

Highlight 2. Impact of floods and damage restoration on property, GDP and fiscal deficit

Milojko Arsić, Danko Brčerević

In this Highlight we have tried to answer the question what will be the impact of damages from the recent floods on economic activity and fiscal deficit in 2014. Reliable assessment of the impact of floods on GDP is currently not possible to give, because there are no precise data on all its consequences. However we think that it is already now possible, and useful, to define the scale of the impact of floods on GDP – not only for GDP forecasts in 2014, but also because in public some arbitrary interpretations of the scale and the impact of this natural disaster appeared¹. First it is necessary to separate the damage to the property from the impact that floods have on income and production, because these are two different things. For example, flooded house has a great damage to property but a very small effect on income and GDP (reduction of income that reduces GDP as a consequence of a flooded residential unit counts as a lost imputed rent). A somewhat different example is the flooding of agricultural areas, which has a relatively small effect on property, because these areas will be, for the most part, equally usable in the next agricultural season (and some can probably be used already in this), but a relatively large impact on production, because crops for 2014 on these areas are ruined.

International experience shows that the damage on property and fall in production, which are the results of floods, are usually significantly lower in comparison with other natural disasters (for example earthquakes)². That is because floods unlike earthquakes usually affect smaller areas, but also leave less lasting consequences on the assets (with floods the damage is usually easier and faster to repair than with earthquakes). Also, as a rule natural disasters, including floods, have far greater impact on the loss of assets than on decrease in income and production. First estimates of the damages on assets from floods, which could be heard in the public, amounted to around one billion euros or about 3% of GDP. Decrease in GDP from floods should then be for an order of magnitude lower (especially as the first assessments of damages on assets are overestimated), and so already now we exclude the possibility that the economic activity in Serbia will have significant fall as a consequence of floods.

¹ For example very arbitrary interpretation is that only in agriculture 500 million of euros is lost.

² C. Benson, E. J. Clay (2004) „Understanding the Economic and Financial Impact of Natural Disaster“, World Bank.

When analysing the impact of floods on individual sectors of the economy we see that the greatest impact could be on agriculture, production of electricity and mining. The largest negative impact of floods on economic activity is through reduction of agricultural production. According to the last available data, around 80.000 hectares of agriculture area has been flooded. In Serbia in total around 3 million hectares is under crops³, so the floods could directly affect reduction in agricultural production less than 2.5%⁴, and, we estimate, on reduction of GDP probably for around 0.2 p.p. Impact on production of electricity is somewhat lower and temporary. Data on relatively low imports of electric energy during the state of emergency and mainly normal supply of electricity in the largest part of Serbia, indicate that the fall in production of electricity probably won't be so high. Under (most probably overestimated) assumption that the production of electricity in the following six months will fall in average by 10% the impact this reduction would have on GDP would be somewhat below 0.2 p.p of GDP. Mining has the share in gross added value of Serbian economy of just 1.9% so the eventual reduction in mining production until the end of the year for about 10% (as a consequence of floods in Kolubara) could affect reduction in GDP by about 0.1 p.p. Reduction in imputed rent due to the flooded residential buildings is almost negligible, because few thousand of residential buildings were damaged by floods (of over 3 million residential units) and probably the largest part of those will be in function already in the next few months. The remaining impact of floods on GDP is even lower and less durable, and so we won't analyse them in more detail, and they refer to temporary reduction in economic activity of small and medium enterprises from the flooded areas, temporary reduction of transports, etc. Taking all this into account we conclude that the negative impact of floods on GDP growth in 2014 could amount to slightly over 0.5 p.p of GDP and by no means above 1 p.p. of GDP.

Reconstruction activities could on the other hand increase production and in certain extent mitigate negative effects of floods on GDP. Here it should be taken into account if these are completely new activities to eliminate the consequences of floods and if the resources used would not be otherwise used for some other purpose, or

³ Data on areas under crops by SORS. According to these data floods did not have significant impact on agriculture production in Vojvodina where there is undoubtedly the largest part of the total area under crops.

⁴ Taking into account the assumption that the livestock was reduced by slightly less than agricultural land, and that a large part of agricultural land (some estimates from PKS go up to 50%) will be under crops again this year. Share of agriculture in GDP is slightly below 10%. It is interesting to note how the impact of floods on agriculture is lower than the impact of drought in 2012, which reduced agricultural production for about 17% and GDP by 1.5 p.p.

they are redirected from some other activities. Only in the first case would come to the indisputable increase in GDP, while in the second case we would have to look at the difference in added value of eliminating the consequences of floods in relation to the added value these resources would create if they are used for other purposes. Also, the value and the structure of assets which should be reconstructed is not big enough to trigger high growth of economic activity: 1) preliminary damage assessment of a billion euros (3% of GDP) are probably considerably overestimated, 2) all damaged buildings, equipment and infrastructure will not be renewed, and 3) some equipment and assets are mainly imported (machines in Kolubara, technic equipment, cars, etc.), and their re-purchase will not contribute to domestic production. Therefore, we believe that activities taken to fix these damages can in best scenario contribute in a way that a decline of economic activity caused by floods will be slightly smaller than the estimated 0.5 p.p. of GDP, but that they themselves cannot be the drivers of economic growth in 2014 and the coming years.

The economic activity in 2014 will probably be in stagnation or in mild recession.⁵ The most important reasons for this are the dominant macroeconomic trends – unsustainable fiscal position (high and growing public debt and high deficit), fall in investments, low credit activity, reduction in exports and other – and not floods. QM analysis indicates that the floods will have very limited negative impact on the economy which, taking into account the effects of the reconstructions, should not be higher than 0.5 p.p. of GDP, and that therefore the economic activity in Serbia in 2014 will most probably fall for about 0,5%.

