MINIMUM WAGES IN AUSTRIA: Estimation of Employment Functions[*]

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Abstract

Minimum wages in Austria are bargaining results between labour unions and entrepreneurs. This paper analyses the empirical effects of minimum wages ("Kollektivvertragslöhne") on employment. "Employment functions", based on a "neo-classical" partial analytic framework, are estimated. The empirical analysis that is done for aggregated Austrian industry and specific branches at first sight seems to support the standard theoretical thesis. In addition, problems caused by the used method, which may occur in similar studies too, are shown. They give rise to the possibility that models of this kind are misspecified.

1. Introduction

Problem

The central political argument for implementing minimum wages is the change of the income distribution. The poorest of the working people should be supported and therefore the wage differentials should decrease.

The analysis concerning minimum wages may roughly be characterised as follows: *First*, most of the work is done for legal minimum wages. In this paper I interpret the bargaining result of unions and entrepreneurs as minimum wage too.[1] *Second*, most of the studies focus on the direct effects of minimum wages on employment.[2] Effects on other economic indicators like output or productivity are analysed very seldom.[3] *Third*, most of the studies use comparative statics in a standard "neo-classical" partial-analytic framework, which is based on complete competitive labour markets.[4] Implementing minimum wages therefore means creating a factor market distortion that in this class of models has to cause negative effects on employment.[5] Hence the according theoretical thesis is: Minimum wages decrease employment and, quite worse, specially those people who initially should be supported will loose their jobs.[6]

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[1] Most of the empirical literature about wage setting in a bargaining framework deals with effects of average wages. One of the few studies which analyses "bargained" minimum wages for instance is: BAZEN, MARTIN 1991.

[2] For the analysis of the effect on employment see for instance: EHRENBERG, MARCUS 1980 or BROWN 1988.

[3] Of course, this does not mean, that there were not a lot of different other questions discussed too. But this was not done so often. The effects on efficiency for example are discussed in: BROSNAN, WILKINSON 1988 or GUESNERIE, ROBERTS 1987. The effects on economic growth are for instance analysed in: MYAGIWA 1989. The effects on income distribution are discussed for example in: MEYER, WISE 1983 or GRAMLICH 1976.

[4] For instance see RAGAN 1981.

[5] Using a partial-analytic framework, the negative effect on employment even must not exist in the situation of a monopsony. In such a situation implementing minimum wages may increase the employment. This case is very seldom discussed. See: BROWN, GILROY, COHEN 1982. Positive effects were found by REBITZER, TAYLOR 1991 too who discussed the implementation of minimum wages in an efficiency wage model.

In general equilibrium theory the argument of negative effects of minimum wages does not hold in every situation. Imagine you set the wage as numeraire.

[6] A good survey about different partial-analytic approaches to analyse the effect of implementing a minimum wage may be seen in: BROWN, GILROY, COHEN 1982.

Therefore there exists a big difference between the idea of smaller wage differentials and the theoretical results of the standard economic theory. The *fourth* point is about the empirical methods. Most of the studies use direct ordinary least squares (OLS) estimations.[7] Methods of time series analysis are applied very seldom.[8]

In opposition to the theoretical thesis mentioned above (minimum wages should decrease employment) there exist different arguments of the Austrian labour union which force the implementation of minimum wages.[9] One of these arguments states that minimum wages should give rise to a positive long term effect on productivity. If in fact this effect exists, I think it gives rise to the possibility that in the long run it can lead to output and even to employment increase.

In Austria there exist minimum wages for most of the economic sectors, especially for manufacturing, which are the result of a bargaining process between the labour unions and entrepreneurs associations. In spite of the importance of minimum wages in Austria, no empirical studies about their employment effects in the industry are done yet.[10]

Before discussing the argument of the labour union, the proof of the traditional neoclassical argument seems to be interesting.[11] Hence in this paper I ask for the following question: Which direct effects do minimum wages cause on Austrian industry's employment in a "neo-classical" framework? Therefore, following the traditional partial-analytic argument at first sight I would expect negative effects. Additionally I show problems concerning the estimation of this thesis.

