



Project “Evaluation of structural funds’ impact on gross domestic product” is financed by Technical assistance Operational Programme for 2007-2013

Evaluation of structural funds’ impact on gross domestic product (2004-2006 Programming period)

SUMMARY

Evaluation of structural funds’ impact on gross domestic product commissioned by Ministry of Finance of the Republic of Lithuania (Contract No. (1.35) - 14P-001, 7 January, 2009) was prepared by UAB “BGI Consulting” in collaboration with dr. John Bradley from EMDS (Economic Modelling and Development Strategies)

September, 2009

Main objective of the Lithuania's Single Programming document 2004-2006 was to strengthen the precondition for the growth in long-term national economic competitiveness and to facilitate the transition to and development of a knowledge-based economy characterised by increasing GDP levels and strong employment growth, leading to a higher living standards and increasing well-being for all Lithuania's inhabitants. As stipulated in the long-term vision, the main priority for the national economic development strategy is the achievement of high GDP growth rates.

The aim of the evaluation of the impact of EU Structural funds on Lithuania's GDP was to evaluate the impact of the Structural funds on GDP in the programming period 2004-2006 and provide recommendations on increasing the impact of EU structural funds on GDP in the programming period 2007-2013. Shifts in social and economic situation since the beginning of the SPD implementation are also evaluated and compared with the baseline scenario and preconditions defined in SPD.

In order to achieve aims and objectives of the evaluation macro model HERLIT based on widely appreciable and applicable model HERMIN was designed specially for Lithuania's economy. Other analysis and evaluation methods were also used for the evaluation and were described in details in final report.

The summary of the analysis of the macroeconomic situation, sectors and main results of evaluation according to relevance, effectiveness, impact and efficiency criterions are presented in the document.

Changes in macroeconomic situation during SPD implementation

The disparities in GDP per capita and labour productivity between Lithuania and EU decreased significantly in analysed period (2004-2008).

Annual unemployment rate declined and became lower than the EU average. However, it is forecasted that unemployment rate will be 13.5 percent in 2009 and 15.4 percent in 2010; *id est.* unemployment rate would be as in 2001-2002. According to data provided by Eurostat, unemployment rate has increased in the EU as well and has reached 8.2 percent in Euro zone and 7.6 percent in EU 27 in February in 2009.

Increase in Lithuania's unit labour costs has slowed down compared to EU average. It is considered as an advantage while retention of Lithuania's international competitiveness is essential during recession.

Employment rate, expressed as a ratio of employed persons aged 15-64 to the total population of the same age group, grew in analysed period, yet it was lower than the EU average which grew in the period as well.

Although disparities across macro-economic key indicators (GDP per capita, labour productivity) have decreased rapidly (Lithuania gets closer to the EU average), nevertheless disparities are still substantial and might become even higher due to deeper recession of the economy compared to the EU.

Sectoral changes during SPD implementation

Transport

Transport sector has been developing dynamically, especially goods traffic by land transport, since Lithuania joined EU. Positive changes such as improved infrastructure, increase in goods traffic by road and railway transport, growth of labour productivity and added value should be mentioned. There was a great progress in civil aviation; however sector became one of the most problematic after the largest local carrier's bankruptcy. Safety in roads was improved slowly

and statistics of the first half of 2009 shows that the indicator might follow positive tendencies.

Information society

The development of information society was quite successful while implementing SPD. This was determined by many factors, first of all, because of information and communication technologies horizontal nature and possibilities of integration in all sectors. Comparing the development of information society in the beginning and at the end of the SPD period, it is stated that Lithuania gets closer to the EU 15 and the EU 27 average (in some parameters). For instance, Lithuania lagged behind the EU 27 average in the number of regular internet users by 10 percentage points and by 12 percentage points behind EU 15 average in 2004. Rapid increase of the indicator moved Lithuania closer to the EU 27 and the EU 15 average in recent years. The disparities sought 6 and 8 percentage points respectively in 2008.

