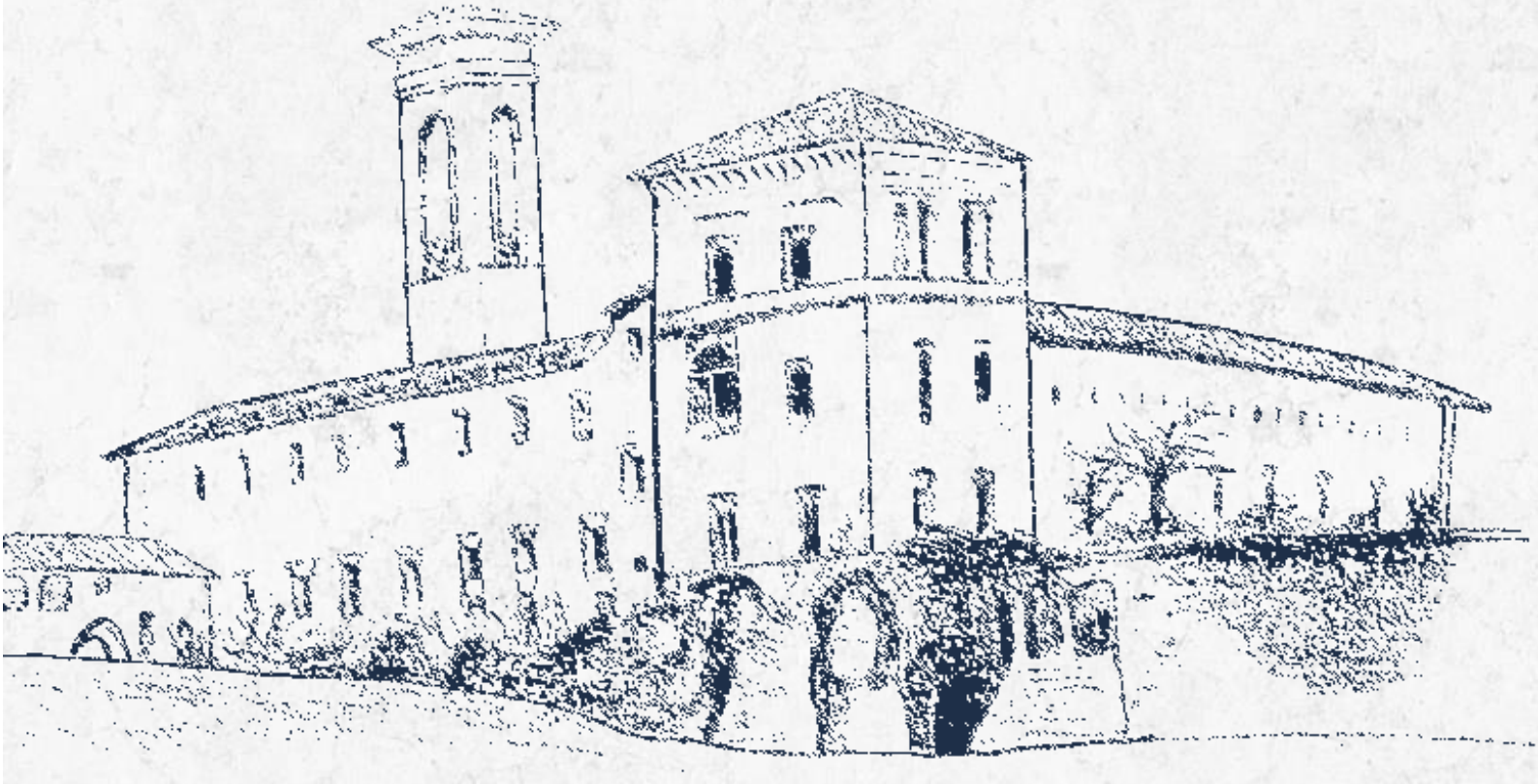
1 October 2018

OPEN ACCESS
ISSN 2280-4056

E-Journal of International and Comparative

LABOUR STUDIES

Volume 7, No. 3, September - October 2018



ADAPT
www.adapt.it
UNIVERSITY PRESS

E-Journal of International and Comparative **LABOUR STUDIES**

ADAPT *International School of Higher Education in Labour and Industrial Relations*

E-Journal of International and Comparative

LABOUR STUDIES

Volume 7, No. 3 September - October 2018

ADAPT
www.adapt.it
UNIVERSITY PRESS

Online Publication of the ADAPT Series
Registration No. 1609, 11 November 2001, Court of Modena
www.adaptbulletin.eu

Reconciling Facts with Fiction, or: A Theoretical Speculation of why the Minimum Wage has no Discernible Effect on Employment

Arne Heise [1]

Abstract

Purpose – There has long been a discussion about the employment impact of minimum wages and this discussion has recently been renewed with the introduction of an economy-wide, binding minimum wage in Germany in 2015. In traditional reasoning, based on the allocation-based approach of modern labour market economics, it has been suggested that the impact is clearly negative on the assumption of a competitive labour market and clearly positive on the assumption of a monopsony-based labour market.

Design/methodology/approach – A post-Keynesian employment market, based on a different pre-analytical vision of the economy than traditional mainstream economics, is presented here.

Findings – The most likely prediction of the employment effect of minimum wages based on the alternative model presented here - a negligible impact on overall employment - is very much in line with the empirical evidence established by a bulk of literature.

Research limitations/implications – The research proposes an analytical framework and invites future empirical investigation.

Originality/value – The paper contends that existing literature affords too much attention to a (false) theoretical approach based on the pre-analytic vision of market exchange as basic constituent of capitalist economies.

Paper type - Conceptual paper

Keywords: *Minimum Wage, post-Keynesianism, Labour Market Theory.*

[1] University of Hamburg, Dept. of Socio-economics. Email address: Arne.Heise@wiso.uni-hamburg.de.

1. Introduction

The discussion about minimum wages is an old one[2]. The introduction of a minimum wage in Germany in 2015 added yet another chapter to that discussion[3]. While most mainstream economists – represented by the majority position within the German Council of Economic Experts (*Sachverständigenrat*) – claim that there is a negative employment effect, particularly for lower-skilled and young, inexperienced workers (see SVR 2013: 284ff.), progressive or dissenting economists – represented by the minority position within the German Council of Economic Experts – argue that a minimum wage will actually increase the quantity of employment (see SVR 2013: 289f., Bofinger 2014: 164ff.).

Both positions are based on a partial analysis of the labour market using allocational reasoning. Assuming the ordinary labour market to be characterized by perfect competition – as the mainstream position does – a minimum wage will undoubtedly have significantly negative employment effects once the minimum wage is higher than the market-clearing wage rate associated with the respective skill level[4]. This is so, because any job that does not earn its labour cost, i.e. where the (minimum) wage rate is higher than the marginal productivity of that job, will eventually be priced out of the market. And a minimum wage that is set below the market-clearing wage rate would clearly be useless. This straightforward result, based on the pre-analytical vision of the labour market being the operator of intertemporal exchange between (real) income, leisure time and postponed consumption, can only be altered without challenging that pre-analytical vision by refuting the assumption of perfect competition. Assuming a monopsonistic labour market, i.e. a labour market with one (dominant) employer, a minimum wage rate set between the profit-maximizing wage rate of the monopsonistic firm and the maximum wage rate associated with the productivity of the same quantity of employment will increase the level of employment and reduce the mark-down on wages (see, e.g., Manning 2003; Ashenfelter/Farber/Ransom 2010).

Both models present clear cut and opposing predictions about the impact of minimum wage rates on employment and it should, therefore, be easy to evaluate these theories empirically: As there are many countries with long histories of minimum wage legislation (Neumark/Wascher 2008: 9ff., ILO

[2] For an overview, see Neumark/Salas/Wascher (2014).

[3] See e.g. Heitger 2003, Franz 2007, Bauer/Kluve/Schaffner/Schmidt 2009, Paloyo/Schaffner/Schmidt 2013.