I carry out an analysis which is very similar to that of many studies done for the same subject for a lot of other countries and which, to some extend, is comparable with them. Hence I try to develop "employment functions" where, besides other variables, employment is a function of minimum wage. The estimated OLS equations are on the

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7 A survey about empirical solutions may be seen for instance in: ECCLES, FREEMAN 1982 or BROWN, GILROY, COHEN 1982.

8 Time series methods for analysing the effects of minimum wages are used in: RAGACS 1993.

9 AUSTRIAN LABOUR UNION 1990, p. 16.

10 For the effects of the aggregated average wages in the Austrian case see: THURY 1990.

11 The discussion of the argument of the labour union is done in: RAGACS 1993. There I ask for the effects of minimum wages on employment, productivity and output in Austria.

one hand based on the idea of profit maximisation in a partial-analytic framework under perfect competition, and on the other hand on the idea of only partial adjustment towards the optimal amount of labour.

Structure of the paper

In section two I shortly describe facts of the Austrian minimum wages and the way they are implemented. In section three I execute a "traditional" regression analysis to measure the effects of minimum wages on employment growth of the industry as a whole and of special branches. First I describe the underlying bargaining model. Second I derive the estimated equations and after this I present the used data set, the estimation results and discuss some restrictions of this results. Part four sums up the central results.

2. Minimum wages in Austria

As mentioned above, minimum wages in Austria are the result of bargains between labour unions and entrepreneurs associations. Wage bargaining is dominated by a very strong central organisation of the union. Even though the bargains are done by decentral labour unions for the different branches, the central union organisation has to allow this bargains and there exists a strong relation between the central and the decentral organisations. Hence in the following for simplicity I speak about "the" labour union.

The bargains are done in an informal framework without really legal foundation. Not only the labour union and the entrepreneurs are involved, but other important groups and (without vote) the government too. After the informal act to achieve a bargaining result, the state gives a legal approval by the court. Therefore the result of this contracts are supported by law.

The bargaining takes place mostly every year or less and concerns a bundle of different contracts. Topics are working time, different working conditions and last but not least wages. In Austria such contracts exist for most parts of the private industry. The contracts are bargained for all workers and not only for the members of the unions.

A central official aim of the labour union was full employment, accordingly the macroeconomic situation very often had important influence on the results of the bargains. Hence in "bad times" the call for higher wages was less than in "good times".

Central bargainings do exist about different forms of wages. Most important are the tariff wages ("Kollektivvertragslohn"). They are different for all job categories and branches. The tariff wages describe the basic wage floor and hence, from an economic point of view, they are identical to legal minimum wages. Therefore on them I only focus my analysis. A second aim for the bargains is to set a minimum growth rate to all existing wages that are higher than the minimum wages ("Istlohn").

In addition to the two central wage bargains often there exist decentral wage bargains at the firm's level which lead to overpayment either of the minimum wage or of the "Istlohn". Hence the actual growth rates of many wages are much higher than the results of the central bargaining would imply.

Remarkable wage drifts between actually existing wages and tariff wages in one branch are to be found. Additionally even there exists a very central organisation of the Austrian labour union we find high inter-sectoral wage differentials.[12] Even the minimum wages of the branches are different.

Following figure shows the average wage floors (average minimum wages), the over all average wage and the wage differentials between over all average wages and average minimum wages for the aggregated Austrian industry:

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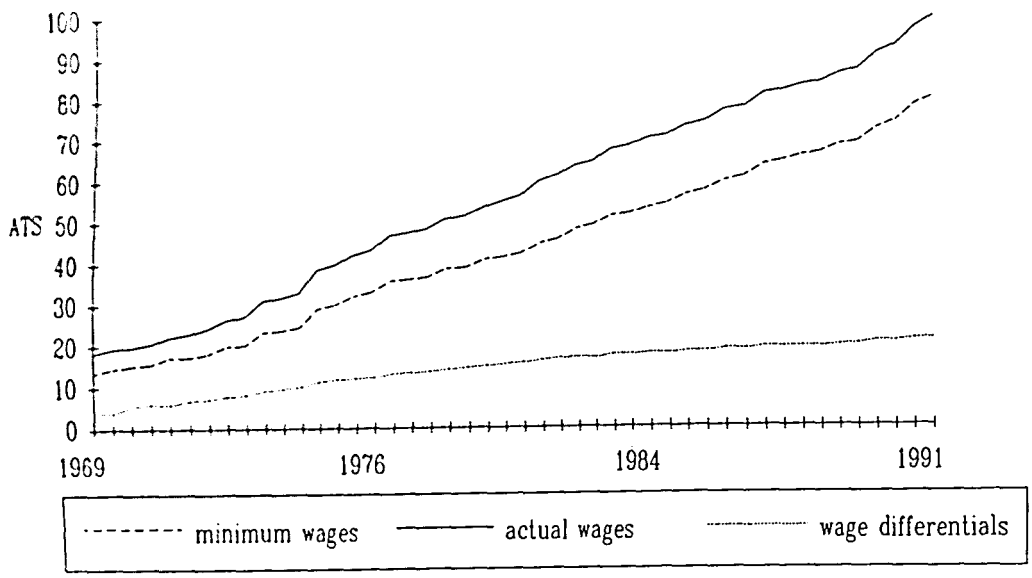
12 For instance see: HOFER 1992.

Figure 1: Development of hourly minimum wages, hourly average wages and their wage differentials for the Austrian industry, 1969-1991.



Source: BUNDESKAMMER DER GEWERBLICHEN WIRTSCHAFT, own calculations.

All wages are plotted in nominal Austrian Schillings (ATS). The nominal minimum wage rose from 13.39 ATS in 1969 to 79.11 ATS in 1991. The average wages changed in the same period from 18.20 to 98.08 ATS. The wage differential between minimum wages and average wages enlarged in the period from 28 percent in 1961 to 40 percent in 1972. The following ten years it was bigger than 35 percent. After this time it was reduced to a value close to that of 1961, namely 27 percent in 1991.[13]

3. Estimation of employment functions

3.1. Bargaining model

The first problem in discussing the effects of minimum wages is the description of the bargaining situation. I assume: U^F is the utility of the firm, π describes profits, w the wage and N the employment. All firms have a utility function (from profit) in the

[13] Own calculations.

following form: $U^F = U^F(\pi(w,N))$. The concave utility function of the union (U^G) is: $U^G = U^G(w,N)$. In the following I assume that the solutions of the bargaining may be described by a (not necessarily) asymetric Nash solution. Threat point of the firm is a profit of zero (π_0). Threat point of the union is the reservation wage B. Φ with $0 \leq \Phi \leq 1$ describes the bargaining power.

In the literature we find three classes of models to describe the bargaining situation.[14] In "*right to manage*" models union and entrepreneur bargain about the wage and after it is fixed, firms unilaterally determine the employment.[15] N^* describes the optimal employment given a bargained wage. When the following function is maximised, bargaining results are points on the traditional labour demand curve and wages are higher than in the complete competitive case if the bargaining power of the union is bigger than zero:

$$\max_{w} \; [(U^F(\pi(w,N^*(w))) - U^F(\pi_0)]^{\Phi} \cdot [(U^G(w,N^*(w)) - U^G(B)]^{(1-\Phi)}$$

Monopoly models may be described as a special form of the "right to manage" models, where the bargaining power Φ of the entrepreneur is zero.[16]

In models of "*efficient bargainings*" union and entrepreneur bargain about both, wage and employment.[17] In the basic model solutions do not lie on the traditional labour demand curve. The following function is maximised:

$$\max_{w,N} \; [U^F(\pi(w,N)) - U^F(\pi_0)]^{\Phi} \cdot [(U^G(w,N) - U^G(B)]^{(1-\Phi)}$$

All models mentioned above try to describe the bargaining situation in a world of homogenous labour with only one wage rate. For empirical purpose this wage rate

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[14] The three models should not be treated as being too different. MANNING 1987 showed, that all three of them may be seen as the special case of a two stage bargaining situation.

[15] See: NICKEL, ANDREWS 1983.

[16] See: OSWALD 1985.

[17] See: McDONALD, SOLOW 1981.

could easily be interpreted as average wage. The problem in using one of this models for our question is evident: Analysing the effects of minimum wage we have to deal with different forms of wages which all are bargaining results.