Energy

Lithuania's energy sector is fairly well-developed; therefore it has been developed in qualitative aspects in recent years. It is significant to consider insufficient use of renewable energy and high dependence on oil and gas which will intensify even more after the Ignalina nuclear power plant will be closed down. Since 2001 till 2005 energy production and consumption indicators moved closer to the EU averages, though the disparity was still high in many aspects. Energy intensity, *id est*. the ratio between consumption of energy and the gross domestic product (GDP), is higher in Lithuania than in the EU which shows lower efficiency of Lithuania's economy and also partly reflects different GDP level and structure.

Environment

Positive changes should be mentioned in the sector such as reduced water pollution, improved quality of water treatment, increased share of recycled waste, more and larger protected areas. The emission of greenhouse substances in Lithuania was one third lower (6,8 tonnes of CO₂ equivalent) than on the average in the EU (10,4 tonnes of CO₂ equivalent). Notwithstanding some problems remain unresolved, first of all, air pollution in the cities and still insufficient part of recycled waste.

Generated amount of municipal waste per capita is lower in Lithuania than on the average in the EU. The amount of generated municipal waste per capita was 390 kg while the EU average was 517 kg per capita in 2006. However, the amount of waste dumped into landfill was 213 kg per capita in the EU which is less than a half of all waste per capita while the indicator for Lithuania seeks about 90 percent of all waste per capita. Only 37 percent of packaging is recycled in Lithuania while a respective share for the EU is 57 percent. Furthermore, the amount of municipal waste burned by extracting energy rises rapidly in the EU whereas these technologies are not used in Lithuania.

Healthcare infrastructure and social infrastructure

The share of private healthcare institutions rose while the quantity of hospitals and healthcare centres decreased. Expenditure on public healthcare increased. The overall number of physicians remained stable.

The number of healthcare institutions hasn't changed significantly. However, the extent of structural funds investment, larger share of services provided to disabled points to qualitative development of social infrastructure. Private initiative is still relatively low.

Lithuania's expenditure on healthcare is similar as in other new EU members; it is substantially lower in the new EU members than in the old ones. The disparity in expenditure on healthcare expressed in absolute numbers per capita still remains high.

Scientific Research and Experimental Development (R&D)

Summarizing statistical data on R&D can be stated that there was no obvious progress in this sector. The potential of country's R&D and innovation has shrunk in some parameters.

Lithuania's expenditure on R&D is still lagging behind the EU average and was almost three times lower in 2003 and more than two times lower in 2007.

Employment and unemployment

Country's labour market faced considerable changes. Due to a rapid economy growth and great extent of emigration, high rates of unemployment were replaced by lack of labour force. As most experts state it became one of the signs of overheating of an economy and an obstacle for further development. However the situation in labour market has changed in 2008 as the beginning of deep recession determined mass redundancy. The global aspects of recession worsened the situation even more and caused difficulties when trying to employ in other EU countries.

Education and Vocational Training

Education and vocational training have been developing coherently. State's expenditure on education has been growing all the period but at a lower rate than GDP. The greatest part of it still goes for wages for personnel, taxes for services and etc.

The indicators on general education become better. Enrolment and graduation in lower secondary and upper secondary education became even higher. Besides, more and more people seek for tertiary education. Nevertheless this tendency is considered as twofold because increasing disproportion between graduates of universities and vocational schools mismatch of the structure of labour market and is not in line with the practise of the leading EU members.

Life-long learning situation in Lithuania is lacks behind and almost hasn't changed in recent years.

Agriculture

The development of agriculture during the last decade moved Lithuania towards the old EU members. The share of agriculture in total added value has been declining. Anyway stable or even increasing volumes of production show that this decline was determined by growth of other non agricultural branches. Employment in agriculture has decreased more than twice which also indicates the growth of productivity.

