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ECFIN Country Focus

ECONOMIC ANALYSIS FROM EUROPEAN COMMISSION'S DIRECTORATE-GENERAL FOR ECONOMIC AND FINANCIAL AFFAIRS

HIGHLIGHTS IN THIS ISSUE:

- *Average wages continued to grow strongly during the crisis, despite a more than doubling of the unemployment rate*
- *External competitiveness has not been hampered significantly, …*
- *… but the adjustment to the crisis via job cuts, particularly of the low skilled and in poorer regions, rather than wage moderation, raises significant social concerns*
- *Policy should address, in particular, skill and geographical labour mismatches and adverse side-effects arising from minimum social security thresholds*

The Bulgarian labour market: Strong wage growth in spite of rising unemployment

*By Mart Maiväli and Michael Stierle**

Summary

The Bulgarian labour market adjustment during the economic crisis stands out by its simultaneous significant job losses and strong average wage growth. The latter has led to a rapid rise in unit labour costs, indicating a deterioration in external cost competitiveness. Nevertheless, exports have remained strong, suggesting that other non-cost factors have compensated for the apparent loss of cost competitiveness. While wage increases do not yet seem to have caused major problems for external competitiveness, they are posing challenges in terms of rising unemployment, especially among vulnerable labour market groups. While, at first sight, the institutional features of the Bulgarian labour market seem rather flexible, the minimum social security thresholds tend to hinder wage cost adjustments, especially during a downturn.

Key facts: Rising wages despite a doubling of the unemployment rate

Bulgaria was hit hard by the crisis, with GDP contracting by 5.5% in 2009 and showing only a modest recovery in the subsequent years. Bulgaria also experienced one of the strongest drops in employment in the EU, declining cumulatively by about 12% over 2008–2012. Part of the fall in employment can be explained by the fact that Bulgaria has been suffering from a relatively strong decline in working-age population of about 1.5% per year due to negative demographic trends (low birth rate, ageing population, emigration). However, the unemployment rate also more than doubled from about 5% of the labour force in 2008 to over 12% in 2012. It might be expected that, in a setting of a sharp economic downturn with rising unemployment, wages would diminish strongly. Remarkably, however, average wages continued to grow rapidly, recording double-digit growth rates during the crisis and decelerating to still around 6% in 2011-12 (Graph 1).

The sharp contraction in employment over past years should be seen in the context of an overheated labour market in the previous boom period, especially in the real-estate-related sectors. Current employment and unemployment rates still compare favourably with the early 2000s, although this starting point was remarkably weak (Graph 2). During the crisis, the labour market seems to have adjusted via employment rather than wage cuts. This entails a high social cost.

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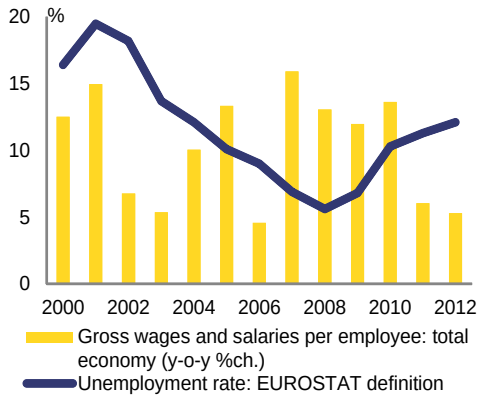
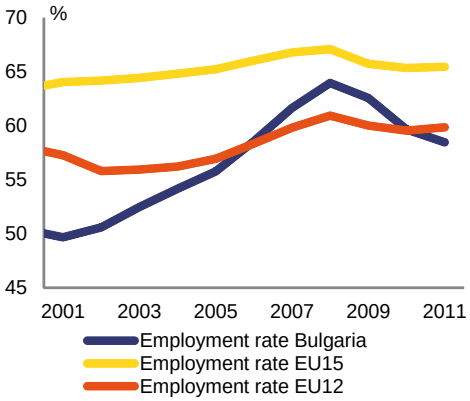
- *In spite of a doubling of unemployment, average wages have grown rapidly*
- *The labour market adjusted to the crisis through job cuts rather than wage cuts*

