

The analysis of the labour market flexibility in Poland in comparison to other EU countries on the basis of the results of *Wage Dynamics Network* survey.

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Abstract:

This paper presents the selected results of the wage setting survey among over 1200 firms that was carried out in Poland in November 2007. Similar surveys were conducted in 17 countries as part of the ECB Wage Dynamics Network project. We present a selection of results in order to assess the determinants of flexibility of wages and employment in Poland in comparison with other EU countries. The results of the survey have been used to measure the wage and employment flexibility in Poland and their potential consequences for the accession of Poland to European Monetary Union (EMU). According to the results, firm in Poland seem to be close to average in terms of downward nominal wage rigidity but have relatively flexible real wages. The role of labour market institutions in wage setting process is limited because of weak trade unions in the commercial sector, relatively small coverage of collective agreements and relatively low minimum wage. Companies declare that reduction in employment is more important than reduction in wages as a cost-saving measure but majority of companies try to reduce other non-labour costs first. The possible accession to the EMU would increase the importance of labour cost channel as a way to adjust to asymmetric shocks. That could result in more volatile employment fluctuations. EMU accession could also lead to slower real wage adjustment as the inflation target in EMU is lower than in Poland. It appears that the best way to prepare for the labour market consequences of the accession to the EMU, is to improve the efficiency of employee-employer matching and to introduce policies aimed at avoiding the skill loss and discouraged worker effect among the unemployed in the periods of temporary higher unemployment. However this kind of reforms are worth to be introduced even without joining EMU.

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1. Introduction

The accession of a country to a monetary union involves a loss of the autonomous monetary and exchange rate policy. One of the few remaining channels of accommodation to asymmetric shocks for a monetary union member is the labour market adjustment. Traditional optimal currency area (OCA) literature assumes labour markets to be main channels of asymmetric shock accommodation in the monetary union. The flexibility of the labour is important to assure painless adjustment to adverse shocks.

From this point of view, labour market rigidities gain additional importance as a source of possible problems in swift adjustment of the economy to shocks. In recent years, there have been a number of studies analyzing potential costs and benefits of the expected Polish and other central European countries accession to euro zone. The econometric calculation of the nominal and real wage rigidity on the basis of macro data was done, among others, by (Babetskii, 2006). A vast majority of studies attempt to measure wage and employment rigidities in Poland, their determinants and their possible influence on the firms reactions to shocks. An interesting descriptive analysis of wage flexibility and its determinants can be found in (Radziwiłł, Walewski, 2003). Most of the measures of labour market rigidity are constructed using macro-econometric models or, alternatively, are based on the analysis of Polish labour code and the bargaining process.

This paper adds an additional dimension to the analysis of wage and employment flexibility by presenting the results of the survey among employers. In this approach, the employers were asked about their wage and price setting behavior. The survey identified the rules of wage setting, determinants of nominal and real wage flexibility, types of reaction of the employers to shocks etc.

The selected results of the survey are presented in the subsequent sections and refer to its parts concerning real and nominal wage rigidity, alternative ways of labor costs adjustment, wages of new employees, responses of the wages and employment to hypothetical shocks, the links between wages and prices from the entrepreneurs' point of view and the role of trade unions and collective pay agreements in the wage setting process.

Moreover, the results of the Polish survey are compared with the results among the countries where the same questions were asked. The comparisons refers to the official results of the Wage Dynamics Network (WDN) working group published in the cross-country papers (Du Caju et al., 2008), (Babecky et al., 2008) and (Galuscak et al., 2008). Such comparison

of the results for Poland with the results for other EU countries is especially important to understand the sources of differences in wage flexibility.

The direct information presented in this paper should be treated with caution because the declarations of employers could not reflect their real behavior and can possibly change over time as companies experience different problems in different periods of the business cycle.

2. Methodological issues

The survey was carried out by the regional branches of the National Bank of Poland (NBP) in November 2007. The questionnaires were delivered to the companies by the representatives of the NBP and the completed questionnaires were sent back to the NBP regional branches. The survey was targeted at firms' top managers.

2.1 Sample design and weighting process

The sampling process was designed to assure that the results of the survey would represent the features of the population of enterprises in the sectors under consideration.

The sample was constructed using the stratifying sampling method. The proportions of companies in the initial sample reflected the proportions of sectors, size and location of the firms in the whole population. The sample covered the following sectors: manufacturing, energy, construction, trade, hotels and restaurants, transport and communications and other market services.

The size of the initial sample amounted to 1600 firms but the final database consists of 1216 observations. It means that the response rate in this survey amounted to almost 74 %. Such a high response rate resulted from the ongoing cooperation of the local NBP branches with firms in other areas. The firms in the realized sample accounted for about 1,5% of the total employment in the sectors covered by the survey in Poland.

The final dataset required weighting since the proportions of the number of companies and employment in the sample were different from those in the population. According to the procedure used by WDN survey group the two sets of weights were added to the dataset: one that reflected the proportions of the number firms in the population and another one that reflect the proportion of employment in the population. If the weights that reflected only the proportions in the number of companies was used, that could lead to the situation in which the

company that employs only few people would be treated equally as the company that employs many thousands of workers. To avoid that, the results presented in the next sections are weighted using the employment weights in order to reflect the higher importance of the wage setting behavior in bigger companies.

2.2 Questionnaire

The questionnaire was drawn from the standard version of the questionnaire developed by the WDN. The results of this survey are thus comparable to the results of the other WDN survey conducted in 17 countries. The questionnaire consists of 39 questions organized in four sections. The English version of the questionnaire is presented in Appendix

The first part of the questionnaire contains the information about the wage setting behavior of the firm and conditions of the wage changes. The second part collects the information about downward wage rigidity and reaction of the company to different kinds of shocks. The third part includes more information about price setting behavior and determinants of price changes. The latest fourth section gathers the information about the company.

3. Wage and employment flexibility in declarations of firms

3.1 Real vs. nominal wage rigidity

According to the theory of OCA the wage rigidities are shown as the most important source of the potential problems with the “painless” adjustments to potential shocks after the entrance to the monetary union. Despite the idea of the wage rigidities (both nominal and real) seem to be clear, the detailed definitions of nominal and real wage rigidities usually depend on the methods used to measure them. If the macro-econometric techniques are used like in (Babecky, Dybczak, 2008) the stickiness of nominal wages is measured by the decrease in real wages as a result of increase in inflation (nominal shock), while the stickiness of real wages is measured by the pace of adjustment of real wages to real shock (real shock).

In this research we follow the interpretations of nominal and real wage rigidity given in (Babecky et al., 2008). In this approach nominal wage rigidity could be measured by the answers to the questions that measure reluctance of workers and firms to receive nominal wage cuts. If firms have frozen wages rather instead of cutting them, it was considered as a

clear proof of downward nominal wage rigidities (DNWR). The main drawback of that measure refers to differences in macro variables among countries, that can lead to incomparability of results. For example, if the country is characterized by relatively higher productivity growth (reflecting catching up process) it can be natural that the wage growth is higher and there is more room for wage adjustment, even without wage cuts.

The measure of the downward real wage rigidity (DRWR) was more difficult to obtain from the survey data. In the research the narrow concept of the real wage rigidity was adopted. The estimation of the DRWR was made using the answers to the questions if the companies had the policy that linked wage changes to inflation. That kind of policy could cause the increase of wages whenever the inflation increases without taking into consideration changes in productivity. The companies were asked not only to confirm or not the link between wages and inflation but also if the answer was “yes”, to answer if the link with inflation was automatic or discretionary and if the link was with past or expected inflation. (See the question A6 in Appendix)

Table 1. Indexes of downward nominal wage rigidity (DNWR) and downward real wage rigidity (DRWR) across countries on the basis of definitions from (Babecky, 2008)

| | DNWR | DRWR |
|----------------|-------|-------|
| Austria | 0.089 | 0.119 |
| Belgium | 0.058 | N/A |
| Czech Republic | 0.295 | 0.113 |
| Estonia | 0.211 | 0.047 |
| Spain | 0.021 | 0.544 |
| France | 0.026 | 0.096 |
| Greece | 0.115 | 0.199 |
| Hungary | 0.064 | 0.117 |
| Ireland | 0.079 | 0.087 |
| Italy | 0.038 | 0.017 |
| Netherlands | 0.211 | N/A |
| Poland | 0.096 | 0.067 |
| Portugal | 0.151 | 0.083 |
| Slovenia | 0.033 | 0.215 |
| Total | 0.142 | 0.104 |

Source: (Babecky, 2008)

The results for the large sample of EU countries (table 1) show that Poland could be classified relatively to other countries in the sample as a country with medium index of DNWR and very low index of DRWR. This observation is consistent with the relatively low wage rigidities observed in other publications obtained using different method like (Radziwiłł, Walewski, 2003).