[4] Most simulation studies for Germany predicted a loss of more than one million jobs (i.e. about 3% of total employment!) if the current minimum wage of 8,50€ was introduced (see, e.g., Schuster 2013: 33).

2014), we should be in a position to falsify either of the two models or, rather, the assumptions on which they rest. Alas, meta-studies on the minimum wage (see, e.g., Doucouliagos/Stanley 2009; Wolfson/Belman 2014) paint a perplexing picture: "Economists have conducted hundreds of studies of the employment impact of the minimum wage. Summarizing those studies is a daunting task, but two recent meta-studies analyzing the research conducted since the early 1990s concludes that the minimum wage has little or no discernible effect on the employment prospects of low-wage workers" (Schmitt 2013: 22).

There are two possible ways to tackle the question of why this is the case. (1) Remaining within the traditional pre-analytic vision (i.e. accepting the ontological dimensions of the mainstream paradigm), one has to find "channels of adjustment" that could stop managers from firing workers as would be expected by the ordinary competitive market model (see Hirsch/Kaufman/Zelenska 2011: 1; Schmitt 2013: 11ff.): increasing productivity via training or lower labour-turnover or reducing the effect of nominal minimum wages on real minimum wages by allowing the cost to be passed on in the form of price increases. Of course, one could also assume that real world labour markets may be partly competitive (in some regions) and partly monopsonistic (in other regions): Depending on the employment shares of both market structures, this would cancel out positive and negative employment effects. (2) If one turns to a different pre-analytical vision – which would mean a truly heterodox approach[5] – then a different prediction about the impact of minimum wages on employment becomes possible: one which is better in line with the empirical picture.

This is exactly what the present paper attempts to provide. Taking the empirical evidence as a strong disincentive to accepting the traditional reasoning, we will provide a model of a post-Keynesian 'employment market' that not only suggests a macroeconomic frame, but is based on a pre-analytic vision of the economy as a system of nominal obligations (part 2)[6]. This

[5] For a theoretical deduction of heterodox economics, see Heise/Thieme (2016: 1107ff.).

[6] To my knowledge, there are only three post-Keynesian studies on minimum wages, of which one is not in English (Seccareccia 1991) and the other two rather broad in nature (Herr/Kazandziska/Mahnkopf-Praprotnik 2009; Herr/Kazandziska 2011). It is important to note here that a monopsonistic labour market – which is sometimes rated as neo-Keynesian due to its imperfect competition assumption and even sometimes approximated with post-Keynesianism because the late post-Keynesian Joan Robinson allegedly introduced monopsonistic labour markets into the economic literature (see Robinson 1933) – is an entirely different conception from the post-Keynesian employment market outlined in this article. Of course, monopsonistic firms may be introduced into a post-Keynesian employment market – these ideas will be pursued further in part 4 – yet the ontological foundations of both conceptions still remain incompatible.

general model needs to be restructured in such a way as to portray the effect of minimum wages on employment. As the effect of minimum wages is to hamper wage dispersion, or even to shrink the lower bound thereof, in order to avoid 'unfair' wages (or, morally speaking, 'exploitation') for that part of the labour force that is no longer covered by collective agreements (see Bachmann et al. 2008: 28ff.), we can rely on a two-sector model created to discuss the employment effects of growing wage dispersion (part 3). Finally, we need to judge the likely effect of minimum wages on employment under alternative assumptions regarding the parameters involved (part 4). *The objective of the present paper is not to empirically test the proposed model but to provide a theoretical frame which conforms better to the overwhelming empirical evidence already available than the ordinary neoclassical models.*

2. A Post-Keynesian Model of the Employment Market

Post-Keynesianism is a portmanteau term for a variety of quite different heterodox approaches. By relying closely on the ideas presented in Chap. 2 of Keynes' *magnum opus*, fundamentalist or monetary Keynesianism appears to have elaborated the most highly-visible approach to providing an alternative to the ordinary labour market of the neoclassical mainstream (see e.g. Weintraub 1957, Davidson/Smolensky 1964, Davidson 1994, Kregel 1984/85)[7]. Monetary Keynesianism does not only forcefully reject Walras' law as (positive or negative) heuristic (see Heise 2017), it also provides a microeconomically-based, yet macroeconomically-embedded employment determination that turns the quantity-price nexus of mainstream labour markets upside down. It is not the real wage rate that causally governs labour supply and demand until equilibrium is reached at the full employment level; but rather the quantity of labour demanded and supplied (at the level where real wage and profit expectations are fulfilled and, therefore, a stable position beyond the market-clearing point is reached) is determined endogenously and simultaneously with

[7] Of course, ever since Franco Modigliani's extension of Hicks' ISLM interpretation of Keynes' *General Theory* (see Modigliani 1944), the labour market and employment determination have played a significant role in those economic approaches that are termed 'Keynesian'. However, to my knowledge, other than monetary Keynesianism, there is no other post-Keynesian approach that attempts explicitly to reject traditional labour market reasoning and to take seriously Keynes' claim that the real wage is no exogenous control or distributive device, but is endogenously determined *pari passu* with the quantity of employment. Therefore, Lavoie's approach (Lavoie 2014: 280ff.) is not followed here which – based on the conception of market rationing – rejects the idea of a 'well-behaved' uniquely negative employment-real wage relation with respect to effective as opposed to notional demand configurations. His intention is to introduce functional (not personal!) income distribution into employment determination but not to reject traditional real wage modelling altogether.

the real wage rate[8]. The employment market[9], as will be developed below, cannot, therefore, be considered by way of a partial analysis, independently of its macro-economic environment. We will, thus, have first to outline a post-Keynesian macro model, before we concentrate – *but always keeping the macro-economic links in mind* – on the employment market.

The stylised post-Keynesian model presented here is an elaboration of Setterfield (2006), Heise (2008) and Pusch/Heise (2010). It comprises 7 structural and definitional equations and euilibrium conditions depicting the post-Keynesian core of the model. We start with the demand equation:

$$D_t = \alpha(\bar{w}, \bar{I}, \bar{m}, \bar{G}, L_t), \qquad (1)$$

where D is the value of aggregate demand, which evolves as a function of (given) nominal wages $\bar{w}$, (given) nominal private investment outlays $\bar{I}$ [10], the (given) investment multiplier $\bar{m}$, (given) governmental spending $\bar{G}$, and labour employed L.

The supply relation is:

$$Z_t = \beta(\bar{w}, \bar{T}, L_t). \qquad (2)$$

Z is the value of aggregate supply. $\bar{T}$ denotes (given) technology. The next equation is an equilibrium condition:

$$D_t \equiv Z_t. \qquad (3)$$

The price level p depends on the nominal (given) wage rate $\bar{w}$, given technology and a given mark-up $\bar{\pi}$:

$$p_t = \gamma(\bar{w}, \bar{T}, \bar{\pi}). \qquad (4)$$

Real income Y

$$Y_t = \theta(\bar{K}, L_t, \bar{T}) \qquad (5)$$

---

[8] „…, and the volume of employment is uniquely related to a given level of real wages – not the other way round" (Keynes 1936: 30).

[9] Throughout this paper, I will call the virtual place of employment determination from a post-Keynesian perspective the 'employment market', in order to distinguish it from the ordinary 'labour market' of neoclassical provenance.