Graph 1: Unemployment rate and compensation per employee



Source: Commission services

Graph 2: Employment rate (% of population aged 15-64), BG, EU12, EU15



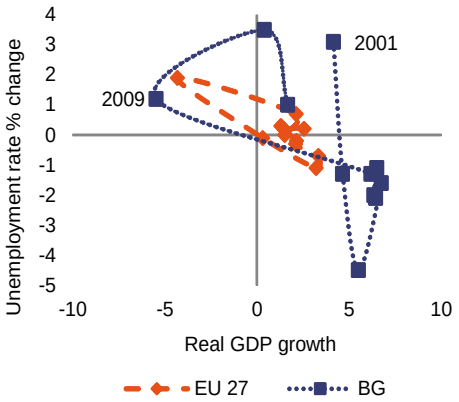
Source: Commission services

Were labour market reactions in line with fundamentals?

- *Employment in Bulgaria reacts relatively more strongly to GDP volatility than in the rest of the EU…*

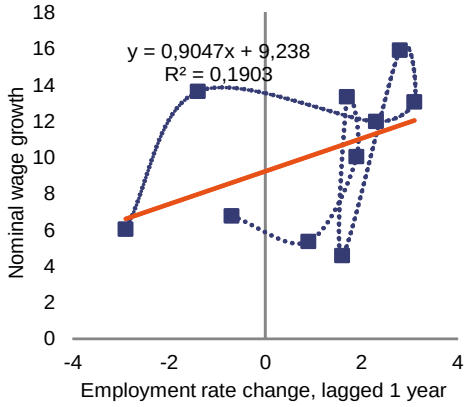
On average, employment and unemployment react more strongly to changes in GDP in Bulgaria than in other European countries. This applies during both upturns and downturns and can be seen as one facet of a flexible labour market, although this volatility implies high social costs. With a coefficient of -0.8 in the Okun equation (growth form), disregarding the outlier of 2009, the Bulgarian unemployment rate reacts relatively strongly to changes in real GDP growth. The reaction of unemployment to GDP is two to three times stronger than in the EU on average (Graph 3). Applying the Okun estimation results to the crisis years shows that the initial increase in unemployment at the onset of the crisis, particularly in 2009, was lower than might have been expected given the sharp drop in GDP. Thereafter, unemployment continued to increase steadily as the relatively slow GDP recovery in 2010-2011 was not strong enough to create employment.

Graph 3: GDP growth and unemployment rates, Bulgaria and EU, 2001-11



Source: Commission services

Graph 4: Change in wages and employment, Bulgaria, 2001-11



Source: Commission services

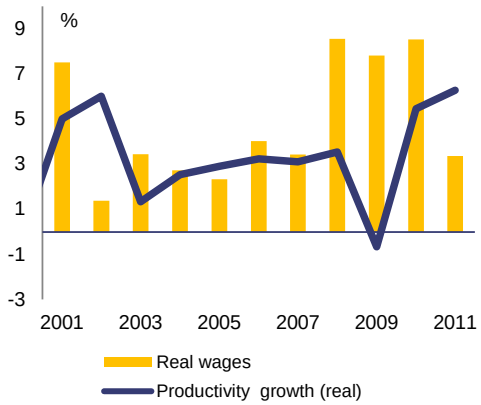
- *…but the reaction of wages to changes in employment is not very strong.*
- *Specifically, over 2008-2010, average wages grew even faster than productivity, with measured productivity boosted by the steep fall in employment*

A regression of the response of wages per employee to changes in the employment rate one year earlier indicates that changes in employment do affect wages, although this relation is rather weak (Graph 4). Benchmarked against this estimation, wages grew over 2008-2011 by more than the historical response function would suggest.

