Investment for Growth and Development in the Western Balkans

Claude Berthomieu, Massimo Cingolani, Anastasia Ri

June 2016

STAREBEI Research Project
EIB Institute
University of Nice – Sophia Antipolis (France)

CONTENTS

List of figures

List of tables

Executive summary

The Western Balkans face important challenges. Completion of economic and institutional transition through structural reforms, adoption of the EU acquis, catching up process to higher per capita income levels, reduction of unemployment, poverty and inequalities, infrastructure modernization and future successful integration into the European Union are going to be a real test for the region given current circumstances and global instabilities, including migration. Addressing all these issues at once is hardly possible without sustained economic development.

The solution of the **Western Balkans puzzle** must be found putting together many elements, the core one being investment. The latter can be considered as the principal source of endogenous growth required to achieve development goals in a reasonably close future. No substantial development and convergence can be achieved in the region without a major investment effort, both private and public.

After the dramatic drop observed during the crisis, private investment is still too weak. In this situation, **public investment should take the lead in the recovery** by crowding in private investment. However, during the crisis, fiscal austerity pushed governments to reduce and postpone capital investment expenditures. Now that the first signs of the recovery appear, it is important to sustain growth through investment decisions in infrastructure sectors to support the recovery of private investment.

Investment needs are substantial. The physical capital stock per capita in the Western Balkans is estimated to be below 30% of the European Union average. Though it is inherently difficult to give precise estimates of future investment needs, it is possible to evaluate, at the macroeconomic level, global economy investment needs depending on the targeted growth rate but also, at the sectoral level, to analyze the current level of infrastructure endowment comparing it with Western European benchmarks and to identify the main deficiencies. Previous studies have shown that the countries knowing high and sustainable growth invest a significant part of their income often exceeding 25% of GDP, with a considerable portion going to infrastructure.

> *"No country has sustained rapid growth without also keeping up impressive rates of public investment – in infrastructure, education, and health. Far from crowding out private investment, this spending crowds it in. It paves the way for new industries to emerge and raises the return to any private venture that benefits from healthy, educated workers, passable roads, and reliable electricity."* [Commission on Growth and Development (2008), p.5-6].

Bhattacharya *et al.* (2012) estimate for developing countries that the minimum required increase in the stock of **infrastructure** corresponds to about *6-8% of GDP* per year (investment net of maintenance and depreciation costs). For the Western

Balkan region, this would imply infrastructure investments of *EUR 5 – 6.5 bn* per year in the next ten years (*EUR 8.7 – 11.6 billion* if Croatia is included)[1].

Indeed, for the **transport sector**, roads density in the EU-15 is more than 3 times higher than in the Western Balkans and rail density is more than 2 times higher. Only to develop the 31 priority projects of the SEETO Comprehensive Network[2] in the six Western Balkan countries *EUR 6.7 bn* would be needed. Based on countries' strategic plans, the overall amount of the region's investment needs in the transport sector in the medium term was estimated to be of the order of *EUR 40 bn* (excluding Croatia). Serbia's General Master Plan for Transport 2009-2027 alone foresees overall infrastructure needs in the sector as over *EUR 22 bn*. Considering the accumulated lags in the development of transport networks in the Western Balkans, it is reasonable to estimate that the sector investment needs are of *2-2.5% of GDP per year*. With a GDP of *EUR 73 bn* for the WB6 in 2015, this represents today the equivalent of *EUR 1.5 – 1.8 bn* per year for the region (*EUR 1.6 – 2 bn assuming* our "central" growth scenario discussed below).

In the energy sector numerous opportunities exist to improve the supply conditions of the whole economy. The Western Balkans are characterized by a relatively limited electricity generating capacity and have a large potential for supply development, in particular, in the hydro-power and other renewable energy-based generation. Given the lack of gas infrastructure, the implementation of the Southern gas corridor project and of the Ionian Adriatic pipeline offers an opportunity to gasify the region and thus diversify its energy mix based mainly on coal and hydro-energy. Poor energy efficiency, high losses in electricity transmission and distribution and frequent power outages in some countries (namely, Kosovo and Albania) imposing constraints on industry and households as well as import dependency make this sector one of the key development priorities. The Energy Community adopted an "Energy Community strategy" in which it estimated the investment needs in the energy sector for the participating countries[3], defining a list of projects which have "the highest positive impact in the largest possible number of contracting parties" (Projects of Energy Community Interest or PECIs). The total investment cost in the "minimum cost scenario" was estimated to be of the order of *EUR 35.2 bn*, while a more ambitious "low emissions / sustainable growth" scenario forecasted *EUR 59.9 bn* of investment needs[4]. The final PECI list adopted in October 2013 foresees *EUR 14.2 bn* of investment. Considering the magnitude of needs and potential for development, a reasonable estimate of energy investment needs in GDP terms for the

[1] This estimate is based on our "central" growth scenario that assumes a relatively high growth level of more than 4% per year.