[10] This, of course, is a very delicate assumption for a post-Keynesian model. It is set forth here only for the sake of simplicity and to reduced the complexity of the model as proposed by one referee.

is dependent on production factors and technology. L is the level of employment determined by eq. (3), K is the (given) stock of real capital.
We need to realize that equilibrium employment L_t determined in the aggregate demand-aggregate supply section merely explains the aggregate employment demand by firms given their demand expectations are met. In order to understand whether such equilibrium employment demand matches the supply of labour provided by households, we either have to assume a given amount of labour brought forward at the ruling nominal wage rate (irrespective of what the real wage rate will turn out to be) or, as will be done here, we assume a behavioural function of labour supply L_S dependend on the given wage rate and an expected price level p_e:

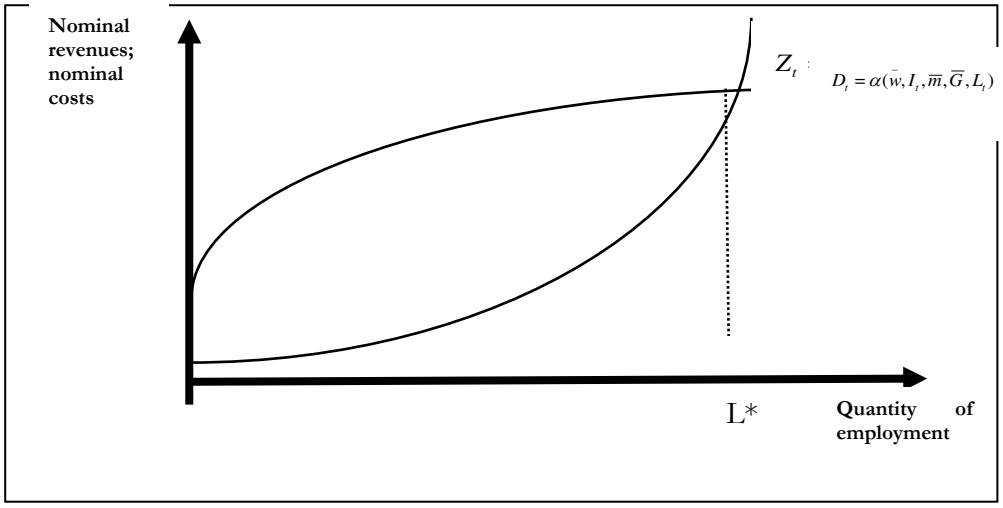
$$L_S = \lambda(p_e, \overline{w}) \qquad (6)$$

In order to satisfy the conditions of expectational equilibrium, we need to extend the model:

$$p_e = p_t \qquad (7)$$

The model comprises an aggregate demand-aggregate supply section (eq. 1–3) determining the equilibrium employment level, an ordinary production function (eq. 5), mark-up pricing (eq. 4), labour supply (eq. 6) and a stability condition (eq. 7). The model is distinctly post-Keynesian in nature inasmuch as: the employment level depends on the propensity to consume, the incentive to invest, the nature of long-term expectations, i.e. eployment and overall output is determined by effective demand conditions (see Keynes (1936: 250).
The post-Keynesian employment market is depicted by the aggregate demand – aggregate supply section (eq. 1 – 3) and has first been elaborated by the late Sidney Weintraub (1957). As shown in fig. 1, overall employment is determined by the intersection of the aggregate demand curve D and the aggregate supply curve Z. The D-curve is the aggregation of firms' expectations about nominal revenues taking the nominal wage rate as given. The Z-curve is the aggregation of firms' nominal costs associated with a certain level of employment, the given nominal wage rate, technology, and fixed capital stock. The resultant quantity of employment in the overall economy is thus the number of jobs made available by employers under profit maximization principles in a world of fundamental uncertainty.

Fig. 1: Employment determination in a Z-D-model



Whether L* equals the quantity of employment supplied by households at the ruling wage rate (eq. 6), surpasses it or falls short of it, cannot be predicted with accuracy – in economic history, we have experienced all three constellations[11]. What can be said with some certainty is that a mature economy with a large capital stock (i.e. low marginal efficiency of capital), high income and saturation level (i.e. low marginal propensity to consume), and high labour market participation rates for both men and women will be far less likely to secure full employment than an economy with lower capital stock (i.e. higher marginal efficiency of capital), lower income and saturation levels (i.e. higher marginal propensity to consume), and lower labour market participation rates. What can also be said is that any disequilibrium between supply and demand of employment cannot easily be cured by curtailing wage aspirations (see e.g. Davidson 1994: 179ff.), as the nominal wage rate (which is the appropriate controlable variable) enters equally into both aggregate demand and supply functions – graphically acting as a shift parameter that leaves the intersection of the curves unaltered with respect to the quantity of employment[12]. *Therefore, Keynes and post-Keynesians favour(ed) a wage regime that is*

[11] Post-war (West) German economic history, for instance, showed a period of ‚excess employment up until the early 1970s (when migrant labour was invited into Germany to close the gap), ‚full employment until the first oil crisis in the mid-1970s and unemployment ever since.

[12] This result rests on two assumptions: (1) a closed economy; and (2) endogenous money. Of course, the assumption of a closed economy is not very realistic. But the introduction of external economic relations does not necessarily produce a different result (this depends on the exchange rate system) or would imply a beggar-thy-neighbour strategy. The second assumption

able to introduce some downward rigidity as an institutional device for safeguarding the stability of the economic system[13].

It is necessary to point out at this stage that a labour market in which supply and demand for labour is equilibrated by real wage movements does not exist in any operative way (see e.g., Lucas 1981: 242; Darity/Horn 1988: 220; Heise 2017). Real wages can neither be determined exogenously by the parties to collective bargaining nor by individual actors, but will be determined in line with employment and the price-level once the nominal wage rate is set and the production technology is given. Taking the common features of a 'well-behaved' production function for granted (eq. 6)[14], higher employment is *ceteris paribus* associated with a lower real wage rate. But this correlation cannot be turned into a causality running from lower real wages to higher employment.

3. A Sectoral Refinement

In order to discuss the effect of minimum wages on employment, we need to portray a stylized two-sector model of the post-Keynesian employment market (see Heise 1998; Heise 1999): sector A comprises all firms that are affected by the minimum wage and sector B comprises all firms that pay wages above the minimum wage level (see fig. 2)[15].

L_A and L_B denote the quantities of employment in sector A and B respectively[16]; u depicts unemployment. What we are interested in is the impact of an increase in the nominal wage rate in sector A up to the level of a fixed

---

is, of course, a basic post-Keynesian assumption, which undermines the likelihood of positive real-balance effects in favour of negative real-balance effects in case of a severe deflationary process.

[13] "In the light of these considerations I am now of the opinion that the maintenance of a stable general level of money-wages is, on the balance of considerations, the most advisable policy for a closed system; …" (Keynes 1936: 270).

[14] This, of course, may be seen critically by Sraffians. However, it conforms to Keynes' acceptance of the ‚first fundamental postulate in the *General Theory* (Keynes 1936: 5ff.). Moreover, we interpreted Sraffa's critique not as a complete refutation of a "well-behaved" production function but as the theoretical proof that the particular properties of a well-behaved aggregate production function (i.e. the falling marginal productivities of the factors of production) may not hold in any case. However, the empirical relevance of this theoretical possibility is still open to discussion; see e.g. Hamermesh 1986, Felipe/McCombie 2005.

[15] Of course, sector A will comprise firms from many different industrial sectors and branches. In Germany, most firms with most of the employees that will be affected by the minimum wage legislation are from branches such as agriculture, forestry and fishing, retail, transportation, food and beverages, and hotels and restaurants (see Bellmann et al. 2015).

