

Bulgaria Country Report – ITUC Growing Green and Decent Jobs

1. Country Profile

The economic challenges confronting Bulgaria are substantial. The global recession hit economic growth in Bulgaria severely, with real GDP declining by roughly 9% from a peak in the fourth quarter of 2008 to the trough in the fourth quarter of 2009. While there were some signs that economic growth was starting to recover during 2010 and the early part of 2011, this was almost entirely due to a pick-up in net exports. However, exports slowed significantly thereafter. See Table 1 for details.

Table 1: Changes in main economic indicators (year on year)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011		
												Q1	Q2	Q3
Real GDP	5.7	4.2	4.7	5.5	6.7	6.4	6.5	6.4	6.2	-5.5	0.2	3.3	2.0	1.6
Exports	-15.9	6.0	9.8	10.6	11.9	-17.5	50.7	6.1	3.0	-11.2	16.2	21.6	12.2	2.0
Imports	-9.5	14.3	6.8	16.7	13.9	-7.6	47.7	9.6	4.2	-21.0	4.5	10.0	7.5	8.1
Private Consumption	7.3	7.9	3.6	6.8	7.7	6.7	8.6	9.0	3.4	-7.6	-1.2	1.3	1.2	1.9
Gross Capital Formation	12.4	17.6	5.5	16.9	14.8	25.9	21.4	13.0	16.3	-24.9	-14.0	1.6	8.4	-2.8
Domestic Demand	8.5	8.6	3.5	9.1	8.4	9.8	10.9	8.7	6.4	-12.7	-4.5	1.3	2.9	0.6
Government Consumption	9.4	2.8	1.2	8.8	3.5	0.4	3.5	0.3	-1.0	-6.5	-1.0	0.2	1.9	1.2

Source: Eurostat statistics.

As a result economic recovery stalled in 2011, and real GDP remains roughly 3% below the pre-recession peak. In Bulgaria, as elsewhere, the global economic crisis and the events that followed were reflected in a dramatic shock to domestic demand. Investment expenditure had been a major contributor to growth in the boom prior to 2008. But both private consumption and investment expenditure declined rapidly in 2009 and 2010. While domestic demand had started to recover in many of the EU-New Member States by early 2011, there was no clear sign of a substantial turn-around in these two key drivers of growth in Bulgaria.

Moreover, at the start of 2012 the outlook for both private consumption and investment appear bleak. Households are heavily constrained by low incomes, high unemployment, the negative wealth effect of declining property prices and the fear that the jobs market will deteriorate further, while domestic investment is being held back by the legacy of high corporate debt, excess capacity and insipid demand. Severe constraints on access to credit, concerns about liquidity in banks with strong linkages to EU-15 countries and very high real interest rates are also major factors inhibiting investment.

The deterioration in Bulgarian labour market conditions since the recession is among the worst in the EU-27. Despite having a very flexible labour market, Bulgaria has experienced a very large and disproportionate decline in employment compared to the change in output over the same period. Bulgaria lost over half-a-million jobs during the recession. This is a dramatic outcome for a country where total employment is only around three million. As a result the employment rate declined by nearly six percentage points between 2008 and 2011. Over the same period the unemployment rate more than doubled, and the European Commission has forecast that unemployment will remain above 12% in 2012. This was despite the fact that many people became discouraged and gave up searching for work. The International Labour Organisation (ILO) estimates that if open unemployment and discouraged workers are taken together the composite unemployment rate at the end of 2011 would be close to 19%. See Table 2 for details.

Table 2: Recent labour market indicators (rates and percentage change)

	2008				2009				2010				2011			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Employment (15-64)	62.6	63.9	65.0	64.3	62.6	63.3	63.1	61.2	58.8	60.2	60.6	59.0	57.3	58.2	59.9	58.7
Empl. Change (y/y)	2.9	2.3	2.3	1.4	0.0	-0.6	-1.9	-3.1	-3.8	-3.1	-2.5	-2.2	-1.5	-2	-0.7	-0.3
Participation (15-64)	67.0	67.9	68.5	67.8	66.9	67.6	67.7	66.5	65.5	66.9	67.1	66.6	65.2	65.6	66.8	66.3
Unemployment (15-64)	6.6	5.9	5.2	5.1	6.4	6.4	6.7	8.0	10.2	10.1	9.6	11.3	12.1	11.3	10.3	11.5
Youth unemployment (15-24)	14.4	13.1	11.4	12.1	14.2	14.6	16.5	19.5	23.8	21.2	21.4	26.5	29.1	25.3	23.3	28.9
Long-term unemployment (over 1 year)	3.3	2.9	2.7	2.7	2.8	2.9	2.8	3.4	4.3	4.3	4.5	5.9	6.3	6.3	6.2	6.4

Source: National Statistic Institute, Labour Force Survey.