The results for Poland show that despite the fact that percentage of employees covered by wage cuts or freezes seem to be quite low, there are some interesting differences between sectors and size groups of companies (table 2). According to the definition of flexibility explained above nominal wages can be classified between two extreme groups. Energy sector seem to be perfectly flexible, because all needed nominal wage cuts were implemented after the agreement with trade unions and there were no wage freezes. On the other hand real wages in this section of the economy are lot more rigid that average in the economy because of high coverage of wage indexation. It seem to be just the opposite in the financial services, where wages were frozen most frequently in the last five years and the wage cuts were very rare. It should be noticed that if the firms have frozen wages, the coverage of changes was substantial. On average it amounted to 83% of employees.

Wage cuts also covered on average majority of employees (65%) in each company but there were many firms where only a part of workers experienced nominal wage cuts. Here, it could also be observed an interesting negative relationship between popularity of wage cuts in the sectors and the coverage of wage cuts. In the energy sector wage cuts were experienced by 17% of companies but the average coverage of wage cuts in the company amounted to 19% of employees. In financial services the wage cuts were rare (2%), but the coverage of wage cuts in companies where the wage cuts were applied amounted to 74% of employment. This result suggest that in the sectors with more flexible nominal wages, wage cuts were more selective on company's level. One of the possible explanations of that fact refers to the situation of the firm. The companies that decided to decrease wages despite relatively high nominal wage rigidities in the sector usually were forced to introduce cuts because of poor financial condition. The results of the answers on questions about the reasons of wage cuts or freezes seem to confirm this conclusion (table 3). Detailed analysis of the companies attitudes concerning real behavior of firms was limited by the relatively low number of companies which really experienced wage cuts or freezes. That two strategies of base wage adjustment were analyzed together because of the same target – labour cost reduction. Most of the companies have chosen sales or profits decrease as most important reason for wage freezes or cuts. On the contrary in energy sector the single reason for this was saving the jobs. This was probably connected with privatization of the part of the sector and the negotiations between trade unions and potential investors. In the financial services and manufacturing the percentage of companies that declared drop in sales or profits as the major reason for wage freezes and cuts was significantly higher that in the rest of the companies.

Table 2. Wage freezes and wage cuts over the last five years. Percentage of companies in which the wages have been frozen or cut and average coverage of freezes and cuts in these companies (in percentages of employment)

| | Base wage have been frozen | | Base wage have been cut | |
|---------------------|----------------------------|--------------------|-------------------------|--------------------|
| | yes | percent of workers | yes | percent of workers |
| Total | 12 | 83 | 5 | 65 |
| Manufacturing | 14 | 87 | 5 | 72 |
| Construction | 10 | 87 | 4 | 67 |
| Energy | 0 | 0 | 17 | 19 |
| Trade | 11 | 78 | 4 | 63 |
| Finance | 18 | 81 | 2 | 74 |
| Market services | 11 | 90 | 6 | 60 |
| up to 9 workers | 12 | 80 | 6 | 81 |
| 10-49 workers | 10 | 82 | 3 | 59 |
| 50-250 workers | 14 | 95 | 6 | 64 |
| 250 workers or more | 14 | 61 | 6 | 37 |

Source: Own calculations. Results could slightly differ from the calculations done in (Babecky, 2008) because of the different coverage of sectors and sizes of the companies in the cross-country paper.

Table 3. The main reasons for wage freezes or wage cuts over the last 5 years. (percentages of answers sum up to 100 in rows)

| | Profitability/ sales went down | Other costs increased | Jobs were at risk | Legislation or collective agreement | Worker performance was not satisfactory |
|---------------------|--------------------------------------|--------------------------|----------------------|---|---|
| Total | 71 | 12 | 12 | 1 | 5 |
| Manufacturing | 88 | 6 | 0 | 0 | 6 |
| Construction | 73 | 20 | 7 | 0 | 0 |
| Energy | 0 | 0 | 100 | 0 | 0 |
| Trade | 73 | 16 | 3 | 3 | 5 |
| Finance | 82 | 0 | 18 | 0 | 0 |
| Market services | 57 | 15 | 22 | 0 | 7 |
| up to 9 workers | 68 | 17 | 1 | 2 | 11 |
| 10-49 workers | 66 | 17 | 17 | 0 | 0 |
| 50-250 workers | 73 | 12 | 14 | 0 | 2 |
| 250 workers or more | 62 | 0 | 38 | 0 | 0 |

Source: Own calculations

The experiences of companies were then supplement with the question about the reasons that prevent companies from base wage cuts when there is a need to reduce labour costs. The answers on that question were designed to clarify if the companies don't cut wages because of explanations that are delivered by microeconomic theory. The short review of

microeconomic theories of wage rigidities and the discussion of survey evidences could be find in (Campbell, Kalmani, 1997) The results suggest that labour regulation or collective agreements seem to be the least relevant for companies that consider nominal wage cuts (table 4).

Table 4. The declared reasons why not to cut wages. (percentages of answers about relevance sum up to 100 in rows).

| | Not relevant | Of little relevance | Relevant | Very relevant |
|--|--------------|---------------------|----------|---------------|
| Labour regulation/ collective agreement | 56 | 10 | 15 | 19 |
| It would reduce employee's efforts | 14 | 15 | 45 | 26 |
| It would have negative impact on employee's morale | 16 | 22 | 44 | 18 |
| It would damage the firm reputation, more difficult to hire workers in the future | 18 | 22 | 42 | 19 |
| The most productive employees might live the firm | 7 | 4 | 26 | 63 |
| It would increase the number of quits and increase the costs of hiring and training new ones | 13 | 20 | 41 | 26 |
| It would create difficulties in attracting new workers | 10 | 14 | 46 | 30 |
| Workers don't like unpredictable reductions in income | 13 | 15 | 45 | 27 |
| Employees compare their wages to that of similarly qualified workers in other firms | 20 | 26 | 38 | 16 |

Source: Own calculations

The most important reason that prevents firms from nominal wage cuts this was the threat of losing most productive workers. This correspond well with the adverse selection model of the efficiency wages theory. The high relevance of potential lose in employee's effort also support the "shirking model" and the large share of employers that take care of the potential costs in the increased turnover of employees also support the so called "turnover model". It should be mentioned that employers also declared relevance of explanations indicating "implicit contract theory". The nominal wage cuts can create unpredictable reductions in incomes of workers. Referring to "impilicit contract" theory cuts could be considered as braking informal agreement that guarantee the stability of income over business cycle. Such a behavior of employer can lead to negative impact on employee's morale and

difficulties in hiring workers in the future. It is quite symptomatic that the possibility of comparing the wages inside and outside the firm by employees was less relevant than explanations mentioned above. The possible explanation for that fact is that once the employee find the company to work, the alternative costs of changing job are so high that changing the company by employees is not considered as frequently chosen option.

In this paper the DRWR is measured by one of its potential causes – automatic wage indexation. Here we devote some space to see what is the structure of the answers on the question about different methods of including inflation in wage growth (table 5). The results of survey indicate that most of the companies declare that they don't have any policy that adapts changes in base wages to inflation. It is quite surprising that this percentage is relatively close in all analyzed sectors and is only a bit smaller in the large companies than in tiny firms. Even in the companies where inflation is taken into account, employers usually don't bind themselves using any formal rules of indexation. The formal methods of automatic indexation are used mainly by large companies and in financial sector. Most of the companies that take inflation into account in wage setting process use past inflation and don't use any automatic method. One exception is the energy sector in which inflation expectations are relatively frequently used in wage setting process.

Table 5. Automatic indexation in Poland (percentages of answers sum up to 100 in rows)

| | Formal method, past inflation | Formal method, expected inflation | No formal method, past inflation | No formal method, expected inflation | Inflation not taken into consideration | No answer |
|---------------------|-------------------------------|-----------------------------------|----------------------------------|--------------------------------------|--|-----------|
| Total | 5 | 2 | 16 | 6 | 68 | 3 |
| Manufacturing | 4 | 2 | 16 | 6 | 67 | 4 |
| Construction | 5 | 0 | 20 | 6 | 66 | 2 |
| Energy | 0 | 0 | 8 | 25 | 67 | 0 |
| Trade | 6 | 1 | 16 | 5 | 69 | 3 |
| Finance | 11 | 0 | 16 | 1 | 72 | 0 |
| Market services | 4 | 5 | 15 | 7 | 68 | 2 |
| up to 9 workers | 5 | 2 | 14 | 4 | 71 | 4 |
| 10-49 workers | 5 | 1 | 18 | 5 | 67 | 3 |
| 50-250 workers | 3 | 2 | 19 | 7 | 68 | 2 |
| 250 workers or more | 6 | 6 | 9 | 16 | 61 | 2 |

Source: Own calculations

Another source of potential wage rigidities is the length of contracts (table 6). If the time between wage changes is relatively long, both nominal and real wage changes lag behind the changes in productivity or inflation. According to the results of the survey most companies change wages once a year because of any reason. The employers declare that the reasons for wage changes are usually different from tenure or inflation. If the inflation or tenure are taken into consideration, inflation influence wage changes in the time horizon up to one year and the changes due to tenure are more characteristic for periods one year and over.