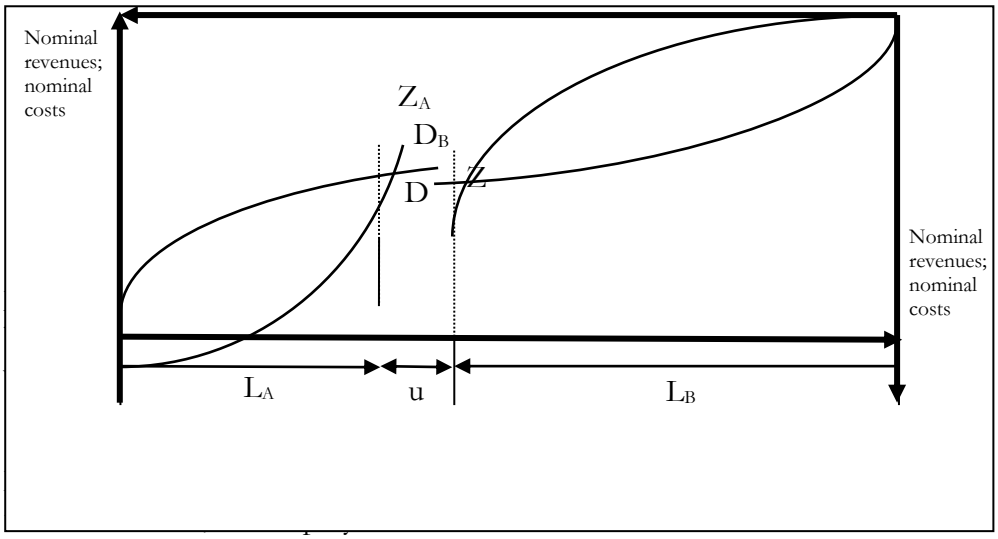
[16] In different studies (see Knabe/Schöb/Thum 2014; Brenke/Müller 2013; Falck et al 2013; Heumer/Lesch/Schröder 2013; Kalina/Weinkopf 2013), the percentage of employees affected by the minimum wage in Germany, i.e. L_A, ranges between 14% - 20% of total employment.

minimum wage rate, while the wage rate in sector B stays unchanged. As elaborated in Heise (1998: 254ff.), the sectoral employment effect of a change in the sectoral wage rate depends on the relative weight of the 'substitution effect' of relative price changes of commodities (i.e. the respective sectoral price elasticities of demand) and the 'income effect' of (wage) income changes (i.e. the respective income elasticities of demand). The overall employment effect can be summarized as follows[17]:

$$N^\circ = k\,(\eta_{A,A} + \eta_{B,A} - \varepsilon_A - 1)\,w_A^\circ + (1 - k)\,(\eta_{B,B} + \eta_{A,B} - \varepsilon_B - 1)\,w_B^\circ \quad (8)$$

(ε_i = absolute value of the own price-elasticity of demand for commodities of sector i; $\eta_{i,j}$ = income-elasticity of demand of wage earners of sector j for commodities of sector I;k = employment share of sector A; ° denotes the rate of growth [percentage change] of a variable)

Figure 2: A Post Keynesian 2-sector-model of the employment market



$$N_A^\circ = k\,(\eta_{A,A} - \varepsilon_A - 1)\,w_A^\circ + (1 - k)\,\eta_{A,B}\,w_B^\circ \quad (9)$$

[17] For a derivation see appendix A

[18] Herr/Kazandziska/Mahnkopf-Praprotnik (2009: 12) come to the following conclusion with respect to employment effects of minimum wages in a post-Keynesian approach: "…: minimum wages will change the structure of wages, the structure of prices, the structure of demand for final products and the structure of demand for inputs. How employment is affected is theoretically open and extremely difficult to predict empirically." If 'theoretically open' is to mean that there may be different post-Keynesian model specifications with potentially different results, the statement is correct but also somewhat trivial. And whether the effects are 'extremely difficult to predict' depends on the specific model specification – formal specifications as opposed to narrative approaches, at least, offer the chance to make prediction rather easy. Whether such predictions can easily be falsified empirically, is yet another question and depends on the testability of the theoretical predictors. But, maybe, that is what they meant by 'extremely difficult to predict empirically'.

$$\rightarrow \quad N_A^\circ \mid w_A^\circ = k\,(\eta_{A,A} - \varepsilon_A - 1)\ x \qquad (9a)$$

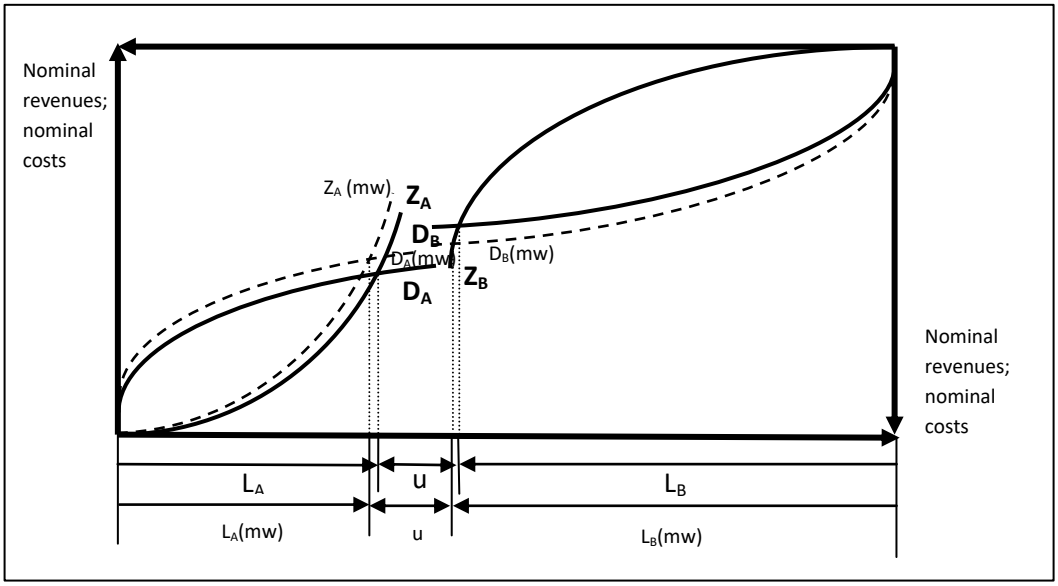
$$N_B^\circ = (1 - k)\,(\eta_{B,B} - \varepsilon_B - 1)\,w_B^\circ + k\,\eta_{B,A}\,w_A^\circ \qquad (10)$$

$$\rightarrow \quad N_B^\circ \mid w_A^\circ = k\,\eta_{B,A}\ x \qquad (10a)$$

$$N^\circ \mid w_A^\circ = k\,(\eta_{A,A} + \eta_{B,A} - \varepsilon_A - 1)\ x \qquad (11)$$

The 'substitution effect' is given by the magnitude of the price-elasticity of demand for those commodities produced by workers affected by the minimum wage legislation, ε_A; the 'income effect' is determined by the income elasticities of demand of those workers affected by the minimum wage for commodities from sector A, $\eta_{A,A}$, and for commodities from sector B, $\eta_{B,A}$ (see eq. 11). From eq. 9a and eq. 10a, the respective sectoral impacts of the introduction of a minimum wage in sector A can be specified. Obviously, they will be of different magnitude and they might also be of different sign: While sector B might gain from minimum wages in sector A (income effect), sector A itself will have to weigh the positive income effect against the negative substitution effect. Most likely, the employment impact in sector B will be positive, while it will be negative in sector A (see Fig. 3).

Figure 3: A Post Keynesian employment market with minimum wage



Note: mw denotes the respective function or variable after the introduction of a minimum wage

4. Discussion

From chapter 19 of the *General Theory*, we can infer that Keynes was rather skeptical about the positive effect of wage reductions on employment outcomes. Contrary to neoclassical labour market theory[19], Keynes argued that both moderate wage reductions and moderate wage increases, which result in neither massive deflationary nor massive inflationary pressure, will affect the price level, but not the total quantity of employment (see Keynes 1936: 267). It is only once wage changes trigger a contractionary monetary reaction or markedly increase the real burden of nominal obligations that negative employment effects are likely to occur.

4.1 Predicting the Likelihood of Employment Effects

Keynes, however, assumed a single nominal wage rate for all firms (by transforming different types of labour into 'ordinary labour') and thus concentrated on change in the general wage level, while ignoring the possible effects of a change in the wage structure. In order to shift our attention to precisely this object of inquiry, we had to refine the simple post-Keynesian employment market model by introducing two different sectors, A and B, in which the nominal wage rates w_A and w_B differ and may change in different ways. As we have seen, the sectoral, as well as total, employment effect of a change in the wage structure due to the introduction of a general, binding minimum wage depends on the respective magnitudes of the income- and price-elasticities of demand.

