European Commission

AN ASSESSMENT OF IPA PUBLIC INVESTMENT IN R&I IN ALBANIA

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- The European Commission's Joint Research Centre (JRC) is supporting an Innovation Agenda for the Western Balkans (Albania, Bosnia and Herzegovina, Kosovo, Montenegro, Republic of North Macedonia and Serbia).
- Smart Specialisation is the European Union (EU) place-based policy aiming at more thematic concentration in research and innovation (R&I) investments via the evidence-based identification of the strengths and potential of a given economy.
- Access to data and economic analysis are key to a better identification of both current and future socio-economic policy challenges.
- The EU Instrument for Pre-accession Assistance (IPA) supports reforms in the enlargement countries with financial and technical help.
- Out of the almost €650 million destined to Albania over the programming period 2014-2022, €44 are supporting competitiveness and innovation.
- Policy simulations using CGE modelling techniques show positive macro-economic effects of the IPA funds for competitiveness and innovation both in the short run and in the long run thanks to productivity improvements.

1. Policy context

The Western Balkan region includes the following countries: Albania, Bosnia and Herzegovina, Kosovo, Republic of North Macedonia, Montenegro, and Serbia. Four out of these six countries have applied for future membership of the EU (application dates in parenthesis): Republic of North Macedonia (2004), Montenegro (2008), Albania (2009), and Serbia (2009). The two remaining countries are considered potential EU candidates.

In this context, the IPA II is the tool used by the EU to support reforms in the enlargement countries during the 2014-2022 programming period. IPA II is prepared in partnership with the beneficiaries and builds on the previous IPA which worked for the 2007-2013 programming period.

Of the almost €12 billion allocated to the full IPA II program, almost €650 million are destined to Albania and cover eight priority sectors: 1) democracy and governance, 2) rule of law and fundamental rights, 3) environment and climate action, 4) transport, 5) competitiveness and innovation, 6) education, employment and social policies, 7) agriculture and rural development, and 8) regional and territorial cooperation.

The focus of this Policy Insight is on sector 5), that is competitiveness and innovation, whose objectives include the support of business competitiveness, greater market integration, the improvement of the business environment, and the development of tourism. Such objectives require the absorption of €16 million during the first three years of the programming period (2014-2017), and of €28 million until the end of the commitment period (which is 2022, due to the N+2 rule).

The European Commission's JRC is supporting an Innovation Agenda for the Western Balkans in cooperation with the Directorate-General for Neighbourhood and Enlargement Negotiations (DG NEAR). The main idea is that a successful structural transformation of the economies of the area, including Albania, must be driven by innovation.

Smart Specialisation is the EU place-based territorial innovation policy and advocates focusing public investment in research, development, and innovation on a few, carefully chosen priority domains, where the impact can be the greatest (Gianelle et al., 2016).

Under the Smart Specialisation framework, the JRC provides guidance and assistance to the enlargement countries such as those of the Western Balkans for the development of innovation strategies.

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Albania joined the Smart Specialisation Platform (S3P) in 2018. Albania's population in 2016 was estimated at 2.88 million with a GDP per capita of €3.718, about 13% of the EU average. However, the average annual real growth rate of the economy over the period 2008-2016 has been substantially higher than the EU average, being equal to 2.57% as opposed to 0.64% in the EU. Over the same period, the exports of the country have grown at a particularly high rate, more than 8.10% on average. Household consumption has also recorded an impressive growth rate of 3.80% (much higher than the EU average which was 0.54%). Given these numbers, the impact of the IPA II policy injecting about €650 million over nine years could be substantial.

The economic impact assessment of the competitiveness and innovation part of the IPA II funds in Albania reported in this Policy Insight has been carried out by means of a dynamic global Computable General Equilibrium (CGE) model of the Regional Economic Modelling team of JRC Seville following the standard structure of the GTAPinGAMS modelling framework. The model covers 140 countries and 57 sectors interlinked with bilateral trade and factor flows and it is based on the GTAP version 9 dataset, Global Trade Analysis Project (2016).

2. The modelling assumptions

Modern macroeconomic general equilibrium models provide coherent and internally consistent frameworks to analyse the channels through which macroeconomic policies affect national and regional economies. The model used for this assessment is based on the Global Trade Analysis Project (GTAP) version 9 dataset and the key economic sectors of the EU28 and Albania were modelled in full disaggregation. The dynamics of the model were kept relatively simple, with myopic expectations of all economic agents and the model being solved recursively year by year.