Table 6. Frequency of wage changes (percentages of answers sum up to 100 in rows).

| | More than once a year | Once a year | Once every two years | Less frequently than once every two years | Never |
|---------------------------------------|--------------------------|-------------|-------------------------|---|-------|
| Due to tenure | 5 | 31 | 9 | 11 | 44 |
| Due to inflation | 6 | 37 | 6 | 6 | 45 |
| Apart from tenure and/or inflation | 12 | 51 | 15 | 14 | 8 |

Source: Own calculations

3.2 Alternative non-wage ways of adjusted labour costs

In most of the cases the reduction of labour costs by cutting nominal base wages is difficult and have many unwanted consequences for companies. Reduction of employment could be seen as the ultimate solution but it does not necessarily lead to immediate cost reduction (because contracts or costs of firing) and it result in the decrease of production potential of the company. Beside the two mentioned options there are alternative solutions of labour cost reduction that are usually not taken into consideration in economic theories. The broader view of the usage of strategies that can result in certain decrease of the labour costs without cutting wages or reduction in employment is one of the value added of the survey results. In order to obtain comparable answers possible alternative strategies were suggested in the survey(question A16, Appendix). There was also possibility of multiple answers for that question. Different types of such strategies were used in the past by companies that covered 46% of total employment in the sample (table 7). The remaining 54% of companies have not used any alternative mechanisms.

The most frequently chosen single answer in the question about the additional strategies to reduce labour costs was reduction or elimination of bonus payments (24% of all companies). The reduction or elimination of non-pay benefits was less frequent, probably because these benefits are not very common in Poland. The strategies that base on the replacing of higher-paid employees with the lower-paid new staff were suggested in the first three answers. One of the most popular answers was the declaration that natural turnover of employees was the mechanism that allowed decreasing labour costs. Fewer firms mentioned that they increase the turnover of workers by focusing employment reductions on employees with longer tenure or using early retirements in order to decrease labour costs. Additional calculations show that almost 25% of companies used one of the three mentioned methods of lowering costs by using employment turnover. Other methods of reducing labour costs like changing shift assignment or slowdown the promotions were less popular than mentioned above but there were used by more than one tenth of all enterprises.

Table 7. Alternative strategies to reduce labour costs. Excluding answer “no mechanism” multiply answers were possible (percentages do not sum up to 100).

| | Percentage of answers |
|---|-----------------------|
| Hiring new workers against a lower wage than those who left voluntarily | 21 |
| Hiring new workers against a lower wage than those who were laid off | 13 |
| Early retirement in order to replace older workers by cheaper ones | 10 |
| Reduction or elimination of bonus payments | 24 |
| Reduction or elimination of payments in kind | 16 |
| Change in shift assignments | 13 |
| Slowdown or freeze of the rate at which promotions are filled | 13 |
| Other mechanisms | 6 |
| No mechanisms | 54 |

Source: Own calculations

The results show that alternative methods of adjustment are quite frequently used by companies in Poland to reduce labour costs and increase the flexibility of total compensation per employee. In comparison to other EU countries the share of companies that use such a methods is not large¹.

¹ See: (Babecky, 2008) table 7.

3.3 Wages of the new employees and workers turnover

In the previous section lower the wages of new employees were seen as the part of the mechanism of labour cost reduction. In general wages of new workers should be more flexible than existing ones because in those cases companies are not bound with existing contracts. It means that the wages of new employees could be lower or higher than their counterparts in the firm. If the labour supply of workers demanded by firm is scarce, the new employees could be attracted by high wages, sometimes higher than the wages of similarly skilled insiders, who signed their contracts in different labour market conditions. If the labour market is slack new workers could agree to enter the company with wages lower than similar insiders just to have a job.

There many evidences and theories on wage rigidities on the aggregate level (discuss here refers to the literature review in Galuscak et al., 2008). The wages of newly hired workers can be considered as essential for the flexibility of the aggregate wages, because only here the bargaining process is not influenced by existing contracts. Despite that fact, the simplification, that the wages of new and old workers are homogeneous is widely used in the literature.

Some recent papers find that wage of new employee tend to be more volatile than aggregate wage and better respond to productivity. The most evidences on high wage flexibility of new workers were found in the US data. In Europe the evidences are more limited because of relatively strong interactions between institutional features and economic performance. On the other hand some studies conclude that the evidences that wages of new workers are more flexible disappears when properly controlling for workers and job characteristics.

On the other hand there are several reasons why firms may use strategy of not to differentiating the wages of newly hired workers. Reduction of the costs of the bargaining process can lead to elimination of separate negotiations between periods. Internal equity and fairness constrains workers of similar productivity to receive similar wages (Bewley, 1999). Wage of co-workers (new and incumbent ones) can be also seen as a wage norm and downward deviations from this norm may lead to shirking and affect effort negatively.

The intensity of influence of wages of new workers on aggregate wages depends also on intensity of hiring. This fact is important for Poland because of relatively strong turnover

of workers.² According to WDN data, in the reference period the average percentages of employees who joined the companies were close to 15% of the average total employment. Such a huge inflow of new employees means that in Poland wages of new workers can have relatively higher importance for the aggregate mean wage flexibility in the economy.

The results of the question about the relevance of different factors in setting wages inside the firm show that vast majority of companies treat the wages of the workers currently employed in the firm as important or very important factor in setting wages of the new workers (table 8). The last important factor that is taken into consideration is the existence of collective agreements. It should be noticed however that collective agreements are very important in setting wages in energy sector in which the influence of trade unions is significantly higher than in other sectors. Companies larger than 49 employees also declare more frequently that collective agreements are important for them. On the other hand companies from market services or construction sector more frequently declare that outside factors such as wages of workers outside the firm or availability of workers on the labour market is at least important in setting wages of the new workers.

Table 8. Determinants of wages of new employees (multiply answers were possible, percentages do not sum up to 100 in rows).

| | Collective agreement | Workers in the firm | Workers outside the firm | Availability on the labour market |
|---------------------|----------------------|---------------------|--------------------------|-----------------------------------|
| Total | 17 | 83 | 45 | 45 |
| Manufacturing | 21 | 85 | 44 | 44 |
| Construction | 14 | 83 | 55 | 55 |
| Energy | 75 | 83 | 17 | 17 |
| Trade | 8 | 80 | 45 | 45 |
| Finance | 11 | 78 | 59 | 59 |
| Market services | 17 | 83 | 43 | 43 |
| up to 9 workers | 8 | 74 | 47 | 64 |
| 10-49 workers | 6 | 84 | 47 | 70 |
| 50-250 workers | 26 | 85 | 40 | 71 |
| 250 workers or more | 46 | 95 | 48 | 78 |

Source: Own calculations

The attitude of companies concerning the differentiating the wages of new workers in the company as a result of “outside factors” could be observed on the basis of the questions

² This observation is also confirmed by the analysis of labour market flows on the basis of Polish Labour Force Survey.

that directly ask the entrepreneurs (questions A11, A12 in Appendix): if in certain circumstances they would set wages of new workers lower or higher than wages of the similar persons in the firm. The structure of answers show that the attitudes are not symmetric in worse and better labour market circumstances. If there is high unemployment and lower wages can be justified by difficulties in creating any jobs about 15% companies claim that there would use this opportunity (table 9). Among the reasons why the rest of companies would not do the same, the most prominent is the threat of lower productivity of the new workers. The law regulations or collective agreements were the last important but still pointed out by companies that employed 7% of all workers.

The questions in the survey identify not only the factors that influence the new wages of employees in the firm but also try to investigate the reasons why companies not differentiate wages. On the other hand the reaction of companies is asymmetric when it comes to the decision about allowing the new wages to be higher than similar workers in the firm. The small unemployment and difficulties in finding the new workers were the good reason for offering higher wages to new workers only for 5% of companies. In this case the most important threat for the employers was bad reputation among their own employees. This argument was chosen even more frequently than possible decrease of productivity of the workers inside the firm. In addition such a behavior can contribute to the increase in wage pressure from the rest of the workers. If there was really the lack of workers on the labour market they would have better position in negotiations.