In order to predict the effect of a minimum wage in sector A, we would have to estimate the price-elasticity of demand for those commodities affected by the introduction of a minimum wage and the income-elasticities of demand of the wage-earners of sector A. This, alas, poses serious problems[20]. While the income-elasticities of wage-earners affected by a minimum wage can be reasonably assumed to be quite high (i.e. around the magnitude of 1), the price-elasticities of demand for those commodities affected by the minimum wage may vary considerably as they are very different (see footnote 14). Tab. 1

[19] Pigou's *Theory of Unemployment* (Pigou 1933) which Keynes explicitly criticized in his *General Theory*, can still be seen as the foundation of modern labour market theory.

[20] As mentioned earlier, the proposed two-sector model is highly stylized. It is extremely difficult to empirically test this model as no real-world economy is comprised of just two sectors showing the proclaimed features. Moreover, the particular price- and income-elasticities cannot easily be estimated. Therefore, siding with Keynes' (1939; 1940) rather sceptical approach to econometric methods, I refrain from own statistical interferences but rather rely on judging the likelihood of parameters.

summarises a number of parameter constellations that are possible, but not all equally likely.

Tab. 1: Employment impact of minimum wages under different parameter constellations

Price- and income elasticities of demand	Employment impact			Likelihood
	Total	Sector A	Sector B	
1) $\eta_{A,A} > 1; \eta_{B,A} > 1$				High
a. $\lvert\varepsilon_A\rvert > 1$	°	-	+	High
b. $\lvert\varepsilon_A\rvert > 1$	-	--	+	Medium
c. $\lvert\varepsilon_A\rvert < 1$	+	+°	+	Medium
2) $\eta_{A,A} < 1; \eta_{B,A} < 1$				Medium
a. $\lvert\varepsilon_A\rvert \approx 1$	-	-	+	Medium
b. $\lvert\varepsilon_A\rvert > 1$	--	--	+	Low
c. $\lvert\varepsilon_A\rvert < 1$	°-	-	+	Low

Note: ° no effect; - very small negative effect, - small negative effect, -- large negative effect, + very small positive effect, + small positive effect

As already noted, it appears rather likely that the income-elasticity of low income earners – i.e. those that are affected by the minimum wage – is close to unity[21]. This is due to the fact that the marginal propensity to consume of low income earners can be assumed to be high (i.e. close to 1) – as the income-elasticity is defined as the ratio of the marginal propensity to consume to the average propensity to consume, it must be close to unity in this case (see tab. 1). But even if the marginal propensity to consume is assumed to be markedly lower than 1, as my be the case if minimum wage earners are beneficiaries of supplemental transfer income (‘*Aufstocker*’) or secondary wage earners

[21] Dynan/Skinner/Zeldes (2004: 416) calculate savings ratios of the lowest income quintile between -22% and +9% depending on different income definitions. With such low savings (i.e. high consumption) ratios, the income elasticity must be close to unity.

('*Zuverdiener*')[22], this does not necessarily imply a much lower income-elasticity (as the average propensity to consume will also be lower than 1 in such a case and the ratio of both may well be not far less than unity). However, assuming for a moment a much smaller income-ealsticity (i.e. $\eta > 1$ in tab. 1) for such minimum wage earners, this would only lower the average income-elasticty of all minimum wage earners under the condition of the minimum wage earners with low income-elasticity being a big fraction of all[23] – it appears save not to rule out entirely the coincidence of both but to rate it at best of medium likelihood (i.e. 'medium' in tab. 1). The case of an income-elasticity of (much) higher than unity would imply a growing marginal propensity to consume with rising income – a case which consumer theory does not discuss as a rational behaviour. It is therefore excluded here.

With respect to price-elasticities, we should keep in mind that industries producing goods and services for basic needs are supposed to be faced with lower price-elasticities of demand than industries producing more advanced or luxurious goods. Also, minimum wage earners tend to be more employed in basic industries than more advanced industries (see e.g. BLS 2017: tab. 4 and 5 for the US). Therefore, although the price-elasticity of commodities of sector A can only be estimated from empirical research, we would attribute a higher likelihood to a lower than average price-elasticity of demand for goods from sector A: Meta-studies on price-elasticities (Tellis 1988, Maurer 1995) show an enormous variation ranging from -10 to +2. According to these studies, the average price-elasticity is about –1,8. Taking into consideration a reporting bias[24], the arguments above and the fact that these empirical elasticities are measured by way of partial analysis (i.e. assuming changes only in the relative price of the one commodity under investigation), whereas the introduction of a minimum wage will affect many commodities and thus the relative price impact on the single commodity will be lower, the assumption of (close to) unity price-elasticity appears justified, but a higher as well as a lower magnitude is not entirely unlikely.

---

[22] Müller/Steiner (2013) show that about one-third of wage-earners affected by the minimum wage in Germany live in households in the upper half of the income scale. Although it remains unclear what this means for consumption behaviour of the respective wage-earner, it may indicate the empirical importance of secondary wage earners at least in Germany.

[23] Knabe/Schöb/Thum (2014: 147ff.) estimate that about 10% of all employees affected by a minimum wage in Germany are recipients of supplemental transfer income ('*Aufstocker*').

[24] "The 'file drawer hypothesis' suggests there may be many studies that are unpublished because their results are not consistent with the normal expectation of a significantly negative price elasticity. The negatively skewed distribution of elasticities…seems to support this hypothesis" (Tellis 1988: 337).

To summarize, most likely are income- and price-elasticities of demand for goods and services from sector A close to unity (i.e. case 1a. in tab. 1 implying a high likelihood) – which translates into a negligible overall employment effect. However, a small positive or negative impact of a statutory minimum wage on the economy-wide employment level is possible, but not very likely (i.e. cases 1b., 1c. and 2a. in tab. 1 indicating a medium liklihood). Moreover, the most probable outcome combines an indiscernible overall employment effect with small sectoral employment shifts: *sector A is likely to experience a small negative employment change while sector B is likely to realize some small employment gains.*

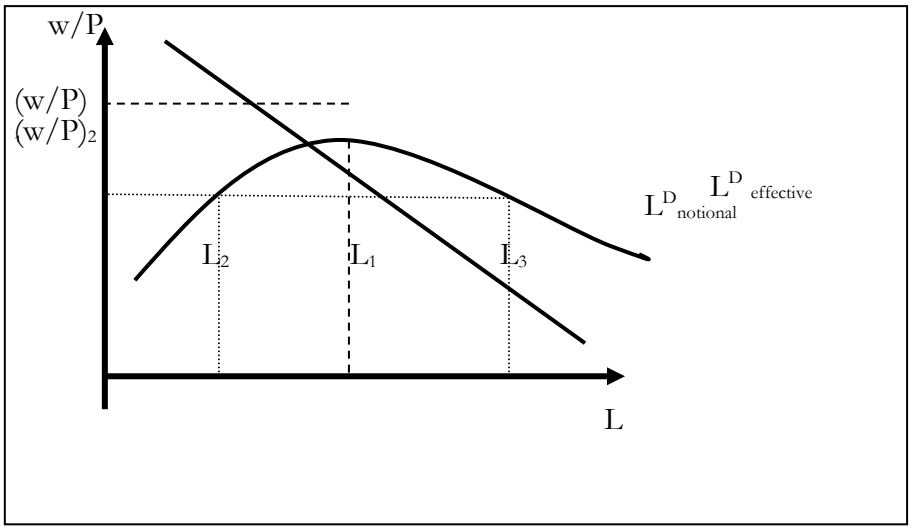
4.2 Monopsonistic firms

A final thought shall be given to the case of a monopsonistic labour market. Although I am skeptical about the empirical relevance of such a market structure[25], the monopsonistic labour market model has received considerable attention because it appeared to be the only theoretical foundation for those who attempted to reject the glooming negative employment outcome of minimum wages as exposed by the ordinary competitive labour market model. We have presented a different approach challenging this commonly negative employment effect – however, it may be of interest to see what difference the labour market structure makes within a post-Keynesian model. And it is here that the Lavoie-model becomes a potentially useful analytical tool: The 'Lavoie-model' (see Lavoie 2014: 280ff.) claims to be able to analyse the importance of functional income distribution for the determination of employment by introducing the distinction between notional and effective labour demand (see Fig. 4): The 'notional' demand for labour is basically portrayed by the ordinary negatively sloped labour demand curve assuming decreasing labour productivity but disregarding demand constraints from the commodity market. Such constraints are integrated into the construction of a hump-shaped 'effective' demand curve for labour assuming the demand for commodities