On top of this outward migration accelerated. Estimates concerning the proportion of Bulgarian citizens living outside the country vary, but the numbers are significant. The World Bank recently estimated that in 2010 16% of the population had migrated. Moreover, a survey in 2011 by the Bulgarian Academy of Sciences suggested that an additional 20% of Bulgarians currently working in the country would like to migrate and that this proportion has been increasing in recent years. The main reason cited for wishing to leave Bulgaria is the prospect of better paid and more secure employment outside the country.

In the period between 2000 and 2008 Bulgaria, like many other transitional countries in Central and Eastern Europe, experienced an average GDP growth rate of about 6% per year. This outcome relied heavily on strong capital inflows, an excessive expansion of credit to the private corporate sector and a rapid expansion of the non-traded goods sector. This led to the emergence of an unsustainable current account deficit. The pre-crisis growth model proved compatible with increased labour force participation, a significant jump in employment levels and much lower unemployment. However, the gains in labour force participation and employment were not sustained and have been largely reversed since the recession.

While the quantity of employment improved in the pre-recession period, serious questions remain about the quality of the jobs created. The emphasis in public policy on labour market deregulation and increased flexibility over the last decade has been one factor preventing Bulgaria making more progress towards decent work.

For example, wage levels remained very low relative to other EU countries and employment conditions were inferior. Today Bulgaria has by far the lowest wage levels and labour costs among the EU-27 countries. The monthly national minimum wage was frozen for two and half years at 240 BGN (122 Euro) before being increased in September 2011 to 270 BGN or 138 Euro. After adjusting for income tax and social security charges, the net take home pay for a person receiving the minimum wage is currently 188 BGN or 96 Euro. This would mean that a worker (and their dependents) receiving the minimum wage would have to survive on around 3.60 Euro per day. Despite the recent increase, the Bulgarian minimum wage is still around or significantly less than half the minimum wage applying in Poland, Czech Republic, Slovakia, Hungary, Latvia and Estonia and around one-seventh of that in Slovenia. Average wages in Bulgaria are a mere fraction of those prevailing in the advanced countries of Europe. But Bulgarian workers also earn less than workers in the other EU-12 countries. For example, the average wage in Poland is nearly two and a half times that in Bulgaria. Even in Romania the average wage is some 45% higher than in Bulgaria. As a result of low average wages, Bulgaria enjoys substantially lower unit labour costs than all EU countries, including a substantial differential with the other EU-NMS.

But low labour costs have not proven a formula for sustained and strong economic progress. Rather this strategy has condemned Bulgaria to reliance on industries with low value added that will prevent catch-up with the more advanced countries of the EU. This is evident from Bulgaria's export structure, which remained very heavily specialised towards exports with the lowest skill content. In 2000 about 70% of Bulgarian manufacturing exports were of products with very low skill content. Over the last decade this ratio has declined but remained at about 55% in 2010. Thus, despite relatively rapid economic growth between 2000 and 2008, Bulgaria remained at the bottom of the EU league table. On the eve of the global economic crisis in 2008, GDP per capita in Bulgaria remained the lowest in the EU, and by 2010 it was still only 15.2% of the EU 27 average.

Wage and income inequality has also widened considerably since 2000. Poverty also remained pervasive, and productivity growth was moderate by comparison with many other EU-NMS. The European Commission provides comparable data on the proportion of the population considered to be 'materially deprived', which is one important indicator of living standards across EU countries.¹ In Bulgaria it is estimated that 55% of population were materially deprived while 35% of population were considered to be severely materially deprived. On this measure living standards among the poor in Bulgaria would seem to be worse than in all other EU countries. Moreover, the gap between Bulgaria and Romania in respect of this measure is a cause for concern. In terms of housing deprivation, 15.4% of the total population in Bulgaria had neither a bath, nor a shower, in their dwelling in 2010 while 25% had no indoor flushing toilet.