For this policy experiment, the working assumption is that the competitiveness and innovation priority of the IPA II in Albania is financed through an income tax levied during the period 2014-2020 only in the member states that are net donors to the EU budget. The funding is assumed to be proportional to the average net contributions of such states during the previous budget commitment period, an assumption needed to isolate the policy effects from the other structural policies financed and implemented in the EU countries.

The policy interventions under the competitiveness and innovation priority have been modelled as contributing to productivity improvements to all industries of Albania excluding fuel extraction, electricity generation, and provision of public services. The link between research and development investment and total factor productivity (TFP) improvements was taken from econometric estimates made by Kancs and Siliverstovs (2016).

TFP improvements decrease expenditures on labour and capital per unit of output, thus generating comparative advantages in terms of pricing for producers. Due to the high R&I content of the policy intervention, such improvements are assumed to last beyond the end of the policy funding, although their effects are assumed to decline gradually over time.

All policy impacts are presented as percentage deviations from the baseline projections, where the baseline considers the normal evolution of the economy in the absence of the policy intervention.

The policy impact of this research

The main results of this analysis are featured in the report on the support of an innovation agenda for the Western Balkans published in 2018 (Matusiak and Kleibrink, 2018). The report includes data and analyses for all the economies of the Western Balkans, with a country-specific focus in its third part on the challenges and good practices related to the innovation policies to transform territories.

3. Main results

The results of the model simulations are reported below focusing on key macroeconomic variables such as regional GDP, employment, real wage, trade, and consumer prices (CPI). The results of the modelling simulations suggest that, although representing a quite moderate share of the country's GDP, the IPA II funds for competitiveness and innovation provide a positive stimulus to the economy of Albania, with positive effects on GDP, household consumption, exports, and imports (as can be seen in Figure 1).

The views expressed are purely those of the authors and may not in any circumstances be regarded as stating an official position of the European Commission.

Figure 1: Impact of IPA II (competitiveness and innovation priority) in Albania (% changes from baseline)

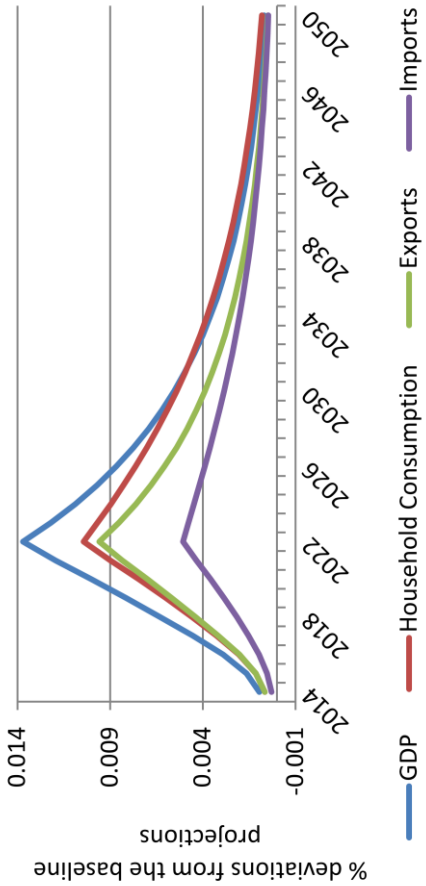
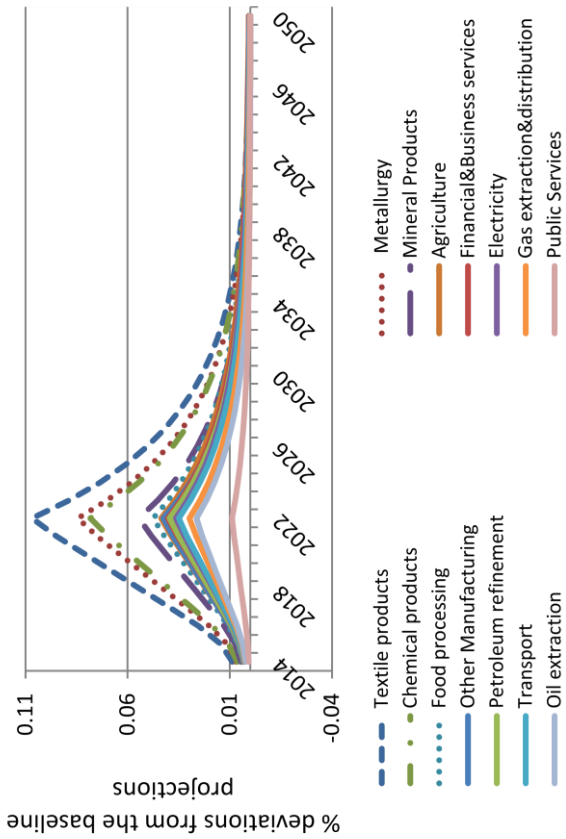