Rural development

Rural areas have been developing coherently in the country in 2001-2007. The population of rural areas remained almost unchanged, unemployment rate has fallen and income of rural inhabitants has risen. However some indicators such as low natural increase, rapid increase in deaths from alcohol, increase in numbers of divorce are still negative. Yet these problems are common in all the country not only in rural areas. It is important to take a notice of present juvenile's future plans as at present the number of employable inhabitants under 45 years old is relatively smaller in rural area. Therefore decision of present juveniles on future residence will affect the development of rural areas in the future.

Forestry

As compared to the beginning of the decade the coverage of forest land area, total volume of growing stock, growing stock per forest land unit and forest resources have increased. Added value of forestry grew despite decreasing volumes of forest felling.

Fishing

Baltic Sea fishing fleet was reduced during recent years in order to adjust it to smaller cod fishing quotas and to improve performance of remaining fishing fleet. Moreover aquaculture companies are modernised, their production potential is enhanced. As a result, the volume of particular aquaculture production grows. The volume of fish catch has risen because of the new fishing areas (e.g. in the Pacific Ocean) and better use of quotas of particular species.

Industry and Business

Small and medium sized business experienced a boom during the period as the number of companies, share of produced GDP and employed persons had increased. The remaining negative tendencies of development of small and medium business are discrepancies among regions, relatively low entrepreneurship and insufficient development and application of high and medium-high technologies in SMEs.

Tourism

Integration to the European Union was advantageous for incoming and outgoing tourism as flows of incoming tourism increased and the use of services of local tourism companies expanded. More investment was assigned for infrastructure such as development of hotels and rural tourism objects. Despite rapid development motel business is still insufficient especially considering Lithuania as transit state.

Impact of EU structural funds on GDP: Evaluation of relevance

According to the results of carried analysis (according to SMART), it was concluded that indicator "Real GDP growth stated in 2004-2006 SPD over baseline scenario due to SPD" is relevant. It is one of the most important indicators while evaluating the impact of cohesion policy in Objective 1 countries. It is essential to include this indicator into programming documents because observation can be carried out how convergence countries move towards GDP average of EU.

The results of evaluation showed that impact and long-term social and economic effects of 2004-2006 SPD are in line with the needs of society. The needs of society are perceived as the degree of achievement of SPD aims and objectives expressed in impact indicators. Firstly, this was determined by positive impact of SPD which is expressed in main impact indicators on programme level (Increase in real GDP growth over the baseline scenario due to the SPD, net additional jobs). However, Structural funds investment also had negative social and economic effects such as negative influence on trade balance, price and wage level and government borrowing level. There aren't any negative effects traced after programme's termination.

Impact of EU structural funds on GDP: Evaluation of effectiveness

Results of evaluation under the effectiveness criteria submit an answer to a question "What is the level of achievement of SPD indicator "Increase of GDP according initial scenario".

Evaluation of effectiveness was carried out comparing the results of HERLIT model with the results of Ex ante analysis and forecasts submitted in SPD Complement

2004-2006. The impact of SPD on real GDP level peaked in 2008 and was in 2.1 percent p. The results of HERLIT based evaluation show the averaged 1.8 percent of impact each year which is 0.3 percentage point higher than the results of ex-ante evaluation. The results of HERLIT model for evaluation of effectiveness submit that the level of achievement of SPD effectiveness was obtained and 0.3 percentage point exceeded the predicted impact on GDP.

Impact of EU structural funds on GDP: Evaluation of impact

Impact of SPD 2004-2006 on added value of sectors

The most dramatic impact is on building and construction, where the increase in the level of real GDP peaks at about 7 per cent in the year 2008, and declines quickly to zero after termination. The implementational impact on market services is also significant, peaking at about 2.3 per cent in 2008, and declining rapidly thereafter. The impacts on manufacturing GDP are slow to build up, peak at just under 0.75 per cent in 2010, and continue into the medium term. The impacts on public services GDP are modest and are affected by minor price and wage changes.