Catastrophic floods which stroked Serbia in the second part of May will have impact on the rise of the fiscal deficit, trough reduction in tax revenues and trough increase in expenditures. Impact of floods on reduction of tax revenues will be mostly realized automatically – because of the decrease in economic activity taxable income and trade will decrease, and thus also tax revenues. Also local communities will free taxpayers of annual taxes on the destroyed and damaged assets. The loss of tax revenues on the basis of floods is proportional to the decline in GDP, so in case GDP falls by 1% loss would amount to nearly 0.4% of GDP. However, the activities of remedial of the consequences of floods could mitigate the decline in GDP and thus the loss of tax revenue. If remedial of consequences of floods starts in time and with power fall in GDP would amount to less than 0.5%, and a loss of tax revenue to about 0.2%, or about 7-8 billion dinars.

Floods inflicted relatively significant damages to private and state property – the level of the damage is roughly estimated between 0.5 and 1 billion euros. Repairing these damages will be done partly by using budget funds, which could lead to an increase in public expenditures and thus to a fiscal deficit. Given the difficult fiscal situation the Government could define such a strategy in which costs arising from repairs of damages caused by floods do not affected the increase in the fiscal deficit or that such impact would be minimal. This would mean that the State provides the largest part of these funds by redistributing existing budget funds, i.e. conversion of approved loans.

Budget funds will partially finance reconstruction of roads, railways and utility infrastructure, one part of the costs would be financed by public companies and one part by foreign donations. We estimate that the State and the local communities should secure almost all funds for reconstruction of the infrastructure through redistribution of total expenditures planned for this year, and also through conversion of so far approved loans. With regard to the scale of damage to the electric power industry it is particularly important that EPS covers these damages without budgetary support, which implies the implementation of significant reforms to increase the efficiency of this company, as well as the conversion of one part of approved loans. Investments in reconstruction of the infrastructure could partially compensate for a fall of economic activity which occurred during and after the floods.

The Republic of Serbia will take part in financing one part of the costs of repairing the damages on the private property, for example reconstruction of destroyed houses, reconstruction of damaged residential units, re-sowing of crops, livestock renewal, purchases of durable goods, etc. State aid to repair the damages on private property on one hand represents the obligation of states to provide existential minimum for all citizens', while on the other hand represents the obligation of the State to help citizens to deal with damages which occurred because of decades of neglect from government bodies (undeveloped or neglected systems of floods control, tolerance for construction of residential buildings in unsafe areas, etc.). In the case of the aid in repairs of private property the State should carefully look for the balance between the needs to help the citizens which suffered, on one side, and the danger of excessive spending and borrowing for all Serbian citizens – taxpayers. When approving the aid the State should also take care not to stimulate socially irresponsible behaviour, such as the construction of residential buildings in undefended areas, avoiding the insurance of property, etc.

⁵ For more details see Section 2 „Economic activity“ of this issue of QM.

Highlights

The state aid should be the largest in basic existential needs (construction of houses and apartments), while in the case of repairing of other damages the state aid should be partial and indirect. The State should finance the construction of destroyed houses with help from donors, after it is determined that the destroyed houses were used for continuous living not only temporarily. According to the first estimates it is needed to construct around 1500 of houses with costs of construction between 40-45 millions of euro, and until now⁶ collected financial donations are enough to cover around half of these costs. Given that the trend of receiving donations is still very dynamic it could be expected that they will be sufficient to cover most of the costs of construction of new houses. Activities of the State and humanitarian organizations on collecting financial and natural donations will directly affect reduction in government expenditures. In the case of rural areas the State could consider as a cheaper solution - purchase of non-damaged houses in which no one lives and their allocation to citizens whose houses are destroyed – this would especially be justified in the case of older households.

In the case of damaged houses and apartments and also destroyed durable goods (furniture, electronics, etc.) the State could transfer one part of subsidized loans, planned for the second part of the year, for this purpose. One part of subsidized loans would be refocused to purchase of agricultural machinery, livestock renewal, while the part of the cost for re-seeding destroyed agricultural crops would be provided through the reallocation of subsidies for agriculture (supply of seeds and fuel). In some cities, and especially in Obrenovac, companies and entrepreneurs whose products were destroyed during the floods suffered significant losses. The State could transfer one part of subsidized loans in order for entrepreneurs to renew their activities through reparation of business premises, furniture and purchase of new stocks of raw materials and finished products. We estimate that it would be justified for the government and humanitarian organizations to launch the campaign in order to secure private donations of used furniture and electronics – this is especially important for households which are not creditworthy. It is estimated that a relatively large number of households possess used goods they don't need and that could be very useful for to households that were damaged by floods.

⁶ According to the representatives of the State at the beginning of June total donations amounted to about 20 million euros.

CIP - Katalogizacija u publikaciji
Narodna biblioteka Srbije, Beograd

33 (497.11)

QUARTERLY monitor of economic trends and policies in Serbia / Editor in Chief Miloško Arsić. - 2011, iss. 1 (january/july)- . - Belgrade (Kamenička 6) : The Foundation for the Advancement of Economics, 2005- (Belgrade : Alta Nova). - 30 cm

Dostupno i na: <http://www.fren.org.yu>. - Tromesečno. - Ima izdanje na drugom jeziku: Kvartalni monitor ekonomskih trendova i politika u Srbiji = ISSN 1452-2624 ISSN 1452-2810 = Quarterly monitor of economic trends and policies in Serbia

COBISS.SR-ID 126940428