Throughout the rollercoaster economic ride over the last two decades the magnitude of the informal economy remained excessive, and recent evidence suggests it is once again expanding as workers seek survival strategies in the face of declining formal job opportunities. High level corruption and organised crime continue to be issues of concern that are cited by the European Commission.

Given the global economic conditions that currently prevail, a return to the pre-crisis growth model is unrealistic and would be socially undesirable. The World Bank has recently forecast GDP growth of just 1.2% for Bulgaria in 2012. This is somewhat lower than the comparable forecasts for several other countries in South-East Europe including Romania, Serbia and Albania. The rapid deterioration in economic conditions in recent months is underlined by the fact that in October 2011 the IMF was forecasting growth of 3% for Bulgaria in 2012.

Growth of the magnitude now expected this year – slightly above 1% – will be insufficient to prevent a further deterioration in the labour market which in turn will have adverse consequences for social cohesion and political stability. Consequently, the key short-term challenge in Bulgaria is to boost economic growth to levels that are compatible with improving the current dire state of the labour market to provide relief to those most affected by the crisis and poverty. Over the medium term the priority must be to move decisively towards a society that reflects the social values and sustainable living standards expected in an advanced economy within the European Union. Tangible progress towards these goals is required to build a more cohesive society and avoid an escalation of the social tension and strikes which spread in the latter months of 2011.

Achieving economic growth rates that are compatible with acceptable employment levels and decent work in the circumstances that are likely to prevail in 2012 and beyond will therefore require alternative drivers of

¹ **Material deprivation** refers to a state of economic strain and durables strain, defined as the enforced inability (rather than the *choice* not to do so) to pay unexpected expenses, afford a one-week annual holiday away from home, a meal involving meat, chicken or fish every second day, the adequate heating of a dwelling, durable goods like a washing machine, colour television, telephone or car, being confronted with payment arrears (mortgage or rent, utility bills, hire purchase instalments or other loan payments).

The **severe material deprivation rate** is defined as the enforced inability to pay for at least four of the above-mentioned items.

growth to those relied upon in the pre-crisis period plus institutions and policies that will share the benefits of growth more equitably.

Bulgaria is fortunate to have some fiscal space. The public debt to GDP ratio is currently below 20%, and the European Union has forecast a general government deficit of 1.7% and a structural budget deficit of just 0.7% of GDP in 2012 for Bulgaria. Moreover, the country has a small surplus on the current account balance. In these circumstances it would be appropriate to focus a moderate fiscal stimulus on the most appropriate public expenditure targets.

2. Choosing sectors with strong economic, employment, social and environmental potential

Given the prevailing economic conditions, increased public spending should be beneficial provided it is directed towards efficient public investment. One target could be increased investment in physical infrastructure in the transport sector. In mid 2011 the European Commission made the following statements regarding Bulgaria:

“Both national and Trans European transport networks are characterised by bad connections, poor physical condition and inappropriate rehabilitation and maintenance of the transport infrastructure. the motorway network between major cities and neighbouring countries is incomplete, while inadequate highway maintenance results in bad road conditions and poor road safety.....”

“The rail transport sector is characterised by the deteriorating quality, frequency and speed of passenger services, aging locomotives and rolling stock, redundant infrastructure, insufficient funding and inflexible management, regulation and organisational structures.” (European Commission, “Assessment of the 2011 national reform programme and convergence programme for Bulgaria,” June 2011)

The above independent assessment by the EC can be contrasted with claims made by the Government concerning its “indisputable success” in implementing projects to upgrade railway, road and maritime infrastructure. (Bulgaria, “National Reform Programme: In implementation of Europe 2020 Strategy,” April, 2011). While it is true that Bulgaria is now investing heavily to improve transport infrastructure, mainly through World Bank loans, this is an area that has been neglected in the past, and there remains scope for additional public investment in this area. There is also scope to significantly improve industrial relations in the transport sector when such investments take place. Recent strikes in the railways resulted from a decision by the Government to dramatically accelerate redundancies and cut railway services. While investments in physical infrastructure may result in capital/labour substitution, it is important that such transitions are handled with care and agreements about phasing in reforms are complied with. Increased investment in the transport sector and improved industrial relations would also assist Bulgaria and attract increased foreign direct investment in the traded goods sector and industries with high value added.