It is interesting that the result of similar surveys in other countries don't indicate so huge level of asymmetry in reactions of the wages of new workers to better and worse labour market conditions. The observation from other countries show rather symmetric relation between the reaction of firms to different labour market conditions that is determined by the level of openness of companies to outside conditions. The openness to the "outside" company factors manifest usually in both: higher attitudes of the companies to set lower wages when unemployment is high and set higher new wages when labour market is tough. (Galuscak et al. , 2008)

Table 9. Reasons why wages of new employees are not different from similar of employees in the firm (percentages of answers sum up to 100 in columns).

| | If high unemployment - lower wages for new workers? | If labour shortage - higher wages for new workers? |
|--|---|--|
| YES | 15 | 5 |
| NO because: | | |
| a) It would be perceived as unfair and earn the firm bad reputation in environment / among employees | 33 | 47 |
| b) it would have a negative effect on the work effort of the new employees/employees in the firm | 42 | 33 |
| c) It is not allowed by labour regulation or collective pay agreement | 7 | 4 |
| d) Unions would contest such action | 0 | - |
| d) It would generate pressure for wage increases by existing employees | - | 7 |
| Other reasons | 3 | 4 |

Source: Own calculations

The analysis of the answers to that question leads to the conclusion that the wages of new workers in Poland are mainly determined by the wages of workers currently employed in the companies, so the hiring of new workers only to some extent contribute to the increase in flexibility of average wages. That statement seem to be well documented also for other EU countries. The feature specific to Poland is the relatively huge level of acceptance for the lower entrance wages if there is high unemployment. This could be the result of very high unemployment rate experience in the years 1999-2005 when that could have been a common practice.

3.4 Wages or employment – response to shocks

The probable reaction of the companies on the shocks depends on the type and duration of the disturbance. In the survey the reaction of employer on three possible sources of shocks was investigated:

- unanticipated significant slowdown in demand,

- unanticipated significant increase in the cost of intermediate input (for example increase in oil prices)
- unanticipated and permanent increase in wages.

The results presented below were calculated on the basis of the questions A19 –A24 (see Appendix) The results show that usually the adjustment of wages or employment is not the main channel of response to shock (tables 10-12). The typical reactions on different types of shocks were different. According to the results of the survey, the price adjustment channel was considered as most relevant if the prices of intermediate goods increase (table 11). The cost reduction channel was perceived as relevant of very relevant by almost the same percentage of companies but most of the declarations of cost reduction were connected with non-labour costs. If the entrepreneurs had to consider the slowdown in demand the channel of cost reduction was perceived as the most important (table 10). In such a situation over a half of companies declare application of different methods of labour cost reduction. The most important one was the reduction in the number of permanent employees.

It should be noticed that in both cases: the reduction in demand and the reduction in intermediate costs only 2% of companies took into consideration the base wage cuts and only about 13-15% the reduction of variable wage components. Those results suggest that the base wage cuts are considered as a potential source of adjustment only in exceptional situations. The reduction of permanent employment is the most popular way of cutting labour cost. If the companies had to face weaker demand for their products this channel of cost reduction is even more important than in case of shocks caused by increase in costs of intermediate input or labour.

Table 10. Response to shock in demand (percentages of answers sum up to 100 in rows).

| | Not relevant | Of little relevance | Relevant | Very relevant | Don't know |
|--------------------------------|---------------------------------|--------------------------------------|--|--|---------------------------------|
| Decrease prices | 8 | 10 | 40 | 36 | 6 |
| Reduce margins | 11 | 11 | 40 | 31 | 7 |
| Reduce output | 22 | 12 | 26 | 29 | 11 |
| Reduce costs | 7 | 4 | 29 | 55 | 5 |
| Channels of the cost reduction | | | | | |
| Reduce base wages | Reduce variable wage components | Reduce number of permanent employees | Reduce the number of temporary and other workers | Adjust the number of hours worked per employee | Reduce another non labour costs |
| 2 | 15 | 24 | 7 | 8 | 45 |

Source: Own calculations

Table 11. Responses to shock in costs of intermediate input (percentages of answers sum up to 100 in rows)

| | Not relevant | Of little relevance | Relevant | Very relevant | Don't know |
|--------------------------------|---------------------------------|--------------------------------------|--|--|---------------------------------|
| Increase prices | 6 | 8 | 40 | 42 | 4 |
| Reduce margins | 15 | 16 | 42 | 19 | 9 |
| Reduce output | 31 | 22 | 21 | 14 | 12 |
| Reduce costs | 10 | 6 | 38 | 41 | 5 |
| Channels of the cost reduction | | | | | |
| reduce base wages | reduce variable wage components | reduce number of permanent employees | reduce the number of temporary and other workers | adjust the number of hours worked per employee | reduce another non labour costs |
| 2 | 13 | 16 | 8 | 6 | 56 |

Source: Own calculations

Table 12. Response to shock increase in labour costs (percentages of answers sum up to 100 in rows)

| | Not relevant | Of little relevance | Relevant | Very relevant | Don't know |
|---------------------------------|--------------------------------------|--|--|---------------------------------|------------|
| Increase prices | 8 | 10 | 42 | 34 | 7 |
| Reduce margins | 17 | 20 | 37 | 15 | 11 |
| Reduce output | 33 | 23 | 18 | 13 | 14 |
| Reduce costs | 12 | 7 | 34 | 40 | 7 |
| Channels of the cost reduction | | | | | |
| Reduce variable wage components | Reduce number of permanent employees | Reduce the number of temporary and other workers | Adjust the number of hours worked per employee | Reduce another non labour costs | |
| 11 | 16 | 9 | 5 | 59 | |

Source: Own calculations

3.5 The relation between wages and prices increases

The relation between wages and prices have a crucial importance from the point of view of monetary policy. The causation could be in both direction and it can be clearly explained using stylized facts. On the level of single firm, wage growth increases costs of production and therefore can be followed by increase in prices. If companies in the whole economy would behave in the same manner it would lead to increase in inflation due to increasing labour costs. If the company is able to increase prices and generate higher

revenues, it is possible that wages would follow increase in profits. When majority of companies do the same in the macro level such situation would lead to price increase and then wage adjustment.

Table 13. Timing of decision to change wages and prices (percentages of answers sum up to 100 in rows)

| | Price changes tend to follow wage changes | Wage changes tend to follow price changes | Decisions are taken simultaneously | There is a link but not a particular pattern | No link between that two | No answer |
|---------------------|---|---|------------------------------------|--|--------------------------|-----------|
| Total | 2 | 5 | 3 | 32 | 55 | 4 |
| Manufacturing | 0 | 4 | 3 | 36 | 52 | 4 |
| Construction | 4 | 9 | 6 | 40 | 37 | 4 |
| Energy | 0 | 8 | 8 | 17 | 67 | 0 |
| Trade | 1 | 4 | 3 | 25 | 65 | 3 |
| Finance | 0 | 3 | 0 | 19 | 77 | 0 |
| Market services | 3 | 5 | 3 | 33 | 52 | 4 |
| up to 9 workers | 2 | 5 | 3 | 29 | 57 | 3 |
| 10-49 workers | 1 | 6 | 4 | 30 | 55 | 3 |
| 50-250 workers | 2 | 5 | 3 | 36 | 52 | 3 |
| 250 workers or more | 1 | 1 | 0 | 36 | 55 | 7 |

Source: Own calculations

The questions A6 (see Appendix) in the survey were constructed to measure the importance of wage increase for price increase and vice versa. It is important to underline that this question do not measure causation but only the correlation between wage and price increases from the subjective point of view of the employers. Here there is no direct information about causality of the wage and price increases, so prices and wages in some firms can change in the similar time as a result of coincidence or reaction on the other factor, not included in the analysis.

The results of the survey show that the majority of employers don't see the direct link between wage and price increases (table 13). Most of employers, who see the link between that two, are not able to determine the pattern of wage changes. Only in the construction sector majority of entrepreneurs indicated clear relations between wages and prices increases but such answers should be perceived as correlation, as the question considered only the observed changes and we don't have the knowledge about their causes. We only could suppose that those changes could be explained by the sharp increase in wage and price growth

in this sector which was the result of the convergence of wages in this sector to the wages offered in typical destinations of migration.

The link between wages and prices can be seen as a result of different wage behavior of clusters of companies with different mechanisms of price setting or that experience different levels of competition on their product market. In order to initially investigate this potential relationships the results of two questions regarding the price setting mechanism and the level of competition were added to the analysis. The results of the analysis show that the method of price setting can influence the wage setting behavior regarding inflation. However the interpretation of these results requires probably more investigation than this presented here because the relationship between the degree of competition on the product market and the measures of wage flexibility seem to be non-linear. Companies that operate on the markets described by employers as with “weak competition” tend to use the indexation of wages more often. Despite that, companies that describe the environment as “no competition” use any method of wage adjusting to inflation less often.

However it is clear that percentages of companies that use indexation or any other method that adapts wages to inflation is higher among companies where prices of products are given by parent company or by the state regulations. If the prices are set in more competitive way (for example by adjusting to the prices of main competitors, adjusting profit margin to stay competitive or when the main customers have enough power to decide about prices) the companies use the policy of wage adjustment to inflation less frequently.