[25] There are only very few studies addressing the empirics of monopsonistic labour markets. Most of them concentrate on very narrow regional, industry-specific markets (e.g. Ransom/Sims 2010) and estimate the wage-elasticity of labour supply (e.g. Falch 2010, Staiger/Spetz/Phibbs 2010, Booth/Katic 2011). For Germany, Bachmann/Frings (2017) report, quite in line with most of these other studies, wage elasticities which appear to be low enough not to assume perfectly competitive labour markets. Moreover, they appear to be industry-specific with only a few low-wage industries (such as Hotels and Restaurants) showing wage-elasticities of a magnitude that might indicate market power for firms. In any case, a monopsony is characterized by restrictions on the demand- side of the market, not particular features on the supply-side. Therefore, it is debatable whether wage-elasticities are an appropriate measure for the monopsony-status of a certain market although this may be the standard procedure nowadays.

(and, therefore, the demand for labour under the condition of a given technique and capital stock) out of consumption spending by wage-earners and (given) autonomous spending by capitalists. Assuming that wage-earners spend all their wage income, effective labour demand is primarily dependent on the autonomous spending of capitalists who earn what they spent.

Figure 4: Notional and effective labour demand curves



The hump-shape of the effective labour demand curve indicates the respective change of the real wage in order to maintain commodity market clearing: The effective labour demand curve reaches a local maximum at the real wage rate $(w/P)_1$, intersecting the notional labour demand curve at the employment level of L_1. This is where the real wage rate just equals (marginal) labour productivity and portrays the situation of a competitive labour market. However, if the labour market is supposed to reflect a (regional) monopsony[26], the idea is that the monopsonistic firm may charge a mark-down on wages, pays only $(w/P)_2$

[26] One referee criticized my restriction of the monopsony model to the case of regional monopsonitic firms. Although it appears obvious that firms can create a monopsonitic position (i.e. being the only employer) in the labour market only – if at all – at the regional level, ‚modern monopsony theories' are said not to rest on the ‚single firm assumption' but the idea that firms have the structural power to set real wages below their competitive levels due to labour market imperfections on the supply side: the introduction of transaction cost (e.g. job search or mobility costs) allow for a restricted deviation of offered real wages from market-clearing real wages (i.e. ‚mark-down'). We will deal with this argument later – however, it should be clear that it is of entirely different nature than the monopsonistic labour market argument. What Erickson/Mitchell (2007) dubs 'a metaphor for the emerging post-union labour market', I would prefer to call a 'misnomer'.

and, thus changes functional income distribution in its own favour. *Ceteris paribus*, in order to maintain commodity market equilibrium, the monopsonistic company would either have to decrease employment to L_2 or increase it to L_3. This rather unfamiliar result originates from the fact that lower employment payed at the wage rate that equals its (marginal) labour productivity would create excess demand on the commodity market as long as autonomous capitalist spending is not reduced. And due to decreasing returns, the real wage-rate would also have to be reduced in the case when employment is increased to L_3 in order to guanrantee commodity market equilibrium.

Although employment would theoretically be indetermined in case of a change in functional income distribution, it appears more likely that L_2 will be chosen by the monopsonistic firm as the curtailment of employment demand will be the device to reduce the real wage rate to $(w/P)_2$ and the profit rate (not real profits which are constant along the effective demand curve) will be higher than in the case of L_3. What this means is that any change in functional income distribution due to monopsonistic market power on the labour market will reduce the employment level as compared to a competitive market strcuture and, hence, any increase in the real wage rate between $(w/P)_2$ and $(w/P)_1$ due to minimum wage legislation will increase employment rather than lower it. This result appears quite in line with the foregoing post-Keynesian analysis indicating that the income effect of a minimum wage overcompensates the substitution effect.

Of course, this result rests on a number of assumptions which have all been made explicite in the argumentation above, namely: a) (given) autonomous spending of the capitalists , b) the ability of the monopsonistic firm to impose a mark-down on the real wage rate and, thus, to influence functional income distribution. While the first assumption can be accepted as a partial analytical tool to isolate the labour market from its broader macroeconomic environment, yet for a determinantion of the employment level, spending of the capitalists must certainly be endogenized as it determines the exact location of the effective demand curve. The second assumption is more serious as it appears to contradict the post-Keynesian postulate of the endogeneity of real wages (see Herr/Kazandziska/Mahnkopf-Praprotnik 2009: 8). How are monopsonistic firms able to charge a mark-down on real wages if all they can control is the nominal wage rate? Of course, if the price level P is fixed, any reduction in the nominal wage rate w – forced by a reduction in labour demand as from L_1 to L_2 – would be enough to get the assumed result[27]. But why should the price level remain unaltered, if nominal spending and nominal

[27] And that is obviously what Lavoie (2014: 283) has in mind when he equates an increase in nominal wages w with an increase with real wages w/P.

wage costs fall? This could only be the case if incomplete competition – on the commodity market, not the labour market – would allow for a price-setting behaviour of the firms (see eq. 4)[28]. However, on the one hand that would be an additional assumption which is entirely unrelated to the assumption of a (regional) monopsony on the labour market and, even if assumed, would allow for the charging of a mark-up on prices irrespective of the market structure of the labour market the firm is acting in.

On the other hand, even if a regional monopsony in the labour market is assumed, any decrease in the nominal wage rate due to market power in the labour market would be passed on to prices as long as the competitive structure in the commodity market does not change – only this would make it possible to raise the mark-up and, in this way, increase the mark-down on wages[29]. *Therefore, the analysis based on the 'Lavoie-model' explains how functional income distribution – however derived - impacts on the demand for labour, yet it does not give support to the proposition that a (regional) monopsonistic labour market has any direct influence on the real wage rate and employment level* and therefore, no independent argument can be derived from this analysis that would predict an increase in employment as the result of an economy-wide, binding minimum wage.

5. Conclusion

As shown in Tab. 1, the impact of the introduction of an economy-wide, binding minimum wage on overall employment in a post-Keynesian perspective is most likely to be negligible or at least very small, provided no contractionary monetary reaction is triggered. The picture may, however, look different if single branches or the whole of sector A, comprising all industries that are affected by the minimum wage, are taken separately. This result is very much in line with the empirical findings of the above-mentioned meta-studies and appears to fit reality (with respect to deviant industry results; see e.g.

[28] Please remember that eq.4 indicates the possibility of a mark-up over marginal cost (i.e. $\pi > 1$) in case of restrictions on competition in goods markets. If perfect competition is assumed, π happens to be 1.

[29] One referee claimed not to be convinced by my reasoning. However, leaving the logical rigour of the argument aside, the difference in opinion lies in different assumptions: while the argument of real wage-setting (‚monopsonistic') firms rests on the assumption of a ‚barter economy', ‚real-exchange economy' or ‚neutral economy' as pre-analytic vision „in which the factors of production are rewarded by dividing up in agreed proportions the actual output of their co-operative efforts" (Keynes 1933: 77), my argument of endogenous real wages is based on the ontology of a ‚money wage economy' or ‚entrepreneur economy' „in which the entrepreneurs hire the factors for money but without such a mechanism as the above" (Keynes 1933: 78). These ontological differences make it clear why a monopsonistic labour market model is not to be mixed up with a post-Keynesian employment market model.