If real wages per employee grow in parallel with real productivity, this implies that wage developments are consistent with matching changes in labour demand and supply – provided full employment is maintained. In Bulgaria, wage growth appears to have been broadly in line with productivity prior to the boom-bust cycle. During the crisis, wages seem to have increased excessively, even though productivity growth also appears to have been

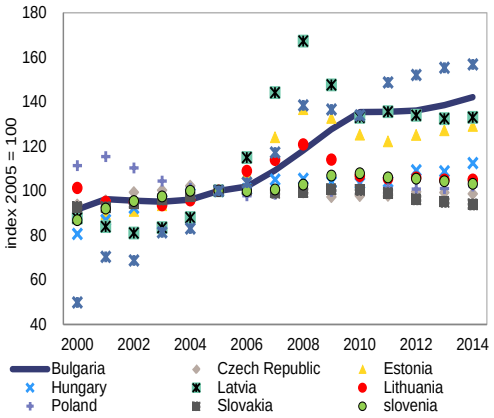
remarkably strong (Graph 5). However, productivity (or output per employee) was boosted statistically by the steep fall in employment, especially during 2010 and 2011, when employment fell despite a small GDP expansion.

Graph 5: Real productivity growth and real wages per employee



Source: Commission services

Graph 6: REER (ULC deflated)



Source: Commission services

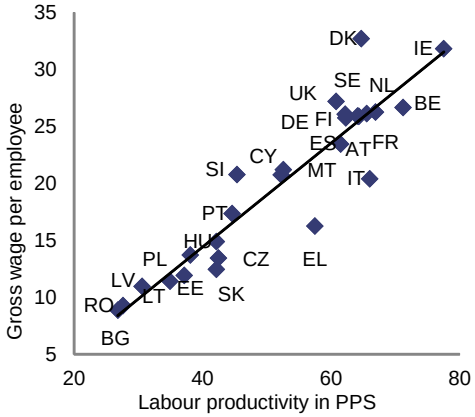
- *ULC growth appears excessive, but external competitiveness still seems strong, probably helped by more favourable trends in non-labour-cost factors and temporarily favourable world market prices*

Compared with other EU "new Member States", wage growth in Bulgaria appears high even when adjusted for the relatively high productivity growth. Bulgaria has recorded one of the strongest deteriorations in unit labour costs (ULC) and one of the strongest appreciations in the ULC-deflated real effective exchange rate (REER), particularly over 2007-09 (Graph 6). Nevertheless, while wage cost competitiveness has deteriorated rapidly, other indicators of external competitiveness appear more favourable. Notably, a solid rise in global market shares suggests that rising unit labour costs were compensated for by non-cost factors like quality improvements (Benkovskis and Wörz, 2012) and temporary factors like favourable export price trends in world markets (European Commission, 2012). Also, while wage growth rates appear rapid, the starting position was relatively low. Bulgarian external competitiveness might be helped by having the still-lowest wage level in the EU. In 2011, the hourly labour cost in Bulgaria was just EUR 3.5, 15% of the EU average of EUR 23.1, and lower than EUR 4.2 in Romania. In purchasing power standards, wages in Bulgaria amount to 37% of the EU average, at par with Romania. While, at first sight, this seems to be a strong competitiveness position relative to other higher-wage EU countries, the level of productivity in Bulgaria is also the lowest in the EU, with nominal GDP per head at 20% of the EU average, or 45% when adjusted for purchasing power standards (Graph 7). In the future, wage levels will most likely converge towards the EU average as productivity levels also converge (Graph 8). Overall, while competitiveness does not yet seem to be strongly affected by the ULC increases, wage growth over 2009-11 does not appear to be in line with the labour market equilibrium, as manifested by rising unemployment.