Table 14. The relation between method of product price setting, level of competition and the share of companies that adapts wages to inflation (percentages of answers).

| | Automatic indexation | Any policy that adapts wage to inflation |
|--|----------------------|--|
| Method of price setting: | | |
| by main customers | 6 | 24 |
| by the state (regulated) | 10 | 40 |
| by parent company | 14 | 34 |
| costs plus constant margin | 9 | 31 |
| costs plus variable margin | 5 | 26 |
| follow market competitors | 6 | 32 |
| Competition (in the opinion of employer): | | |
| Serve | 8 | 30 |
| Strong | 6 | 30 |
| Weak | 11 | 39 |
| No competition | 2 | 12 |

Source: Own calculation

3.6 Influence of labour code and collective agreements on wage and employment flexibility

Typically the literature acknowledges that labour market institutions support downward real wage rigidity and creates barriers for quick employment adjustment. The factors that influence real wage rigidity are: degree of centralization, cooperation and coordination in the wage bargaining process. Employment protection legislation also defines the costs of hiring and firing employees.

There are many stylized facts how different levels of coordination of the wage setting influence the speed of wage adjustment to shocks. Traditionally low level of coordination is considered as the level that assure the wage flexibility. However the decentralized wage setting could be socially inefficient because the wage setters could not take into account that macroeconomic environment. Coordination only in a part of the economy means lower flexibility of the aggregate price level in case of nominal shocks. If bargaining is fully coordinated wage setters can take the changes in macroeconomic situation into account. This can effect in shorter contracts under coordinated than under uncoordinated bargaining. (Calforms, Driffill, 1998) developed theoretical framework that support hump shaped relationship between bargaining coordination level and real wage (or unemployment).

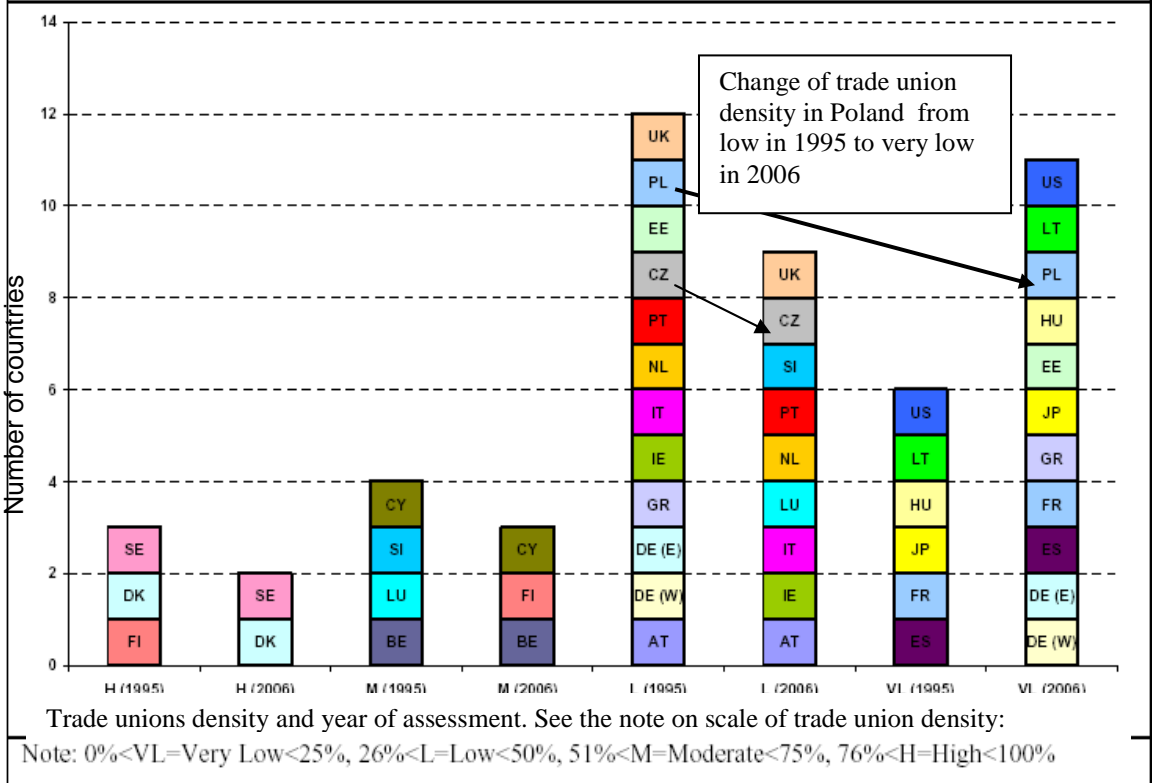
The institutional aspects of the labour market is usually analyzed on the basis of some selected dimensions that are assumed to be comparable between countries. However it should be mentioned that many authors suggest not the existence of selected institutions but the combination of the institutions create the unique for each country institutional environment of the labour market.

In this chapter we focus on two main sources of knowledge about institutional setup in Poland. The first is the short WDN survey carried out among the representatives of EU member states, US and Japan that regards to the basic institutions of the labour market in every country. On the base of this survey the place of the Polish labour market in comparison to labour markets in other EU is described. The second source of data is the set of WDN firms' survey results in which entrepreneurs expressed their opinions regarding the influence of selected labour market institutions on wage setting.

One of the most important institutional features of the Polish labour market is relatively low trade union density as a whole and especially in market sector (figure 1). This phenomenon is characteristic not only for Poland but for all former socialist countries of

central Europe. The increasing share of private sector in Polish economy with usually limited role of trade unions and the increasing conviction of workers that trade unions are not successful in defending their interest in the market economy, as well as very high unemployment in previous years have contributed to general drop in the popularity of trade unions in the economy. What is more important the trend to decrease the trade union coverage was observed not only in central Europe but in most of the European countries in the last 10 years.

Figure 1. Countries with high and very low trade unions density



Source: (Du Caju, 2008)

Despite the changes in trade unions coverage in many European countries, large proportion of workers is still covered by collective agreements. However there are strong differences between the usage of collective wage agreements between countries. On one hand the coverage of the collective bargaining is still high in Western European countries such as Austria, Belgium, the Netherlands, the Nordic countries, France, Greece, Italy, Slovenia, and Portugal. The coverage rate in those countries exceeded 80%. On the other hand there are countries like US, UK, and central European countries (Poland, Czech republic and Hungary) with coverage below 25%.

This general information for Poland is confirmed by the results of the survey in companies (table 15). Only 4% of companies declared that at least some of their workers are covered by the agreements on the level higher than company. Additionally 19% of companies declared that they have workers covered by firm level agreement. If any of the agreements was implemented the average coverage of employees in the company amounted to 55%.

There is however a strong diversification of results. In energy, gas and water supply sector vast majority of companies declared collective agreements. What is more important in those companies all workers were covered by the agreements. In opposition to this in “trade and repair” section only minority of companies declared participation in collective agreements and the percentage of workers in the companies in which they were applied was the lowest.

What is even more important in Poland like in Hungary, UK or the US the wage bargaining is characterized by highly decentralized wage negotiations. In the results of the survey it is reflected by relatively very large percentage of firm level agreements in comparison to higher level agreements.

Table 15. Collective agreements. Percentages of companies that implement collective agreements and average percent of employees covered by collective agreements in the firms that implement them.

| | Sector-level agreement | Additional firm level agreement | Average coverage of the agreement in the firm if present |
|---------------------|------------------------|---------------------------------|--|
| Total | 4 | 19 | 55 |
| Manufacturing | 5 | 23 | 68 |
| Construction | 1 | 16 | 60 |
| Energy | 8 | 75 | 100 |
| Trade | 2 | 9 | 37 |
| Finance | 8 | 9 | 80 |
| Market services | 5 | 20 | 66 |
| up to 9 workers | 1 | 6 | 23 |
| 10-49 workers | 2 | 9 | 31 |
| 50-250 workers | 7 | 28 | 77 |
| 250 workers or more | 10 | 58 | 93 |

Source: Own calculations

Another factor that could have influence on nominal wage flexibility is the relative level of state imposed minimum wage. Relatively high minimum wage, that covers significant part of workers, directly decreases DNWR. The changes of the minimum wage can be also one of the factors that influence DRWR. In comparison to other European countries in 2006 Poland had relatively low minimum wage in relation to average wage. However the level

observed in Poland of about 35% was similar to other countries of our region like Lithuania, Hungary, Czech Republic etc. In opposition to majority of European countries in the period 1995-2006 the ratio of the minimum wage to average wage in Poland has declined significantly as a result of the policy of making labour market more flexible. In the year 2008 the minimum wage increased sharply by about 20% and now the ratio is close to 40%. It should be also mentioned that the percentage of workers receiving minimum wage was in Poland was low in comparison to other EU countries and amounted to about 4% in 2006. In the past, wage rigidities caused by minimum wage seemed not to be very important in the context of wage rigidities in Poland. However the increases³ of minimum wage by 20,3% in 2008 and planned increase of about 13,3% in 2009 inevitably influence DNWR and can contribute to decrease of low wage employment.