Figure 2: Impact of IPA II (competitiveness and innovation priority) on the output of economic sectors of Albania (% changes from baseline)



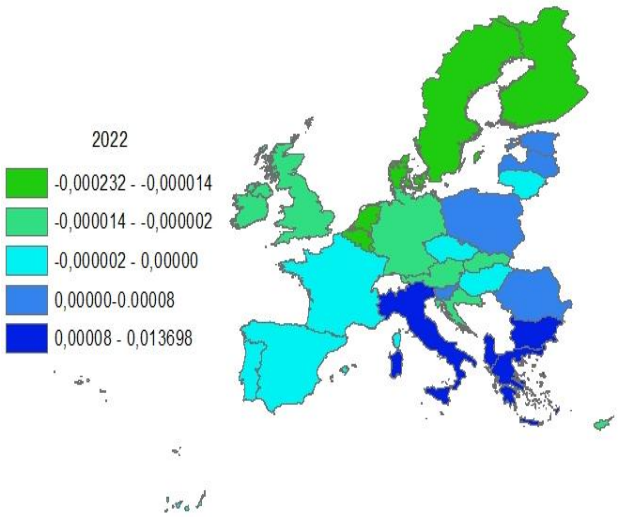
The macroeconomic effects of the policy reach their peak in 2022, at the end of the direct policy intervention phase, with full absorption of the investment funds. Afterwards (during what can be labelled as the lagged investment-induced phase), all the key macroeconomic indicators continue to record a positive impact of the policy thanks to the productivity effects which fade out gradually over time.

Although the output of all sectors in Albania is positively impacted by the policy, the textile, metallurgical, chemical, mineral, and food processing industries experience the most pronounced growth, both due to the direct policy intervention and to demand effects related to the reduction in their production cost (as illustrated by Figure 2).

It is natural for a policy such as the one analysed here to have effects spilling over to the neighbouring countries and to the countries that Albania has trade links with. Given the amount of funds, the overall effects are limited, but can be identified with the modelling exercise.

Figure 3 shows the GDP spillover effects at the end of the funding period, in 2022. During the direct policy intervention phase, the major beneficiaries are Albania itself and its main trading partners.

Figure 3: Spillover effects on GDP at the end of the direct policy intervention phase in Albania (% changes from baseline)



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In contrast, other EU member states financing the policy interventions in Albania experience GDP losses which are quite small in magnitude. It is interesting to notice that Italy benefits from the policy even though it is funding it, as it is Albania's main trading partner.

After the end of the policy intervention phase the spillover effects gradually decrease and the main effects of the policy are felt in Albania due to the productivity effects.

4. Conclusions

The analysis summed up in this Policy Insight concludes that the IPA II related to competitiveness and innovation over the period 2014-2022 in Albania will contribute positively to the economic development of the country. Moreover, the policy impacts are not only localized in the beneficiary region, but spill over to other neighbouring regions via income, trade and price effects.

This analysis fits into the broader framework of the IPA II policy for the Western Balkans which sees an active role of the European Commission's JRC to support the economic transformation of the economies of that region thanks to innovation and growth policies.

Read more

Gianelle, C., Kyriacou, D., Cohen, C., and Przeor, M. (ed.) (2016). Implementing Smart Specialisation: A handbook. Brussels: European Commission, EUR 28053 EN, doi:10.2791/610394.

Global Trade Analysis Project (2016). The GTAP 9 data base: https://www.gtap.agecon.purdue.edu/databases/v9/default.asp

Kancs, D. and Siliverstovs, B. (2016). R&D and non-linear productivity growth. *Research Policy* 45(3), 634-646.

Matusiak, M. and Kleibrink, A. (ed.) (2018). Supporting an Innovation Agenda for the Western Balkans: Tools and Methodologies. Publications Office of the European Union, Luxembourg 2018, ISBN 978-92-79-81870-7, doi:10.2760/48162, JRC111430.

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How to cite and links

Diukanova, O., Conte, A., and Salotti, S. (2019). An assessment of IPA public investment in R&I in Albania. Territorial Development Insights Series, JRC115438, European Commission.

Web: https://ec.europa.eu/jrc/en/research-topic/regional-economic-analysis-and-modelling

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