- *Bulgaria has the lowest wage level in the EU, but also the lowest productivity level*

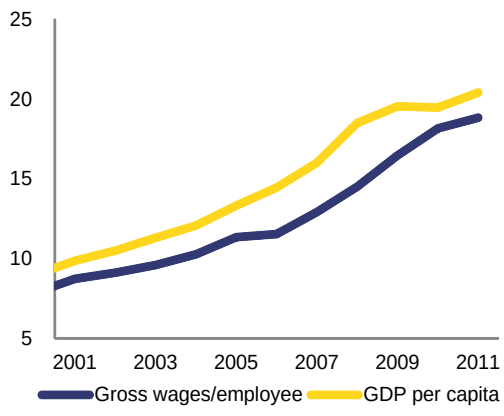
- *Convergence effects are set to continue*

Graph 7: Wages and productivity levels, 2010



Source: Commission services

Graph 8: Wages and productivity EU27=100, nominal (not in PPS)



Source: Commission services

Upward wage pressures due to skills and regional mismatches

Labour market conditions are very different across population groups, explaining faster wage growth in some growth-sectors and occupations

Labour market conditions are very different across regions, sectors and skill levels. While employment of low skilled employees dropped by 40% over 2008-2011, it fell by only 6% for high skilled employees. Therefore, the unemployment rate for the low skilled stood at 27% in 2011, while it was only 5% for the high skilled (Graph 9).[1] Employers thus seem to have adjusted to the crisis by slashing excess labour with the lowest educational attainment, weakest productivity and low wage levels. Statistically, this change in the employment composition raises the average wage of the economy.[2]

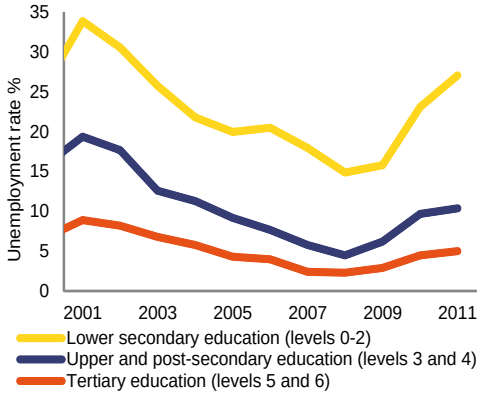
Unemployment is highest among low skilled workers and in poorer regions

Large regional discrepancies in unemployment existed already before the crisis and have remained prominent. Currently, unemployment rates range from 6% in the capital region to over 20% in the poorest regions. Regional variations in labour market conditions do affect corresponding wage growth rates, but the correlation is not very strong (Graph 10). For example, in the capital region, the region with one of the lowest unemployment rates, average wages grew by over 10% per year over 2009-2011 and thus far above the national average. Consequently, some part of the average wage growth appears to be explained by wage increases in regions with a stronger and tighter labour market. However, it does not explain the relatively rapid wage growth in regions with an elevated unemployment rate.

Construction and industry sectors were worst hit by the crisis; still, wage growth appears surprisingly high also among crisis-hit labour groups

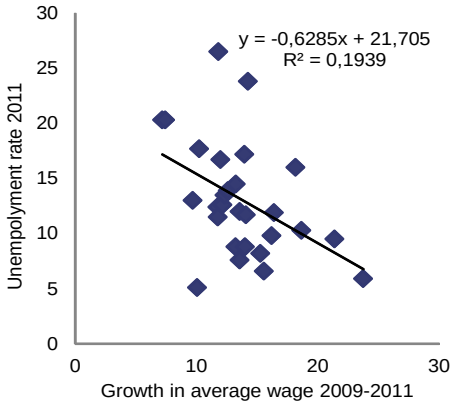
From a sectoral perspective, over 2008-11, employment in construction declined by more than 30% and also by nearly 20% in industry, while it even increased marginally in some service sectors. This seems to explain upward wage pressures in some growth-sectors, but does not explain relatively strong wage growth in crisis-sectors. For example, average wages in the construction sector increased by 27% over 2008-10, which can only be partly explained by the above-mentioned shifts in the employment composition or reduction of the shadow economy.