The measure usually applied to assess the employment protection is Employment protection Legislation index (EPL) calculated by OECD. This index is calculated as the assessment of employment protection measures in three main areas: regular employment, temporary employment and collective dismissals. Table 16 presents the values of the main EPL index and its components. Original OECD calculations of the EPL are unavailable for some EU countries. However there are some publications in which the method used by OECD is applied to additional countries. Table 16 was extended using the calculations from (Tonin, 2005). The main drawback of this additional calculation is that it is not fully comparable with the OECD data because it was done only on the basis of the labour code and selected additional documents. However the additional information is useful in comparing the general level of regulations in Poland with the level of regulations in other Central European Countries.

In comparison to other EU countries Poland seem to have flexible employment law. The values of the EPL in the Central European Countries like Czech Republic or Hungary are relatively close to those observed in Poland. The analysis of the main components of EPL show that the only part of the employment legislation that is regulated more in Poland than in majority of another EU countries is collective dismissals law. The level of regular employment protection as well as temporary employment protection seem to be low even in comparison with many countries of our region.

³ Average wage growth in the whole economy in 2008 do not exceeded 12%.

Table 16. Employment Protection Legislation Index and its main components

| | Employment protection legislation - total | | Components of EPL in 2003 | | |
|---|---|------|---------------------------|----------------------|-----------------------|
| | Late 1990s | 2003 | Regular employment | Temporary employment | Collective dismissals |
| Values calculated originally by OECD | | | | | |
| Austria | 2.2 | 1.9 | 2.4 | 1.5 | 3.3 |
| Belgium | 2.2 | 2.2 | 1.7 | 2.6 | 4.1 |
| Czech Republic | 1.9 | 1.9 | 3.3 | 0.5 | 2.1 |
| Denmark | 1.4 | 1.4 | 1.5 | 1.4 | 3.9 |
| Finland | 2.1 | 2.0 | 2.2 | 1.9 | 2.6 |
| France | 3.0 | 3.0 | 2.5 | 3.6 | 2.1 |
| Germany | 2.5 | 2.2 | 2.7 | 1.8 | 3.8 |
| Greece | 3.5 | 2.8 | 2.4 | 3.3 | 3.3 |
| Hungary | 1.3 | 1.5 | 1.9 | 1.1 | 2.9 |
| Ireland | 0.9 | 1.1 | 1.6 | 0.6 | 2.4 |
| Italy | 2.7 | 1.9 | 1.8 | 2.1 | 4.9 |
| Netherlands | 2.1 | 2.1 | 3.1 | 1.2 | 3 |
| Norway | 2.7 | 2.6 | 2.3 | 2.9 | 2.9 |
| Poland | 1.5 | 1.7 | 2.2 | 1.3 | 4.1 |
| Portugal | 3.7 | 3.5 | 4.3 | 2.8 | 3.6 |
| Slovak Republic | 2.4 | 1.9 | 3.5 | 0.4 | 2.5 |
| Spain | 2.9 | 3.1 | 2.6 | 3.5 | 3.1 |
| Sweeden | 2.2 | 2.2 | 2.9 | 1.6 | 4.5 |
| Values additionally calculated in (Tonin, 2005) | | | | | |
| Estonia | | 2.3 | 2.7 | 1.3 | 4.0 |
| Lituania | | 2.8 | 2.9 | 2.4 | 3.6 |
| Slovenia | | 2.6 | 2.7 | 2.3 | 3.3 |
| Bulgaria | | 2.0 | 2.1 | 0.9 | 4.1 |

Sources: (OECD, 2004, Tonin, 2005)

4. Conclusions

The aim of that article was to assess the flexibility of the labour market in Poland on the basis of the results of the survey concerning wage setting process. The interpretation of the results should be careful because the opinions of entrepreneurs can depend on the current state of the economy. This survey was carried out in specific moment of the business cycle (economic upturn) and after the relatively long period of very low inflation. The results of the survey show that there are evidences that the level of nominal wage rigidities in Poland is moderate in comparison to other EU countries. The real wage rigidities in the market sector measured by popularity of real wage indexation is on the other hand very low in comparison

to other EU countries. The results of the comparison of the selected features of the institutional environment in Poland also support the hypothesis that, in principle, trade unions and collective agreements do not make wages more rigid in Poland. The share of employees covered by those institutions even declined in the last decade which was consistent with the trend observed also in other Central European countries. The level of minimum wage in Poland until the year 2007 was relatively low in comparison to average wage in the economy and it could have been the cause of wage rigidity only for limited group of employees. According to the Polish Central Statistical Office publications the share of workers that earned minimum wage has not exceeded 5% of the total workers⁴. The rapid increase of the minimum wage in 2008 and plans to further increase can significantly rise the importance of minimum wage as a source of wage rigidity among less qualified workers.

If we assume that the results of the survey could be extrapolated into the future it could be noticed that base nominal wage cuts should not be expected in Poland, even during the downturn in the economy. The alternative strategies of reducing labour costs can contribute to the reduction of the average wage in the economy but they are not the main source of cost reductions. On the other hand the lack of wage indexation mechanisms in market sector of the economy can stop for some time the positive feedback between prices and wages until the employers and employees recognized the higher inflation as permanent and agree on some mechanisms to adjustment.

Some theories suggest that countries with relatively rigid nominal wages and flexible real wages could benefit from stable inflation level because it allow employers to decrease the real wages without “painfull” and unpopular nominal wage cuts (Tobin, 1972, Akelrof, Dickens, Perry, 1996) . This mechanism could be important during recessions when the reductions of the real value of wages could be perceived as an alternative for reduction in employment (if the inflation remains stable and there is no second-round effects). After joining monetary union the optimal level of stable inflation targeted for monetary union as the whole could be less suited for the Polish labour market specific needs. Recently the inflation target of ECB aims at inflation rates of below, but close to, 2% over the medium term while in case of Poland the inflation target is at the level 2.5% with permissible fluctuations of +/- 1 percentage point. In the environment of lower inflation the process of adjusting real wages can be slower but it is still open question what level of inflation will be observed in Poland in reaction to interest rates optimized for the whole EMU.

⁴ See the wage distributions in (CSO, 2006)

Despite the observed relative flexibility of wages in comparison with other EU countries, the nominal base wage adjustment of incumbent workers is a very rare method of adjusting labour costs to shocks. Similar to other countries this “natural” downward wage rigidity is not caused by regulations or institutions but it could be explained on the basis of implicit contract theory and avoiding shirking and adverse selection caused by potential nominal wage cuts.

Many authors point out that the wages of new workers could be the source of wage flexibility in contrary to rigid incumbent wages. However the results for different EU countries show that despite the fact that some firms set wages of the new workers taking into consideration the circumstances outside the firm, the employers have many reasons not to diversify wages of old and new workers with the same characteristics. The most important in case of Poland appeared to be the problems with morale and efficiency of employees after implementation of such wage setting policies.

The analysis of reactions to shocks the declared by companies show that majority of companies try to avoid labour costs reduction by the change in prices and margins or by reduction in non-labour costs. However if the companies declare reduction in labour costs, the reduction in employment seem to be the most frequent consequence. Reductions in variable wage components or temporary employment are the alternative solutions but they are used less frequently. As a consequence if the possibilities of price adjustment to shocks are limited, for example if there is a strong competition in the product market, the changes in employment are the most probable way of adjustment to shocks. As Poland is a country with relatively low level of EPL index, the reductions in employment in private companies (beside collective dismissals) are relatively easy to introduce.

If Poland enter the monetary union wage and employment adjustment channel would gain additional importance as other potential channels of real labour cost adjustment (like exchange rate) would disappear. It is clear that in order to anticipate possibility of more volatile employment and unemployment caused by the labour market adjustments Poland should develop more efficient employment agencies and polices targeted on activation of unemployed and inactive persons. Without such changes it is a real threat that the employment fluctuations in the future (in or outside the monetary union) would lead to depreciation of human capital and deactivation of persons every time the unemployment increase.

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6. Appendix - The English version of the questionnaire

BEFORE YOU START COMPLETING SURVEY PLEASE READ THE FOLLOWING EXPLANATIONS AND DEFINITIONS WHICH ARE USED IN THE QUESTIONNAIRE

Questions 1 do 32:

EMPLOEES:

People with a contract of employment (paid employees who work on-site; paid employees who work off-site such as customer service representatives or telecommuters; salesmen and similar employees). **Exclude:** freelance workers, home or out workers, and casual workers who do not have a contract of employment

OCCUPATIONAL CATEGORIES:

Production: non-supervisory staff in production or maintenance positions that require no vocational /trades accreditation or the equivalent in on-the-job training (assemblers, packers, sorters, pilers, machine operators, transportation equipment operators (drivers), warehousemen, and cleaning staff).