Machin/Manning/Rahman 2003, König/Möller 2007) much better than either the neoclassical mainstream labour market model of perfect competition or that of monopsony.
Moreover, the labour market structure has no impact of its own on functional income distribution and – other than its possible impact on the wage structure (i.e. personal income distribution) – on the employment level. Therefore, support for minimum wages in order to institutionally assist collective bargaining systems which can no longer protect low wage earners does not have to rest on theoretical foundations which are of dubious empirical significance.

Appendix A

Specifying eq. 1 and eq. 2 and assuming, for the sake of simplicity, that only wage earners consume and no governmental spending is considered, we get: $Z_i = (\pi_i/\omega_i)\ w_i\ N_i$, $D_i = c_{i,i}\ w_i\ N_i + c_{j,i}\ w_j\ N_j + I_i$ and $D_j = c_{j,j}\ w_j\ N_j + c_{i,j}\ w_i\ N_i + I_j$ with π_i = average labour productivity in sector i and ω_i = marginal labour productivity in sector i; w_i = nominal wage rate in sector i and N_i = empoyment in sector i; $c_{i,j}$ = marginal propensity to consume commodities from sector j of wage earners from sector i and I_i = (autonomous) investment spending on commodities of sector i, with i = sector A and j = sector B. Now, the percentage rate of change of employment with respect the rate of change of the nominal wage rate depends on the relative rate of change of the D- and Z-functions:
In order to determine the percentage rate of change of a variable, we split the demand curve D_i into parts D_i^i , D_i^j , D_i^I and transfer the demand and supply equations into their natural logarithmic version:

$$\ln D_i^i = \ln c_{i,i}\ w_i\ N_i$$

$$\ln D_i^j = \ln c_{j,i}\ w_j\ N_j$$

$$\ln D_i^I = \ln I_i$$

$$\ln D_j^j = \ln c_{j,j}\ w_j\ N_j$$

$$\ln D_j^i = \ln c_{i,j}\ w_i\ N_i$$

$$\ln D_j^I = \ln I_j$$

$$\ln Z_i = \ln(\pi_i/\omega_i)\ w_i\ N_i$$

Differatiating the log aggregate demand functions with respect to changes in the nominal wage w_i and implying $D_i = p_i Y^D_i$ (with Y^D_i being real output demanded of sector i), we get:

$$d(\ln Y^{D,i}_i)/d(\ln w_i) = d(\ln c_{i,i}) - d(\ln p_i)$$

$$d(\ln Y^{D,i}_j)/d(\ln w_i) = d(\ln c_{j,i})$$

As it can be shown that diffentiated natural logarithmic equations translate into elasticities (for $d(\ln y)/d(\ln x) = (dy/y)/(dx/x)$ = elasticity of x with respect to y; see Chiang 1984: 304f.)), we get:

$$Y^{D\circ} = Y^{D,i\circ}_i + Y^{D,i\circ}_j = (\eta_{i,i} + \eta_{j,i} - \varepsilon_i) w_i^\circ$$

Differentiating the log aggregate supply function with respect to changes in the nominal wage and executing the same operation as above, we get:

$$d(\ln Y^S_i) = d(\ln w_i)$$

or

$$Y^{S,\circ}_i = w_i^\circ$$

Assuming that any change in real output translates into a proportional change of employment (i.e. $Y_i^\circ = N_i^\circ$) the percentage rate of change of employment in sector i due to a percentage change in wages depends on the difference between the percentage rate of change of aggregate demand and aggregate supply:

$$N_i^\circ = (\eta_{i,i} + \eta_{j,i} - \varepsilon_i - 1)\, w_i^\circ$$

The overall employment effect, assuming k to be the share of employment in sector i (and, respectively, (1-k) as employment share of sector j), we get:

$$N^\circ = k\,(\eta_{i,i} + \eta_{j,i} - \varepsilon_i - 1)\, w_i^\circ + (1 - k)\,(\eta_{j,j} + \eta_{i,j} - \varepsilon_j - 1)\, w_j^\circ$$

Bibliography

Ashenfelter, O.C., Farber, H., Ransom, M.R. (2010); Labor Market Monopsony, in: *Journal of Labor Economics*, Vol. 28, No.2, pp. 203 – 210

Bachmann, R., Bauer, T. K., Kluve, J., Schaffner, S., Schmidt, C. M. (2008); Mindestlöhne in Deutschland: Beschäftigungswirkungen und fiskalische Effekte, *RWI Materialien*, No. 4

Bachmann, R.,Frings, H. (2017); Monopsonistic Competition, Low-Wage Labour Markets, and Minimum Wages – An Empirical Analysis; in: Applied Economics, Vol. 49, No.51, pp. 5268-5286

Bauer, T.K., Kluve, J., Schaffner, S., Schmidt, C.M. (2009); Fiscal Effects of Minimum Wages: An Analysis for Germany; in: *German Economic Review*, Vol. 10, No.2, pp. 224 - 242

Bellmann, L, Bossler, M., Gerner, H.-D., Hübler, O. (2015); Reichweite des Mindestlohnes in deutschen Betrieben; in: *IAB-Kurzbericht*, No.6

Bofinger, P. (2015); Grundzüge der Volkswirtschaftslehre, Hallbergmoos

Booth, A. L., Katic, P. (2011); Estimating the wage elasticity of labour supply to a firm: What evidence is there for monopsony; in: *Economic Record*, Vol. 87, No. 278, pp. 359–369

Brenke, K.; Müller, K. U. (2013): Gesetzlicher Mindestlohn: kein verteilungspolitisches Allheilmittel, in: *DIW Wochenbericht*, 80, 39, 3-17

Bureau of Labor Statistics (2017); Characteristics of minimum wage workers, 2016, BLS report 1067, Washington

Chiang, A.C.(1984); Fundamental Methods of Mathematical Economics, Singapore

Darity, W.A., Horn, B.L. (1988); Involuntary Unemployment Independent of the Labor Market; in: *Journal of Post Keynesian Economics*, Vol. 10, No.2, pp. 216 – 224

Davidson, P. (1994); Post Keynesian Macroeconomic Theory. A Foundation for Successful Economic Policies for the Twenty-first Century, Cheltenham

Davidson, P., Smolensky, E. (1964); Aggregate Supply and Demand Analysis, New York

Doucouliagos, H., Stanley, T. D. (2009); Publication Selection Bias in Minimum-Wage Research? A Meta-Regression Analysis; in: *British Journal of Industrial Relations*, Vol. 47, No. 2, pp. 406-428

Dynan, K.E., Skinner, J., Zeldes, S.P. (2004); Do the Rich Save More?; in: *Journal of Political Economy*, Vol. 112, No.2, pp. 397 - 444

Falch, T. (2010); The elasticity of labor supply at the establishment level; in: *Journal of Labor Economics*, Vol. 28, No. 2, pp. 237–266

Falck, O.; Knabe, A.; Mazat, A.; Wiederhold, S. (2013): Mindestlohn in Deutschland: Wie viele sind betroffen?, in: *Ifo-Schnelldienst* 66, 24, 68-73