Graph 9: Unemployment by skill levels



Source: Commission services

Graph10: Regional unemployment rate (2011) and avg. wage growth (2009-2011)



Source: Bulgarian Statistics Office

Institutional factors and labour market policies

Are wages pushed artificially higher by institutional factors?

The above analysis showed that, while wage growth in some labour market segments is explained by stronger demand conditions, this does not hold for many regions, skill groups and sectors. The lack of wage response during an economic and labour market crisis might indicate some important institutional constraints (for example rigid multiannual wage agreements, wage indexation, trade union dominance, public sector wage growth, etc.). Overall, these features of the labour market do not appear to play a major role in Bulgaria, while some more country-specific factors seem to matter.

Wage setting appears relatively flexible in Bulgaria according to most labour market institutional features. Wage bargaining takes place mainly at firm level and at individual contract level, with a relatively low coverage of collective wage agreements (about 14% of

The factors usually found to play a role in wage adjustments in the EU do not seem prominent in Bulgaria: wage setting is relatively flexible and should allow for adjustment to changes in economic conditions; public wages and minimum wages were kept in check during the crisis period

employees, Bulgarian National Bank, 2011). Adjusted bargaining coverage[3] amounts to 30% of employees, which is the lowest in the EU apart for the Baltic countries (Visser, 2011). Union density in Bulgaria is 20% of wage and salary earners in employment, below the average of EU12 countries, but this average is pushed up by high union density in some of these countries. In fact, only five of the EU12 countries have a higher union density. Consequently, while union density does not seem to be a driving force behind wage dynamics in Bulgaria, it cannot be regarded as exceptionally low either. The duration of wage bargaining contracts is normally one year, i.e. allowing for changes in the economic conditions to be taken into account relatively swiftly. The degree of wage indexation is rather limited (Bulgarian National Bank, 2011). Also, given that the nation-wide minimum wage was frozen for two and a half years between 2009 and 2011, it can hardly explain wage pressures among the low-skilled groups and poorer regions over this particular period. However, between September 2011 and April 2012, minimum wages were lifted by about 20%. Similarly, the aggregate public sector wage bill was frozen by the government for three years in a row, from 2010 to 2012. Nevertheless, given the reduction of public employees, public sector wages per employee still grew by 10% in 2009, 5% in 2010 and another 3% in 2011. But these growth rates were lower than those in the private sector (13%, 7% and 11% respectively) and did not generate significant wage pressures.

However, a unique system of over 700 minimum social security thresholds might explain some of the puzzlingly high wage growth

While most institutional features therefore do not seem to significantly limit labour market adjustments, an exception appears to be the system of minimum social security thresholds, which limits downward wage flexibility. This system, implemented with a view to combatting the shadow economy and improving tax collection, sets over 700 different minimum contribution bases across about 85 sectors and 9 occupations for the calculation of social security contributions. Also, a maximum limit for social security tax applies, capped at a wage income of 2200 leva or about EUR 1125 per month. All employees and self-employed are covered by this system. The minimum thresholds are agreed between social partners or, in the case an agreement is not reached for some groups, these thresholds are administratively set by the government. While social security contributions have to be paid according to these thresholds, actual wages can be lower as long as they comply with the statutory minimum wage.

The minimum social security thresholds are in many cases set close to average wages prevailing in the respective occupations…

The declared wage of over one quarter of all employees is close to their respective minimum threshold (+/-10% around the threshold). This is substantially higher than the coverage ratio for the statutory minimum wage. The thresholds range from the minimum wage for some unskilled workers to more than five times the minimum wage for managers. While this dispersion might seem reasonable at first sight, in some sectors, even for elementary occupations, the thresholds are significantly above the minimum wage. Consequently, according to unpublished data, the minimum thresholds are on average only about 20% below the average income in the same sectors/occupations. Overall, in low-paid sectors and occupations, the minimum thresholds have a higher coverage and are closer to the average wage than in other sectors and occupations. These thresholds are commonly considered by social partners as indicative (not binding) minimum wages by sector and occupation.