Technical: employees whose duties would normally require a community college certificate /diploma or the equivalent and who are not primarily involved in the marketing /sales of a product or service (technologists, lab technicians, registered nursing assistants, audio-visual technicians; ECE-trained caregivers; technology trainers; legal secretaries and draftspersons; computer programmers and operators).

Clerical: non-supervisory staff providing clerical or administrative services (secretaries, office equipment operators, filing clerks, account clerks, receptionists, desk clerks, mail and distribution clerks, bill collectors and claims adjusters)

Professionals: employees whose duties would normally require at least an undergraduate university degree or the equivalent (medical doctors, lawyers, accountants, architects, engineers, economists, science professionals, psychologists, sociologists, registered nurses, marketing and market research professionals, nurse-practitioners and teaching professionals; computing professionals whose duties would normally require a minimum of an undergraduate degree in computer science).

Other: if you have a large number of employees who do not correspond to any of the above categories, please write in their occupation(s) in the space provided.

Question 5

BONUSES: flexible wage components, i.e. part of compensation different from the base wage and usually linked to individual's performance.

Question 6

BASE WAGE: direct remuneration excluding bonuses (regular wage and salary, commissions, piecework payments)

Question 13.1

Definition of freeze in base wage: base wage in nominal terms remains unchanged (from a revision to the next)

Question 32

Definition of permanent full-time employees: those who have no set termination date working 40 or more hours per week.

Definition of permanent part-time employees: those who have no set termination date working less than 40 hours per week.

Definition of temporary employees: those who have a set termination date or a specific period of employment.

Question 37

Total costs: all operating expenses

Labour costs: wages, salaries, bonuses, social contributions, training, tax contributions, contributions to pension funds.

From the employers point of view these are often grouped as: **direct remuneration** (direct pay for time worked and bonuses); **other direct cost** (payments in kind, payment in capital and remuneration for non working days); **indirect cost** (soc. sec. contributions, vocational training and miscellaneous taxes).

WAGE SETTING AND WAGE CHANGES

A1. How were your firm's employees distributed across the following occupational groups. (in %, total Employment = 100%, the values observed on 31.XII.2006 r.)?

| | | |
|---|------|--|
| A1.1 Low skilled blue collar (Production) | A1.1 | |
| A1.2 High skilled blue collar (Technical) | A1.2 | |
| A1.3 Low skilled white collar (Clerical) | A1.3 | |
| A1.4 High skilled white collar (Professional) | A1.4 | |

A2. Does your firm apply a collective pay agreement bargained and signed outside the firm (at the national, regional, sectoral or occupational level) ?

- A. NO, such an agreement does not exist
B. YES, we apply such an agreement

A3. Notwithstanding your answer to question 2, does your firm apply a collective pay agreement signed at the firm level ?

- A. YES
B. NO

A4. – If "YES" in questions 2 or 3, what percentage of your firm's employees are covered by a collective pay agreement (at any level) ? (in % of total employment)?

A5. What percentage of your total wage bill in the year 2006 was related to individual or company performance related bonuses or benefits? (in % of wage bill)

A6. Does your firm have a policy that adapts changes in base wages to inflation? If "YES", please select the options that best reflects the policy followed.

- A. YES, wage change are automatically linked to PAST inflation.
B. YES, wage change are automatically linked to EXPECTED inflation.
C. YES, although there is no formal rule, wage change take into account PAST inflation.
D. YES, although there is no formal rule wage change take into account EXPECTED inflation
E. NO, inflation doesn't influence base wage setting

A7. What is the principle of remuneration for the main occupational group (biggest group defined in question A1)?

- A. Hourly base wage
B. Piece-rate base wage
C. Regular wage period-specific wage, ex.: monthly wage, weekly wage
D. Other (please specify)

A7.1

A8. How frequently is the base wage of an employee belonging to the main (biggest) occupational group in your firm (as defined in question 1) typically changed in your firm?

| | | |
|--|------|--|
| A8.1 Wage changes due to tenure | A8.1 | |
| A8.2 Wage changes due to inflation | A8.2 | |
| A8.3 Wage changes apart from tenure and/or inflation | A8.3 | |

ANSWERS:

- A. more than once a year
B. once a year
C. once every two years
D. less frequently than once every two years
E. never

A9, Are base wage changes concentrated in any particular (month / months)?

A. NO

B. YES

(Please select month/months)

| | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
| | | | | | | | | | | | |

A10. Considering the main occupational group in your firm (as identified in question 1), please indicate among the following options the relevance of factors in determining the entry wage of NEWLY hired employee:

Please identify the relevance of influence on the scale:

1 2 3 4

1= not relevant; 2=of little relevance ; 3= relevant; 4=very relevant

| | | | | |
|---|-------|--|--|-----|
| A10.1 Collective pay agreement (signed at any level) | | | | |
| A10.2 Wage of similar employees in the firm | | | | |
| A10.3 Wage of similar workers outside the firm | | | | |
| A10.4 Availability of workers with similar characteristics in the labour market | | | | |
| A10.5 Other reasons (please specify) | A10.6 | | | |
| A11. If there is HIGH unemployment in the labour market of workers you need to hire, do you pay newly hired employees significantly lower wage than that of similar (in terms of experience and qualifications) employees already in the firm? | | | | A11 |

A. YES

B. NO, because it would be perceived as unfair and earn the firm bad reputation

C. NO, because it would have a negative effect on the work effort of the new employees

D. NO, because it is not allowed by labour regulation or collective pay agreement

E. NO, because trade unions would contest such action

F. NO, because of other reasons (please specify)

A11.1

A12 If there is LOW unemployment in the labour market of workers you need to hire, do you pay newly hired employees significantly higher wage than that of similar (in terms of experience and qualifications) employees already in the firm?

A12

A. YES

B. NO, because it would be perceived as unfair by existing employees

C. NO, because it would have a negative effect on work effort of the employees in the firm

D. NO, because it is not allowed by labour regulation or collective pay agreement

E. NO, because it would generate pressure for wage increases by existing employees

F. NO, because of other reasons (please specify)

A12.1

DOWNWARD WAGE RIGIDITY AND THE ADJUSTMENT TO SHOCKS

A13. Over the last five years, has the base wage of some employees in your firm ever been:

A13.1 frozen? (YES/NO)

A13.1

If „YES“ please indicate for what

A13.3

A13.2 cut (YES/NO)

A13.2

percentage of your employees (in %)

A13.4

A14. If the wages of some employees were frozen or cut, what was the main reason for freezing/reducing the base wages?

A14

A. Profitability and/or sales went down

B. Other costs increased (ex: raw materials, energy)

C. Jobs were at risk

D. It was imposed by legislation or a higher level collective agreement

E. Because worker performance was not satisfactory

F. Other reasons (please specify)

A14.1

A15. How relevant is each one of the following reasons in preventing base wage cuts (also in the situation when labour costs reduction is needed) ?

Please indicate the relevance using scale below

1 2 3 4

1= not relevant; 2=of little relevance; 3= relevant; 4=very relevant

| | | | | |
|---|--|--|--|--|
| A15.1 Labour regulation/collective agreements prevent wages from being cut | | | | |
| A15.2 It would reduce employees' efforts, resulting in less output or poorer service | | | | |
| A15.3 It would have a negative impact on employees' morale | | | | |
| A15.4 It would damage the firm's reputation as an employer, making it more difficult to hire workers in the future | | | | |
| A15.5 In presence of a wage cut the most productive employees might leave the firm | | | | |
| A15.6 A wage cut would increase the number of employees who quit, increasing the cost of hiring and training new workers | | | | |
| A15.7 It would create difficulties in attracting new workers | | | | |
| A15.8 Workers dislike unpredictable reductions in income. Therefore workers and firms reach an implicit understanding that wages will neither fall in | | | | |

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| recessions nor rise in expansions | | | | |
| A15.9 Employees compare their wage to that of similarly qualified workers in other firms in the same market | | | | |

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Survey on wage and price formation

| | |
|---|-------|
| A16. Has any of the following strategies ever been used in your firm to reduce labour costs? (YES/NO) | |
| A16.1 Recruitment of new employees (with similar skills and experience) at lower wage than those who left VOLUNTARY (e.g due to voluntary quits and retirement) | A16.1 |
| A16.2 1 Recruitment of New employees (with similar skills and experience) at lower wage than those who were FIRED | A16.2 |
| A16.3 Use of early retirement to replace high wage employees by entrants with lower wages | A16.3 |
| A16.4 Reduction or elimination of bonus payments | A16.4 |
| A16.5 Reduction or elimination of non-pay benefits | A16.5 |
| A16.6 Change in shift assignments | A16.6 |
| A16.7 Slowdown or freeze of the rate at which promotions are filled | A16.7 |
| A16.8 Other strategies (please specify) A16.9 | A16.8 |
| A17. Has it become easier over the last 10 years to adjust wages to reduce labour costs? | A17 |