The European Commission also made the following comments about the energy sector and climate change in Bulgaria:

“Bulgaria has by far the highest energy intensity and green house gas emission intensity in the EU. The combination of very high energy intensity, low energy efficiency and moderate-to-high dependency on a limited number of foreign primary energy sources... pose threats to sustainable growth on the medium term”

Bulgaria is committed to achieve a target of 16% of renewable energy sources in final energy consumption and a 10% share of renewable energy in the transport sector by 2020. Bulgaria has a “Renewable Energy Action Plan” which is designed to achieve these targets. Clearly substantial public investment in the energy sector is urgently required to meet these commitments, and there is broad consensus about this priority.

The Bulgarian construction sector expanded very rapidly in the boom period prior to the recession of 2008. Bulgaria experienced an unsustainable property “bubble” in this period. This generated a disproportionate expansion of employment in the non-tradable sectors of the economy, with jobs in the construction sector expanding by 20% between 2004 and 2007. However, since 2008 job losses have been heavily concentrated in the construction sector. As a result capacity utilisation in the construction sector is very low. Experience in other countries has demonstrated that it is difficult to rapidly retrain workers from the construction sector for jobs in other parts of the economy. Consequently, the most efficient way to activate and re-engage workers who lost their jobs after the construction boom would be through green investments in the construction sector. Using public resources for refurbishing and retrofitting buildings that are energy inefficient would represent a very sound economic and environmental strategy.

Manufacturing remains the main source of regular employment in Bulgaria representing some 23% of all employees. However, the bulk of manufacturing activity in Bulgaria remains focused on low productivity and low value-added activities. Bulgaria has also been slow to adopt new technologies and work processes. A recent European Working Conditions Survey asked employees across European countries if new processes or technologies had been introduced in the work place during the past three years. Bulgaria was among the countries with the lowest level of investment in new technology or work processes. Investments by enterprises in job training and retraining is also very low in Bulgaria particularly among manual workers. Manufacturing therefore represents a suitable sector for investment in green interventions, as this should also lead to the use of higher technology and human capital development.

3. Employment impact of green investment in the sectors analysed

A green investment analysis was carried out for the four priority sectors of the Bulgarian economy in transport, energy, construction and manufacturing. The purpose of this exercise is to illustrate the potential job creation impact in different sectors. The additional investment amounting to 2% of GDP is distributed across the four sectors in the following ratio: 30% energy; 30% construction; 20% transport; and 20% manufacturing. The methodology for this analysis is described in the technical appendix 1. From Table 3 it can be seen that between 26,000 and 35,000 additional jobs could be created in just the first year from the above mentioned investment strategy.

Table 4 provides estimates of the job creation impact by sector. Interestingly, investment in green interventions in the transport sector has by far the largest employment generation potential. In terms of jobs created per dollar of investment, the transport sector is roughly twice as efficient as the construction sector and three to four times more efficient than the manufacturing sector. The employment elasticity of investment in the energy sector is significantly lower than in any of the other sectors considered.

Table 3: Aggregated impacts of green investments amounting to 2% of GDP.

Investment USD	Investment local currency (LC)	1 yr Job creation	Share of employment	Average Jobs per Mn \$ invested	Average Jobs per Mn LC invested
\$383,388,539	539,309,463	26,214 - 35,466	0.8% – 1.1%	68 - 93	49 - 66

Table 4: Sectoral impacts of green investments.

	Energy	Construction	Transport	Manufacturing
Investment Shares	30%	30%	20%	20%
Job creation	1,141 - 1,544	9,015 - 12,197	11,733 - 15,874	4,325 - 5,851
Jobs / Mn \$	10 - 13	78 - 106	153 - 207	56 - 76
Jobs / Mn LC	7 - 10	56 - 75	109 - 147	40 - 54

4. Making these jobs decent and investments sustainable

Bulgaria suffers from significant decent work deficits. This is largely the result of public policy pursued since the late 1990s. Economic policy has focused on fiscal and monetary restraint, deregulation of financial markets, low and regressive tax policies and liberalisation of markets. This approach was applied rigorously in the labour market. Thus, although the IMF clearly stated that Bulgaria had a very flexible labour market in 2001, the country was urged to implement further far-reaching labour reforms over the last decade. These recommendations were implemented. As a consequence, employment protection legislation (EPL) has been weakened, impacting working time and increasing precarious work.