Impact of SPD 2004-2006 on sectors' s labour productivity

The most significant impact of SPD 2004-2006 on productivity in the economy as a whole was 0.35 percent in 2008. This means productivity was 0.35 percent higher than it would have been without SPD investment. Productivity in manufacturing sector due to SPD investment increased in 0.8 percent while market services sector productivity increased in 0.53 percent in 2008.

Long-term Social and Economic Consequences of SPD 2004-06

Long-term social and economical consequences of 2004-2006 SPD, *id est*. effects (impact) which continues after programme's termination, are identified and evaluated in HERLIT macro model.

Long-term impact of SPD on GDP

The impact on GDP declined rapidly in the first year after programme's termination. Although the impact on the level of GDP declines dramatically from the 2008 peak, it does not go to zero. In the year 2009 (the first after termination), the increase in the level is just under 0.6 per cent, and in the long run GDP remains higher by 0.13 per cent.

Long-term impact of SPD on employment

Although the impacts on the level of GDP and total employment are similar in the first few years, thereafter a "gap" opens up, with smaller employment increases. This is due to the fact that the SPD serves to increase productivity. So although the effect of the SPD is to increase employment the more important effect is to drive up factor productivity and boost international competitiveness.

Long-term impact of SPD on different sectors

The impacts on manufacturing are very different, in that they are slow to build up, but are long lasting, even after the programmes terminate. For instance, the impact will be 0.75 percent and lasts in the mid-term. The impact on other sectors is not long lasting after the programmes termination.

The greatest long-term impact on labour productivity is noticed in manufacturing sector and remains 0.7 percent in 2009 and 0.4 percent in 2015.

Impacts of SPD 2004-06 on trade balance

Lithuania's trade balance deteriorated by over 1.2 percentage points at most in the year 2008 (where the trade balance is expressed as a percentage of GDP). Immediately after the termination of the 2004-2006 programme there is a modest improvement in the trade balance continuing in the post programme period.

Long-term impact of SPD on expenditure

The impact on aggregate investment (public plus private, for all five sectors in HERLIT) is very large, reflecting the fact that the SPD is an investment programme and not intended to simulate consumer demand. The boost to total investment peaks in the year 2006 at an extra 7 per cent, while the maximum boost to private consumption is smaller, at about 3.5 per cent. The consumption boost rapidly falls away to zero after implementation terminates, while there is a small enduring boost to investment.

Long-term impact of SPD on prices

The increase in the price level of building output is biggest, and peaks at about 2.5 per cent in 2008. The impact on the price of manufactured goods is the smallest, due to the partially externally determined nature of this price and considerable rise of productivity in manufacturing.

Impact of EU structural funds on GDP: Evaluation of efficiency

In order to compare cross-country Structural Fund impact results in different EU "cumulative" multipliers were calculated. "Cumulative" multiplier is defined as the cumulative percentage increase in the level of GDP divided by the cumulative funding injection, where the latter is expressed as a percentage of GDP. Higher values represent higher efficiency of implemented programmes. Lithuania is assigned to a group of countries with relatively lower value:

High values (above 3.0): IE (4.0), ES (3.3), CZ (3.3) and MT (3.1)

Medium values (between 2.5 and 3.0): SK (2.8), EL (2.8), EE (2.8), PT (2.6), PL (2.5)

Low values (below 2.5): LT (2.4), HU (2.4), SI (2.2), CY (2.2), LV (1.9)

Recommendations

The recommendations are provided on increasing the impact of structural funds on gross domestic product. They can be summarised into three main groups:

- Strengthen the programming stage applying detailed methods of forecasting and present situation analysis and so ensure that investment is coherent with real economy needs;
- Enhance the efficiency of structural funds using appropriate techniques of micro level (e. g. Cost-Benefit Analysis (CBA)) in order to evaluate the efficiency at the microeconomic level and applying the results during the mid-term evaluation of the programme;
- Strengthen strategic planning at national and regional levels prioritizing the most significant needs of the economy's development (according to stages of the competitive economy) and ensure high compatibility of renewed national strategic documents and the programme of structural funds.