For our purpose it is possible to interpret the bargaining result described above only as minimum wage and in this paper I will do so: I assume that the reservation wage (B) is unemployment benefit and the bargaining result w is the minimum wage.[18] All other bargains except those about minimum wages are ignored.

Looking at the three opportunities above, the specific bargaining situation in Austria may be described best by a "right to manage model". The reason is that in Austria official central bargainings are done only about wages and not about employment. Of course, this does not mean, that the union does not care about employment implicitly: Remember the utility function of the union, where labour is implemented.

According to this model, there exists a wage above the competitive one, a labour demand according the traditional labour demand function and hence less employment than in the full competitive case if the bargaining power of the union is bigger than zero. This is a situation very similar to that of implementing legal minimum wages. Based on this model, bargained minimum wages should achieve the same negative effect on employment like legal minimum wages.

The crucial point of our empirical analysis done further is the labour demand function. I assume: There are many identical entrepreneurs who's production is based on technology of constant returns to scale. The production functions allow the possibility for different elasticities of substitution between the factors labour and capital. This functions are assumed to be of the CES type:

$$1)\quad Y_t = G_t \left[\alpha N_t^{-\mu} + (1-\alpha) K_t^{-\mu} \right]^{-1/\mu}$$

Y_t describes the output, N_t labour, K_t is the capital stock, fixed in the shortrun, and α is a weight between the production factors. G_t is a parameter which over time shifts

[18] The specific empirical facts in Austria help for doing so: Regression of minimum wage on average wage shows that the coefficient is not significant different from one.

the whole production function for instance according to technological change. μ is a substitution parameter which allows for different special forms of the production function, like that of a Cobb-Douglas, linear or Leontiev type. $1/(1+\mu) = \sigma$, where σ is the elasticity of substitution.

Firms maximise profits (π). They first bargain about the wage (w). For the labour demand decision they take this result as given. Good prices (P) are exogenous, v_t describes the capital costs. Then the profit function is:

$$2)\ \pi_t = P_t\, G_t \left[\alpha N_t^{-\mu} + (1-\alpha) K_t^{-\mu} \right]^{-1/\mu} - w_t N_t - v_t K_t$$

The first order condition has the following form:

$$3)\ \frac{\delta \pi_t}{\delta N} = P_t\, G_t \left[\alpha N_t^{-\mu} + (1-\alpha) K_t^{-\mu} \right]^{-(1/\mu)-1} \alpha N_t^{-\mu-1} - w_t$$

Rearranging of 3), substitution of Y_t (equation one) into the FOC and changing $1/(1+\mu)$ by σ helps to describe the optimal demand for labour (N_t^*):

$$4)\ N_t^* = G_t^{-\mu\sigma}\, \alpha^{\sigma}\, Y_t \left[\frac{w_t}{P_t} \right]^{-\sigma}$$

3.2. Estimated equations

To achieve the estimation equation in a first step I interpret equation 1) as aggregated function. Hence the individual labour demand function 4) may be interpreted as aggregated function too.

In a second step I newly define the factor "labour". To take into consideration the development of working time, labour N now is assumed to be the product of the number of working people and the average working hours of these people. I assume that the average working time of a worker is exogenous for all firms and divide the

labour demand function 4) by the number of hours. Following this argument leads to equation 4'). N_t^* now is the optimal number of working people and h_t the average working time:

$$4') \quad N_t^* = G_t^{-\mu\sigma}\,\alpha^{\sigma}\,\frac{Y_t}{h_t}\left[\frac{w_t}{P_t}\right]^{-\sigma}$$

Third, additionally to the assumption of profit maximisation I assume that there exists a gap between the optimal and the actual amount of labour. Reasons may be different shocks or adjustment problems. Firms try to adjust the amount of labour over time partially. Remember, N^* now is the optimal "number of working people" and N the actual one. Let τ be the strength of the partial adjustment, then this adjustment may be described in the following form:

$$5) \quad \frac{N_t}{N_{t-1}} = \left[\frac{N_t^*}{N_{t-1}}\right]^{\tau} \qquad \text{for } 0 < \tau < 1$$