Bulgaria, like many other countries in Eastern Europe, has also witnessed a massive decline in trade union density. Between 1990 and 2000 trade union density fell from over 80% to under 30%. In the last decade the rate of decline in trade union membership moderated, but by 2008 only around 20% of workers were members of a trade union. The proportion of workers covered by collective agreements also declined dramatically over the last two decades. By 2008 only 30% of workers were covered by collective agreements. Within the EU only the Baltic countries (Latvia, Estonia and Lithuania) had lower collective bargaining coverage in 2008.

Section 4.1 highlighted the impact of these policies and reforms on wage levels in Bulgaria, which are by far the lowest in the EU. In addition Bulgarian workers face other disadvantages. For example, average annual working time for Bulgaria in 2010 was 1,848 hours, which was the third highest in the EU and some 130 hours above the EU-27 average, while the length of annual paid leave in Bulgaria is the lowest in the EU. The 2010 European Working Conditions Survey asked workers across the EU the following question: “how is your working time arrangements set?” In Bulgaria nearly 80% of workers replied that their hours of work were established unilaterally by the employer, meaning that workers in Bulgaria have the least influence over their working hours in all of Europe.

Wage levels and working conditions in the manufacturing and the construction sectors in Bulgaria are a particular cause for concern. For example, average monthly wages of employees under labour contract in the manufacturing sector are 15% below the average for the total economy, and those in construction are about 10% below the national average. Moreover, it has been estimated that around 65% of activities in the construction sector are informal. As mentioned previously this sector benefited from substantial foreign capital inflows in the pre-crisis period and rapid employment growth. Nevertheless, this is a sector where wage levels and labour costs are relatively low. It may well be that foreign investment was attracted to these

industries by low labour costs prior to 2008, but it would also appear that foreign investors did little to eradicate informal activities from the construction sector. It is also clear that the flat tax system in Bulgaria and the dramatic decline in social security contributions and other taxes on employment had little impact on the magnitude of informal activities.

To enhance decent work in Bulgaria, collective bargaining must be strengthened. The vast majority of collective agreements have traditionally been negotiated at the enterprise level, but in recent years the importance of branch or sector level agreements has increased slightly. The Labour Code provides for the extension of collective agreements by decree by the Minister for Labour and Social Affairs. This procedure has been used on a few occasions in the recent past and should be used more extensively in the future. The Ministry of Labour and Social Policy has expressed concerns about the impact of low incomes and the need for increased coordination of bargaining. In a recent paper the Ministry noted that:

*“Bulgaria needs a considerable change in the income policy concerning the population, mostly with regard to the employment income. The low income represents something like a barrier to economic development because it does not provide incentives for quality reproduction of the work force. A debate is needed in this area, a clear vision and coordinated action on the part of all partners.”*²

A move towards increased collective bargaining coverage and greater coordination of bargaining would be desirable. The Minister for Labour and Social Policy could make more extensive use of the powers provided in the Labour Code to extend branch level collective agreements in order to help overcome the problem of low pay in Bulgaria.

5. Conclusions

Bulgaria faces major economic and social challenges. The current outlook is for very prolonged period of slow growth, high unemployment and extremely high youth unemployment, increased social tension plus continued outward migration of young people and skilled workers. Despite achieving macroeconomic stability Bulgaria has failed to match the progress in other EU New Member States in terms of catch-up with the advanced economies in the EU. This is partly because Bulgaria has failed to adequately expand high productivity and high value-added industries in the traded goods sector of the economy. Low wages and poor working conditions have compounded these problems. To accelerate growth and expand employment opportunities, Bulgaria should use the fiscal space it has to boost investment in green interventions that will boost employment. However, this needs to be combined with a stronger focus on collective bargaining and better labour market institutions to ensure these jobs provide decent work.

² Ministry of Labour and Social Policy, Brief analysis and estimates concerning the fixing of the minimum wage, unpublished monograph, November 2011.