…and they are often considered to be occupational wage floors.

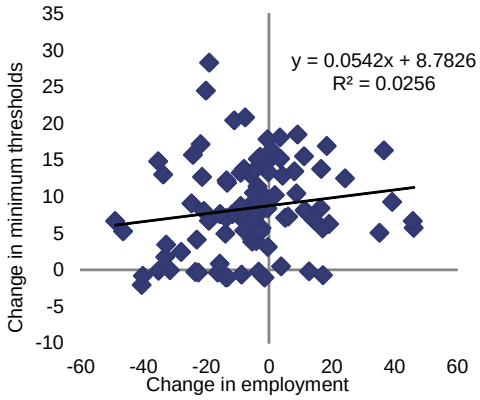
While, in principle, the threshold increases should follow actual wage trends in the economy, there are incentives to push for higher thresholds. Trade unions may hope to use them to get support for demanding higher wages, while the government may use them as a lever for reducing the shadow economy and increasing tax revenues. However, potential adverse impacts on employment might be overlooked since those effects are less directly evident.

Strong increases in the minimum thresholds might have priced the weaker groups, who were those strongest hit by the crisis, out of the labour market

In response to the crisis, the thresholds for some of the sectors and occupations severely affected by the crisis were frozen for several years (especially in the construction and certain manufacturing sectors), but they were not reduced. At the same time, most of the thresholds were increased substantially also during the crisis. The weighted average annual growth rates of the thresholds amounted to about 5% in 2010 and 7% in 2011, which probably played a role in influencing wage demands for the entire economy. It might be expected that the increases in the various thresholds would take account of differing sectoral conditions in order to avoid excessive increases in crisis-hit sectors. Remarkably, the correlation between a change in employment and increases in thresholds in the same sectors and occupational groups is very weak (Graph 11). This might indicate that the increases in thresholds did not

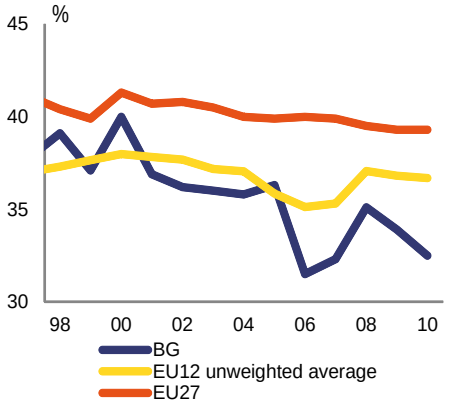
take sufficient account of differences in sectoral and occupational employment conditions. Especially for the low skilled, it appears that the thresholds did not allow for sufficient downward flexibility in the context of the economic crisis, which was characterised by a doubling of unemployment.

Graph 11: Thresholds and employment per sector and occupation, 2009–11



Source: Commission services

Graph 12: Tax wedge on labour income (net income % of total labour cost for employer)



Source: Own calculations on unpublished data

The minimum thresholds also imply regressive taxation, meaning that in some cases the lowest paid jobs are taxed at higher rates

Taxes on labour put a wedge between the labour costs for enterprises and the net wage received by employees. Bulgaria has introduced a flat income tax of just 10%, the lowest in the EU, and has been able to substantially reduce the tax wedge, including social security contributions to be paid by employers and employees. Over time, Bulgaria's tax wedge has fallen below the EU average (Graph 12). Social security taxes (aggregate tax rate of slightly over 30%) constitute a relatively larger share in the overall labour tax burden in Bulgaria, given the very low flat income tax rate. Crucially, the system of minimum social security thresholds, with a maximum cap of about three times the average wage, implies regressive taxation for some income groups (higher effective tax rates for the low-paid employees, whose actual wage is below the social security income threshold and lower taxes for the high-paid). Therefore, it also implies a higher tax wedge for low-paid jobs. While the aim of the thresholds is to fight undeclared wages, paradoxically, the regressive taxation effect could lead to an opposite outcome and push those jobs into the shadow economy, where the actual received wage is below the threshold used for taxation.