Substitution of 4') into 5) leads to:

$$6) \quad \frac{N_t}{N_{t-1}} = \left[\frac{G_t^{-\mu\sigma}\,\alpha^{\sigma}\,Y_t/h_t\,(w_t/p_t)^{-\sigma}}{N_{t-1}}\right]^{\tau}$$

Taking logarithms yields equation 7):

$$7) \quad \ln N_t - \ln N_{t-1} = \tau \ln\alpha^{\sigma} - \tau\mu\sigma \ln G_t + \tau \ln\left[\frac{Y_t/h_t}{N_{t-1}}\right] - \tau\sigma \ln\left[\frac{w_t}{p_t}\right],$$

or, by reducing to higher terms equation 7':

$$7') \quad \blacktriangle lnN_t = \tau ln\alpha^{\sigma} - \tau\mu\sigma lnG_t + \tau ln\left[\frac{Y_t/h_t}{Y_{t-1}/h_{t-1}}\,\frac{Y_{t-1}/h_{t-1}}{N_{t-1}}\right] - \tau\sigma ln\left[\frac{w_t}{P_t}\right]$$

Rearranging 7' leads to an equation which may be interpreted better for economic purposes:

$$8) \blacktriangle lnN_t = \tau ln\alpha^{\sigma} - \tau\mu\sigma G_t + \tau\blacktriangle ln(Y_t/h_t) + \tau ln\left[\frac{Y_{t-1}}{N_{t-1}h_{t-1}}\right] - \tau\sigma ln\left[\frac{w_t}{P_t}\right]$$

Denoting the OLS-coefficients by β_i and $\tau ln\alpha^{\sigma}$ by "con", the following function can be estimated:

$$9) \blacktriangle lnN_t = con + \beta_1 G_t + \beta_2 \blacktriangle ln(Y_t/h_t) + \beta_3 ln\left[\frac{Y_{t-1}}{N_{t-1}h_{t-1}}\right] + \beta_4 ln\left[\frac{w_t}{P_t}\right] + \varepsilon_t$$

Hence the growth rate of employment is a function of a constant, a growth parameter, the growth rate of hourly output, of lagged logarithmic hourly labour productivity and of logarithmic real wage.

For estimation I use a time trend for the growth parameter G, the real output instead of the nominal one and the minimum wage for w. The mathematical rearranging of equation 7 to equation 8 implies that in the empirical estimation of equation 9) β_2 is identical to β_3. Hence I made the OLS estimation under this restriction. It is possible to interpret this two coefficients directly. They describe the parameter for partial adjustment τ.

3.2. Data set and regression results

I estimated equation 9) for data of the aggregated Austrian industry as well as for selected specific branches. The distinction between the branches is due to that of the Austrian "Fachverbände". The aggregated values of the specific branches are not identical with the values for the aggregated industry. The following branches are analysed:[19]

<01/1>	mining
<01/2>	ironworks
<03>	stones and pottery
<04>	glassworks
<05>	chemistry
<06>	wood-pulp
<07>	paper manufacturing
<10>	wood processing
<11>	food industry
<12>	leather production
<13>	leather manufacturing
<sum 14-19>	Iron and metal industry
<20>	textile industry
<21>	clothing industry

Source for the minimum wages is the Austrian "BUNDESKAMMER DER GEWERBLICHEN WIRTSCHAFT"[20]. Average gross nominal minimum wages are published for every above mentioned branch and the industry as a whole.

All other data, like employment, output, working time and prices are taken from the database of the WIFO.[21] Output data are the nominal net products. For deflationing I used the price indexes of the Austrian industry ("Preisindex des Beitrags der Industrie zum BIP"). I had to use the average working time of the aggregated industry for the analysis of the branches too.

Time horizon and number of observations of the analysis were restricted by the availability of the data. Time horizon of the analysis was from 1969 till 1990 for the aggregated industry and 1970 till 1990 for the different branches.

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[19] Numbers in brackets are the order codes of the Austrian "Fachverbände".

[20] BUNDESKAMMER DER GEWERBLICHEN WIRTSCHAFT.

[21] WIFO (Austrian Institute for Economic Research).