- A. YES
- B. NO -> go to the question A19
- C. DON'T KNOW -> go to the question A19

| | |
|--|-----|
| A18. If over the last 10 years it become easier to adjust wages to reduce labour costs („YES” in the question A17), please specify the main reason why? | A18 |
|--|-----|

- A. Competition has become more intense
- B. Increase in unemployment
- C. Trade unions have less power in collective bargaining
- D. Employment protection has become less tight
- E. Production is outsourced in markets where labour is cheaper
- F. Price inflation is lower

| |
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| A19. How relevant are each one of the following strategies when your firm faces an UNANTICIPATED, SIGNIFICANT SLOWDOWN IN DEMAND ? Please tick an option for each line |
|--|

| | <i>Not relevant</i> | <i>Of little relevance</i> | <i>Relevant</i> | <i>Very relevant</i> | <i>Don't know</i> |
|----------------------|---------------------|----------------------------|-----------------|----------------------|-------------------|
| A19.1 Reduce prices | | | | | |
| A19.2 Reduce margins | | | | | |
| A19.3 Reduce output | | | | | |
| A19.4 Reduce costs | | | | | |

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| A20. If the reduction of costs is of any relevance in your answer to question "A.19.4", please indicate the main channel through which this goal is achieved: | A20 |
|--|-----|

- A. Reduce base wages
- B. Reduce flexible wage components (for example bonuses, benefits, etc.)
- C. Reduce the number of permanent employees
- D. Reduce the number of temporary employees / other type of workers
- E. Adjust the number of hours worked per employee
- F. Reduce non-labour costs

| |
|--|
| A21. How relevant are each one of the following strategies when your firm faces an UNANTICIPATED SIGNIFICANT INCREASE IN THE COST OF AN INTERMEDIATE INPUT (e.g. an oil price increase) affecting all firms in the market? Please tick an option for each line |
|--|

| | <i>Not relevant</i> | <i>Of little relevance</i> | <i>Relevant</i> | <i>Very relevant</i> | <i>Don't know</i> |
|--------------------------|---------------------|----------------------------|-----------------|----------------------|-------------------|
| A21.1 Increase prices | | | | | |
| A21.2 Reduce margins | | | | | |
| A21.3 Reduce output | | | | | |
| A21.4 Reduce other costs | | | | | |

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| A22. If the reduction of other costs is of any relevance in your answer to question "A.21.4", please indicate the main channel through which this goal is achieved: | A22 | |
|--|-----|--|

- A. Reduce base wages
 B. Reduce flexible wage components (for example bonuses, benefits, etc)
 C. Reduce the number of permanent employees
 D. Reduce the number of temporary employees / other type of workers
 E. Adjust the number of hours worked per employee
 F. Reduce other non-labour costs

A23. How relevant are each one of the following strategies when your firm faces an UNANTICIPATED PERMANENT INCREASE IN WAGES (e.g. due to the renewal of the national contract) affecting all firms in the market?

Please tick an option for each line.

| | <i>Not relevant</i> | <i>Of little relevance</i> | <i>Relevant</i> | <i>Very relevant</i> | <i>Don't know</i> |
|--------------------------|---------------------|----------------------------|-----------------|----------------------|-------------------|
| A23.1 Increase prices | | | | | |
| A23.2 Reduce margins | | | | | |
| A23.3 Reduce output | | | | | |
| A23.4 Reduce other costs | | | | | |

| | | |
|---|-----|--|
| A24. If the reduction of other costs is of any relevance in your answer to question "A23.4", please indicate the main channel through which this goal is achieved: | A24 | |
|---|-----|--|

- A. Reduce flexible wage components (for example bonuses, benefits, etc)
 B. Reduce the number of permanent employees
 C. Reduce the number of temporary employees / other type of workers
 D. Adjust the number of hours worked per employee
 E. Reduce non-labour costs

PRICE SETTING AND PRICE CHANGES

A25. What share of the revenue generated by your firm's main product (group of products) in the year 2006 was due to sales in: (please indicate the structure of revenue in % - total revenue =100%)

| | | |
|-----------------------|-------|--|
| A25.1 Domestic market | A25.1 | |
| A25.2 Foreign markets | A25.2 | |

| | | |
|---|-----|--|
| A26. How was the price of your firm's main product set in its main market in 2006? Please choose a dominant mechanism. | A26 | |
|---|-----|--|

- A. unit cost plus constant profit margin, set on the level that guarantee expected profit
 B. unit cost plus variable profit margin
 C. the price was set by main customers
 D. the price was set following main competitors.
 E. the price was calculated on the basis of the prices of similar imported products
 F. the price was regulated
 G the price was set by a patent company/group
 F. Other (please specify)

| | |
|-------|--|
| A26.1 | |
|-------|--|

| | | |
|---|-----|--|
| A27 To what extent does your firm experience price competition for its main product (group of products)? | A27 | |
|---|-----|--|

- A. Severe competition
 B. Strong competition
 C. Weak competition
 D. No competition

| | | |
|---|-----|--|
| A28. Suppose that the main competitor for your firm's main product decreases its prices; how likely is your firm to react by decreasing its own price? | A27 | |
|---|-----|--|

- A. Very likely

- B. Likely
- C. Not likely
- D. Not At all
- E. It doesn't apply

| | | |
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| A29. Under normal circumstances, how often is the price of the firm's main product (group of products) typically changed? | A29 | |
|--|-----|--|

- A. daily
- B. weekly
- C. monthly
- D. quarterly
- E. half-yearly
- F. once a year
- G. once every two years
- H. Less frequent than once every two years
- I. Different pattern

in A29.1 please specify how many times the prices were changed in the year 2006

| | |
|-------|--|
| A29.1 | |
|-------|--|

| | | |
|--|-----|--|
| A30. – Under normal circumstances, are these price changes concentrated in any particular month / months? | A30 | |
|--|-----|--|

- A. NO
- B. YES (please specify what month/months)

| JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | | | | | | | | | | |

- C. DON't KNOW

| | | |
|--|-----|--|
| A31. How does the timing of these price changes relate to that of wage changes? | A31 | |
|--|-----|--|

- A. Price changes tend to follow wage changes
- B. Wage changes tend to follow price changes
- C. Decisions are taken simultaneously
- D. There is a link but no particular pattern
- E. There is no link between that two

INFORMATION ABOUT THE FIRM

| | | |
|--|--|--|
| A32. Please indicate how many workers (including employees and other types of workers) did your firm have on 31.XII.2006 r. (numer of persons): | | |
|--|--|--|

| | | |
|--|-------|--|
| A32.1 permanent full-time employees | A32.1 | |
| A32.2 permanent part-time employees | A32.2 | |
| A32.3 temporary employees | A32.3 | |
| A32.4 other types of workers (ex: people employed by agencies, consultants, apprenticeships, students, etc.) | A32.4 | |

| | | |
|---|--|--|
| A33. Please specify the following information concerning the Employment in your company: | | |
|---|--|--|

| | | |
|--|-------|--|
| A33.1 The numer of employees who join the firm in the period 01.01.2006-31.12.2006 | A33.1 | |
| A33.2 The numer of employees who left the firm in the period 01.01.2006-31.12.2006 | A33.2 | |

| | | |
|--|--|--|
| A34. How were your firm's employees distributed across the following age classes on 31.12. (in %, total employment = 100%)? | | |
|--|--|--|

| | | |
|------------------------------|-------|--|
| A34.1 Less than 24 years old | A34.1 | |
| A34.2 24-54 years old | A34.2 | |
| A34.3 55-65 years old | A34.3 | |
| A34.4 >65 years old | A34.4 | |

| | | |
|--|--|--|
| A35. How were your firm's permanent employees distributed according to tenure on 31.12.2006? (in %, total employment=100%)? | | |
|--|--|--|

| | | |
|-----------------------------|-------|--|
| A35.1 Less than 1 year | A35.1 | |
| A35.2 Between 1 and 5 years | A35.2 | |
| A35.4 More than 5 years | A35.4 | |

| | | |
|--|-----|--|
| A36. According to the current business register (REGON), what was the first year of operation of your firm? | A36 | |
|--|-----|--|

| | | |
|---|-----|--|
| A37. What percentage of your firm's total costs were due to labour costs in the reference period ? (wages, salaries, social contributions, etc.) | A37 | |
|---|-----|--|

| | | |
|--|-----|--|
| A38. How was your firm's revenue in the year 2006 in comparison with the year 2005? | A38 | |
|--|-----|--|

- A. Much lower (more than 15% lower)
- B. Lower (from 2% to 15% lower)
- C. Aproximately the same (+/- 2%)
- D. Higher (from 2% to 15% higher)

E. Much higher (more than 15% higher)

| | | |
|---|-----|--|
| A39. Sector of activity (PKD 5 digits) | A39 | |
|---|-----|--|