Felipe, J., McCombie, J.S.L. (2005); How sound are the foundations of the aggregate production function?; in: Eastern Economic Journal, Vol. 31. No. 3, pp. 467 -
Franz, W. (2007); Der trügerische Charme des Mindestlohns; in: *Zeitschrift für Arbeitsmarktforschung*, H. 4, pp. 431 – 438
Erickson, C.L., Mitchell, D.J.B. (2007); Monopsony as a metaphor for the emerging post-union labour market; in: International Labour Review, Vol. 146, No. 3-4, S. 163 - 187
Hamermesch, D. (1986); The demand for labor in the lomng run; in: Ashenfelter, O., Layard, R. (eds.); Handbook of Labor Economics, Vol. I, Amsterdam
Heise, A. (1998); Ungleichheit und Beschäftigung aus makroökonomischer Perspektive; in: Heise, A. (ed.); Renaissance der Makroökonomik, Marburg, S. 241 – 266
Heise, A. (1999); Grenzen der Deregulierung. Instututionеller und struktureller Wandel in Großbritannien und Deutschland, Berlin
Heise, A. (2008); Economic Governance and Employment. Policy, Polity and Politics of Economic Rise and Decline, Berlin
Heise, A. (2017); 'Walras' Law in the Context of Pre-Analytic Visions: a Note.' *Economic Thought*, 6(1), pp. 83-96
Heise, A., Thieme, S. (2016) The Short Rise and Long Fall of Heterodox Economics in Germany After the 1970s: Explorations in a Scientific Field of Power and Struggle; in: *Journal of Economic Issues*, Vol. 50, No. 4, pp. 1105-1130
Heitger, B. (2003); Minimum Wages and Employment: The Case of German Unification; in: *International Economic Journal*, Vol. 17, No.1, pp. 1 – 15
Herr, H., Kazandziska, M. (2011); Principles of minimum wage policy : economics, institutions and recommendations; Global Labour University working papers ; No.11
Herr, H., Kazandziska, M., Mahnkopf-Praprotnik (2009); The theoretical debate about minimum wages; Global Labor University working papers No. 6
Heumer, M.; Lesch, H.; Schröder, C. (2013): Mindestlohn, Einkommensverteilung und Armutsrisiko; in: *IW-Trends*, Nr. 1
Hirsch, B. T., Kaufman, B., Zelenska, T. (2011); Minimum Wage Channels of Adjustment; IZA Discussion Paper No. 6132. Germany: Institute for the Study of Labor
International Labour Office (ILO) (2014); Minimum wage systems. General Survey of the reports on the Minimum Wage Fixing Convention, 1970 (No. 131), and the Minimum Wage Fixing Recommendation, 1970 (No. 135), Geneva
Kalina, T.; Weinkopf, C. (2013): Niedriglohnbeschäftigung 2011. IAQ Report, 2013-01

Keynes, J. M. (1933); The distinction between a co-operative economy and an entrepreneur economy; in: Moggridge, D. (ed.); The Collected Writings of John Maynard Keynes, Vol. XXIX: The General Theory and After – A supplement, London 1979, pp. 76 - 87

Keynes, J. M. (1936); The General Theory of Employment, Interest and Money, London

Keynes, J.M. (1939); Professor Tinbergen's Method, in: *The Economic Journal*, Vol. 49, No. 195, pp. 558-568

Keynes, J.M (1940); Comment, in: *The Economic Journal*, Vol. 50, No.197, pp. 154 - 156

Knabe, A.; Schöb, R.; Thum, M. (2014): Der flächendeckende Mindestlohn; in: *Perspektiven der Wirtschaftspolitik,* Vol. 15, No. 2, pp. 133-157.

König, M./Möller, J. (2007); Mindestlohneffekte des Entsendegesetzes? Eine Mikrodatenanalyse für die deutsche Bauwirtschaft, Institut für Arbeitsmarkt- und Berufsforschung (IAB), IAB Discussion Paper No. 30/2007, Nürnberg

Kregel, J. (1984/85); Sidney Weintraub's Macrofoundations of Microeconomics and the Theory of Distribution; in: *Journal of Post Keynesian Economics*, Vol. 7, No.4, pp. 540 - 558

Lucas, R.E. Jr. (1981); Studies in Business Cycle Theory, Oxford

Lavoie, M. (2014); Post-Keynesian Economics. New Foundations, Cheltenham

Machin, S., Manning, A., Rahman, L. (2003): Where the minimum wage bites hard: Introduction of minimum wages to a low wage sector; in: *Journal of the European Economic Association*, Vol. 1, No. 1, pp. 154–180

Manning, A. (2003); Monopsony in motion, Princeton

Maurer, N. (1995); Die Wirkung absatzpolitischer Instrumente: Metaanalyse empirischer Forschungsarbeiten, Wiesbaden

Modigliani, F. (1944); Liquidity Preference and the Theory of Interest and Money; in: *Econometrica*, Vol. 12, No.1, pp. 45 – 88

Müller, K.U., Steiner, V. (2013); Distributional Effects of a Minimum Wage in a Welfare State: The case of Germany, SOEP papers No. 617

Neumark, D., Salas, J.M.I., Wascher, W. (2014); Revisiting the Minimum Wage-Employment Debate: Throwing out the Baby with the Bathwater?; in: *ILR Review*, Vol. 67, Issue 3, pp. 608 - 648

Neumark, D., Wascher, W. L. (2008). Minimum Wages. Cambridge, Massachusetts: The MIT Press

Paloyo, A.R., Schaffner, S., Schmidt, C.M. (2013); Special Issue of the Effect of Minimum Wages in Germany: Editorial; in: *German Economic Review*, Vol. 14, No.3, pp. 255 - 257

Pigou, A.C. (1933); The Theory of Unemployment, London

Pusch, T., Heise, A. (2010); Central banks, trade unions, and reputation - is there room for an expansionist maneuver in the European Union?, in: *Journal of Post Keynesian Economics*, Vol. 33, No. 1, pp. 105-126

Ransom, M., Sims, D. (2010); Estimating the firm's labor supply curve in a new monopsony framework: Schoolteachers in Missouri; in: *Journal of Labor Economics*, Vol. 28, No. 2, pp. 331–355

Robinson, J. (1933); The economics of imperfect competition, London

Sachverständigenrat (SVR); (2013); Jahresgutachten 2013/14: Gegen eine rückwärtsgewandte Wirtschaftspolitik, Wiesbaden

Seccareccia, M. (1991); Salaire minimum, emploi et productivité dans une perspective post-keynésienne; in: *L'Actualité économique,* 672 (1991): 166–191

Setterfield, M. (2006); Effective demand and endogeneous money in a pathdependent economy: towards a "Moorian" credit supply curve – and a reconciliation between horizontalists and structuralists?, in: Setterfield, M.; Complexity, Endogenous Money And Macroeconomic Theory : essays in honour of Basil J. Moore, Cheltenham (: Edward Elgar), pp. 119 - 139

Schmitt, J. (2013); Why Does the Minimum Wage Have No Discernible Effect on Employment?; Center for Economic and Policy Research, New York

Schuster, T. (2013); Mindestlohn. Beschäftigungsrisiken höher als behauptet; in: IW policy paper 19, Institut der deutschen Wirtschaft, Cologne

Staiger, D. O., Spetz, J., Phibbs, C.S. (2010); Is there monopsony in the labor market? Evidence from a natural experiment; in: *Journal of Labor Economics*, Vol. 28, No. 2, pp. 211–236

Weintraub, S.(1957); The Micro-Foundations of Aggregate Demand and Supply; in: *Economic Journal*, Vol. 67, No. 267, pp. 455 - 477

Wolfson, P., Belman, D. (2014); What Does the Minimum Wage Do? Kalamazoo, MI: Upjohn Institute for Employment Research.

Adapt International Network

ADAPT is a non-profit organisation founded in 2000 by Prof. Marco Biagi with the aim of promoting studies and research in the field of labour law and industrial relations from an international and comparative perspective. Our purpose is to encourage and implement a new approach to academic research, by establishing ongoing relationships with other universities and advanced studies institutes, and promoting academic and scientific exchange programmes with enterprises, institutions, foundations and associations. In collaboration with the Centre for International and Comparative Studies on Law, Economics, Environment and Work, (DEAL) the Marco Biagi Department of Economics, University of Modena and Reggio Emilia, ADAPT set up the International School of Higher Education in Labour and Industrial Relations, a centre of excellence which is accredited at an international level for research, study and postgraduate programmes in the area of industrial and labour relations. Further information at *www.adapt.it*.

For more information about the E-journal and to submit a paper, please send a mail to *LS@adapt.it*.

DEAL Centre for International and Comparative Studies Law Economics Environment Work
THE MARCO BIAGI DEPARTMENT OF ECONOMICS
UNIVERSITY OF MODENA AND REGGIO EMILIA

ADAPT International.it
Building the Future of Work