Even though minimum wages are published semiannually, the wage bargaining is often done only once a year. Hence the published "semiannual" data in reality often are to be interpreted as yearly data. Therefore I had to reduce the analysis to yearly observations.

The estimation results are shown in table 1:

Table 1: Employment Effects of Minimum Wages in Austria

OLS-estimates of equation 9) under the restriction that β2 = β3.
Dependend variable: Growth rate of employment
Jearly data, 1969 till 1990 (aggregated industry), 1970 till 1990 (branches)
T-values are written below the coefficients. Values for Durbin- Watson and Q-values for Ljung-Box statistics are written in the same rows.

Output: growth rate of output
Productivity: log of Y/(H*N) at time t-1
MWR: log of real minimum wage

Branches	constant	trend	output	productivity	MWR	D-W	R**2	Q(10)
			β2	β3	β4			
Industry, aggregated	4,01	-0,02	0,63	0,63	-0,16	1,97	0,86	8,57
	8,29	-7,12	8,74	8,74	-6,10			
Mining	2,14	-0,06	0,21	0,21	-0,13	2,37	0,51	2,76
	2,93	-2,06	3,09	3,09	-2,26			
Ironworks	0,88	-0,01	-0,06	-0,06	-0,10	1,19	0,71	14,40
	1,50	-2,70	1,38	1,38	1,08			
Stones and pottery	4,11	-0,01	0,40	0,40	-0,21	1,58	0,68	12,62
	4,63	-1,76	4,92	4,92	-4,15			
Glassworks	4,54	-0,01	0,45	0,45	-0,39	1,68	0,73	20,10
	5,85	-2,54	6,12	6,12	-3,54			
Chemistry	2,07	-0,32	0,20	0,20	-0,15	1,64	0,54	10,16
	1,88	-0,67	2,12	2,12	-2,08			
Wood-pulp	0,64	0,00	0,08	0,08	-0,14	1,10	0,27	11,77
	1,24	0,49	1,63	1,63	-1,71			

Table one, continuation								
Branches	constant	trend	output	productivity	MWR	D-W	R**2	Q(10)
Paper manufacturing	1.78	0.00	0.21	0.21	-0.35	1.64	0.34	13.93
	1.10	1.56	1.39	1.39	-2.80			
Wood processing	1.54	0.00	0.16	0.16	-0.19	1.26	0.36	10.81
	1.12	0.55	1.43	1.43	-2.52			
Food industry	0.76	0.00	0.08	0.08	-0.05	1.74	0.48	7.71
	1.81	-1.58	1.90	1.90	-1.63			
Leather production	2.74	0.00	0.24	0.24	-0.03	1.60	0.38	7.15
	2.36	-0.84	2.60	2.60	-0.10			
Leather manufacturing	5.78	0.00	0.56	0.56	-0.51	1.84	0.78	7.12
	6.13	-1.24	5.78	5.78	-2.97			
Iron and metal industry	6.96	-0.10	0.65	0.65	-0.34	1.80	0.75	10.96
	4.70	-3.19	4.88	4.88	-5.63			
Textile industry	6.01	-0.20	0.54	0.54	-0.18	1.45	0.76	6.76
	6.34	-4.54	6.66	6.66	-2.97			
Clothing industry	4.94	0.00	0.54	0.54	-0.26	1.97	0.83	6.82
	6.80	-3.80	7.06	7.06	-6.00			

Some of the OLS-coefficients above may be interpreted directly. First, the identical coefficients β_2 and β_3 describe the partial adjustment parameter τ. Second, for small changes of a variable, the change in the logarithm of this variable is approximately the relative change of the variable itself. Hence β_4 is the elasticity of the minimum wage.[22]

The results are univocal. For the *aggregated industry* all of the estimated coefficients are highly significant. Minimum wages have a negative effect on the growth rate of employment. On the other side, there is a positive effect of the growth rate of hourly output and of logarithmic lagged hourly labour productivity. The partial adjustment coefficient (described by β_2 and β_3) is 0,63. β_4 is -0,16, hence an increase of real wage by one percent decreases the growth rate of employment by 0,16 Percent.[23]