Green Economy – Positions and Initiatives of CITUB

Within the context of Europe 2020 Strategy, Bulgaria has set up four main economic development priorities for the next decade. They are the following:

- *Better infrastructure*
- *Competitive youth*
- *Best business environment in the EU*
- *Confidence in public institutions*

In the country's national strategic vision "Bulgaria 2020", Bulgarian objectives almost coincide with the European ones, but we are also going to defend some other important targets for the country.

According to the European strategy for smart, sustainable and inclusive growth, Europe has to reach 5 main goals in the next 10 years, which are:

- *Efforts to achieve 75 % employment for women and men aged 20 to 64;*
- *Public and private investment in research and development to reach a total of 3 % of EU GDP;*
- *Cuts in greenhouse gas emissions by at least 20 % and an increase in the share of energy from renewable resources to 20%;*
- *Reducing school drop-out rates below 10% and at least 40% of 30-34-year-olds completing third level education;*
- *To decrease the number of EU citizens threatened by poverty or social exclusion by at least 20 million.*

For the same period Bulgaria has to reach respectively:

- *75% employment for people between 20 and 64 years of age;*
- *Investments in scientific research and development amounting to 1.4 – 2% of the GDP for the country;*
- *16% share of energy from renewable resources in the total energy consumption in the country and 25% increase of the energy efficiency;*
- *Early school drop-outs reaching 11% and 36% of 30-34-year-olds completing third level education by 2020;*
- *Decrease of poverty and the risk of social exclusion.*

In respect to Green Economy and new green jobs, CITUB has a clear position: decent green jobs with healthy and safe working conditions.

As a main partner in the social dialogue at national level, CITUB plays an important role for the elaboration and implementation of policies and activities connected to sustainable development, development of green

economy and ecology at all levels, as well as for finding solutions to problems arising from the green policies' after-effects for the labour market and the creation of green jobs.

Trade unions are one of the main actors in the organized civil society with specific focus on labour and industrial relations and specific potentials to influence policy.

CITUB can encourage sustainable economic growth by supporting the restructuring processes and the adaptation of workers/employees and enterprises to the changes through specific instruments and mechanisms:

- *Social dialogue;*
- *Collective bargaining;*
- *Participation in tripartite bodies and working groups and possibilities for influencing legislation and political decisions;*
- *Organizing campaigns and setting up of networks and partnerships with NGOs.*

The dilemma “either good jobs or clean environment” should not exist for CITUB. Green economy and green jobs should be good not only for environment, but for the people occupying them, too.

For us green jobs mean: Quality jobs with social protection, labour rights and last but not least – right to vote and social dialogue.

*Our position, which entirely coincides with that of the international and European organizations and institutions, is that **green jobs should be decent jobs** – providing good remuneration, income and employment security, healthy and safe conditions of work, decency of the work and relevant labour rights.*

There are substantial differences in the approach of employers and trade unions towards green economy. Employers strive to preserve their competitiveness in the conditions of green economy and to be in compliance with environmental legislation in the conditions of lack of financial resources – initiatives which are often part of the strategy for corporate social responsibility.

For us the issues of key importance are:

- *Influence over employment – loss of jobs, structural unemployment, lack of alternative employment*
- *The conditions of employment*
- *Rights*

*The connecting link between us is the fact that governments, trade unions, employers and other interested parties everywhere in Europe are of an almost unanimous opinion that **green economy has big potentials for creating a large number of jobs in future.***

*One of the main challenges connected to the lack of trained/qualified staff is the necessity **to enhance existing skills and develop new skills and qualifications**, which will be necessary both for low-qualified and for high-qualified workers/employees in the future conditions of green economy.*

***Unfortunately** the economic recession moved environmental issues aside from the public agenda in Bulgaria.*

***It will be very difficult to lay the foundations of green economy in Bulgaria in the conditions of crisis.** Part of the European anticrisis financial packages focus on energy efficiency, sustainable transport, water supply, waste management, sustainable agriculture, production of energy from renewable sources.*

This is an issue of priority for us and we are ready to make efforts for a more active participation at national level. CITUB proposes concrete measures for socially just and fair transition towards green economy with decent jobs, which are:

- *Establishment of special bodies for social dialogue on the problems of green economy*
- *Real participation in working groups and Monitoring Committees of Operational Programmes (not just observes).*