Conclusions and policy considerations

The adjustment to the crisis was especially hard on low-skilled workers in the poorer regions, which will be difficult to remedy

The labour market adjustment to the crisis cannot be considered entirely successful given the persistent rise in unemployment and difficulties in effective job reallocation. Job losses were concentrated among specific groups - the low skilled, the poorer regions and the construction and some industrial sectors. Given the increase in long term unemployment, as well as skills and geographical mismatches, much of the current unemployment risks becoming structural.

The surprisingly rapid wage growth is explained by a combination of factors, some of which are a cause for concern.

The surprisingly rapid wage growth was due to a combination of factors, some of which affect the statistical average even without actual wage increases. These effects arise from job cuts being concentrated in low-paid jobs, while higher-paid jobs remained together with a reduction in undeclared wages (however, these statistical upward-effects on the average wage cannot explain the increase in ULCs as these effects should also increase productivity by about the same amount). Actual received wages have also increased, affected by productivity convergence from the lowest levels in the EU, skill and regional mismatches, and by increases in minimum social security thresholds putting upward pressure on wages.

While the increase in average wages can be partly explained by stronger productivity growth in the context of a catching-up economy, wages have continued to grow even faster than productivity. Consequently, Bulgaria has lost external cost competitiveness. Nevertheless, the observed average wage growth has apparently not yet significantly hurt exports. Gains in export market shares indicate that the erosion of wage competitiveness was probably countered by other cost or non-cost factors, like gains in marketing efficiency. While the

While wage rises do not yet seem to have caused problems for external competitiveness, they are not consistent with rising unemployment among the weaker labour market groups

buoyant wage dynamics may therefore be considered as not yet harmful for external competitiveness or employment in some growth-sectors, they could weigh on employment among the low-skilled and poorer regions. Policy measures to alleviate skill and regional mismatches are therefore crucial both to address the unemployment challenge and to keep ULC growth pressures in check.

At first sight, the predominance of layoffs over wage cuts does not appear to be significantly induced by institutional features. However, the system of minimum social security thresholds probably plays a significant role in labour market developments. The system de-facto sets wage floors, which are effectively very close to the average wages prevailing in the same sectors and occupations, especially in the low-wage segment, where unemployment is the highest. Consequently, the system might in effect price some low-skilled segments and regions out of the labour market, since it does not allow for sufficient downward adjustment during the course of a crisis. In addition, the system implies regressive taxation (higher effective tax rates for low-paid jobs and lower for the high-paid) and thus a higher tax wedge for low-paid jobs. These negative effects could be mitigated by making adjustments to the system so as to avoid setting excessively high thresholds. In the same vein, overly rapid increases in the nationwide statutory minimum wages might actually lead to unemployment and be harmful for social welfare, if the excessively high wage level prevents employment of low skilled employees.

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[1] Following Estevao and Tsounta (2011), a skill mismatch index (SMI) can be computed representing the gap between the average proportion of the low-, medium- and high-skilled in the working age population and the corresponding proportion in employment. A skill mismatch is confirmed for Bulgaria, having a persistently high SMI, the second highest among all EU Member States.

[2] A reduction in the shadow economy can have a similar statistical effect. The government's measures to improve tax compliance might have contributed to the average official wage increase by "whitening" the economy.

[3] The adjusted bargaining coverage gives the share of employees covered by wage bargaining agreements as a % of all wage and salary earners in employment with a right to bargaining, adjusted for sectors or occupations excluded from bargaining.