Minimum wages are not significant (at a usual five percent level) only in four of the 14 estimated equations for the *different branches* (ironworks, wood-pulp, food-industry and leather production). In two branches, although minimum wages are significant, output and productivity are not (paper manufacturing, wood processing). All other significant estimations strengthen the result of the aggregated data: Minimum wages have a negative impact on employment. The elasticities of minimum wage differ from -0,13 (mining) to -0,51 (leather manufacturing). High elasticities are found in glassworks (-0,39), paper manufacturing (-0,35) and iron and metal industry (-0,34) too. The elasticities are lower in wood processing (-0,19) and chemistry (-0,15). The (significant) partial adjustment parameter τ differs between 0,21 (mining) and 0,65 (iron and metal industry).

Hence at first sight, looking at the OLS-estimates, the thesis that minimum wages decrease employment seems to be supported.

3.3. Restrictions of the results

I have shown that in a partial analytic framework with complete competition and partial adjustment of labour, the growth rate of minimum wage is a function of hourly

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[22] The estimation results would help to analyse different other variables of the estimated equations too. β_4 may help to estimate the substitution parameter σ, since: $\tau\sigma = \beta_4$. The constant may help to estimate α. (See: equations 8 and 9). In this paper I am only interested in the effect of minimum wage and not in these possibilities.

[23] -0,16*0,01 = -0,0016

output, hourly labour productivity and real minimum wage. Based on a CES production function, this is a very general result for this class of models. For the empirical results to be true, two important points have to be fulfilled:

First, our explanatory variables have to be independent. If there exists a positive effect of minimum wages on output or productivity, then the explanatory variables are not independent. As mentioned in chapter one a positive effect on productivity is supposed by the Austrian labour union.

Second, the causal relationship between the explained and the explanatory variables has to work into the "right" direction. If the causal relationship between the attached variables works into the "wrong" direction, the results of the OLS-estimation have to be relativized.

Hence, according to the causality between minimum wage and employment, the crucial point is that the relation between minimum wage, productivity and output has to be examined. If this is not done, the model may be misspecified and therefore the OLS results may be wrong. It is important that this fact does not attach only our model, but the analysis of other studies about minimum wages too.

In working paper No. 21 of the Viennese University of Economics and Business Administration I discuss the causality between minimum wage, employment, output and productivity.[24]

4. Summary

Most of the studies which try to investigate the effects of minimum wages use a standard "neo-classical" partial-analytic framework, which is based on complete competitive labour markets.[25] Hence minimum wages create a factor market distortion which in this class of models has to cause negative effects on employment. Therefore there exists a big difference between the call for minimum wages of the labour unions and the theoretical result of the standard economic theory.

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[24] See: RAGACS 1993

[25] For instance see RAGAN 1981.

In Austria there exist minimum wages for most of the economic sectors, especially manufacturing, and they are the result of a bargaining process between the Austrian labour union and the entrepreneurs.

Contrary to the "standard" theoretical result that minimum wages should decrease employment, arguments of the Austrian labour union for the implementation of minimum wages exist. One of them states, that minimum wages increase productivity. This could lead to output growth and therefore even to an increase of employment.

In spite of the importance of minimum wages in Austria, no empirical studies about their employment effects in the industry are done yet. In this paper I ask for the direct effects of minimum wages on employment in the Austrian case. To execute an analysis which is comparable to many of them done for other countries I follow the traditional partial-theoretical argument and therefore would expect negative effects. The empirical analysis is based on the ideas of profit maximisation and partial adjustment of employment by the firm.

The empirical analysis which is done for the aggregated Austrian industry and specific branches at first sight seems to support the theoretical thesis: The growth rate of employment in most cases is significant negative influenced by the level of logarithmic real minimum wage, but positive by output growth and by logarithmic lagged productivity in levels.

At second sight the empirical analysis shows problems, which may occur in similar studies done for other countries too: If there exists a positive effect of minimum wage on output or productivity, as supposed by the labour union, then the explanatory variables are not independent. Additionally there exists the problem that the causal relationship between the attached variables may work into the "wrong" direction. Hence there exists the possibility that my model and maybe similar one's (the analysis done in this paper is based on the very general CES production function) are misspecified.

Further work about the above mentioned problems has to be done.

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