[2] The multimodal regional transport network defined under the *MoU* (*Memorandum of Understanding for the Development of the Core Regional Transport Network*) in 2004 by six Western Balkan countries and Croatia and subsequently modified in 2009, represents a commonly agreed main and ancillary transport infrastructure in South East Europe. Since 2012, the Network has been recognized as the *SEETO Comprehensive Network* and has been included in the *TEN-T Comprehensive Network*. Upon accession of Croatia to the EU on 1 July 2013, its formal participation as a party to the MoU ceased, and the layout of the SEETO Comprehensive Network changed accordingly. An open discussion to assess a "*Core SEETO Network*" to ensure the connections with *TEN-T Core* Network is ongoing. [SEETO (2015), SEETO (2012)]

[3] In the beginning of 2013 contracting parties of the Energy Community were: Albania, Bosnia and Herzegovina, Croatia, the Former Yugoslav Republic of Macedonia, Kosovo, Moldova, Montenegro, Serbia, and Ukraine. Croatia was excluded from the contracting parties upon its accession to the EU.

[4] Excluding Ukraine

Western Balkans would be *1.5% - 2.7%* per year, equivalent to *EUR 1.1 - 2 bn* in 2015 (*EUR 1.2 – 2.2 bn assuming* our "central" growth scenario discussed below).

The Western Balkans also benefit from **rich natural land and water resources**. **To preserve** them and take full advantage of the potential they offer for the development of tourism and welfare will be one of the main challenges for the future. This will require substantial investment in the water and waste management sector, as well in the urban sector. The situation for waste water management is particularly alarming. Only 52% of the population of the Western Balkans is connected to a sewer network and only 10% to a wastewater treatment plant. It is estimated that *EUR 16 bn* are needed in the medium term to achieve the targets already fixed and comply with the EU acquis in the water and waste water management (*EUR 20 bn* including Croatia). As recent floods have demonstrated once again, important amounts of infrastructure investment are needed in the sector for flood prevention as the damages caused by the floods are huge (the negative impact of recent floods is estimated to be 4.7% of GDP in Serbia and 15% of GDP in Bosnia and Herzegovina in terms of output loss and damages). In addition carefully planned investment is needed to mitigate the effects of future natural disasters and climate change. Annual investment needs in the environmental sector in the close future can be estimated to be at least *1.5% of GDP for the WB6 (EUR 1.1 bn per year* in 2015, or *EUR 1.2 bn assuming* our "central" growth scenario).

Finally, and perhaps more importantly, the social sector is in urgent need of investment as well. The most revealing figures are those of the catastrophically high unemployment level, which is obviously related not only to the industrial policy and the overall economic climate, but also to the deficiencies of the education system and the poor social policy performances. Investing in education and health will not give immediate results but it is the basis for the long-term growth without which structural unemployment can hardly be solved. Early childhood care and pre-primary enrolment ratios are very low in the Western Balkans, which partly explains female unemployment. Even more surprisingly, in some countries (Albania, Bosnia and Herzegovina and Kosovo) secondary education enrolment ratios are poor comparing to the peers thus creating an important flow of unqualified young job seekers that look for opportunities abroad. Higher education developed fast and overcrowded universities create a permanent need for improving infrastructure. The poor state of the social infrastructure at the end of the 80s, coupled with the effects of the war and the chronic underinvestment that prevailed during the recent economic crisis led to a growing mismatch between the current state of the social infrastructure and the needs of the sector. Education and health public expenditures are much lower comparing to the European level. Now that it is not unlikely that economic and perhaps also non-economic migration from the region will reduce, investment in the social sector aiming at improving the imbalance in the labour markets should be a high priority. While not neglecting allocative efficiency and productivity issues, in the light of obvious underinvestment in the past, 12 % of GDP can be considered as reasonable target for overall education and health spending (including current expenditure) and *1.2% of GDP* for physical infrastructure investment in the social sector of WB6 (or *EUR 0.9 bn* per year in 2015, or *EUR 1 bn assuming* our "central" growth scenario).

The **gap in living standards** between the Western Balkans and the European Union is very high. At least 20 years will be needed for the region to catch up EU-15 per capita income level even if their real growth rate is as high as 6% per year and the

EU core grows at 1% per year. When considering a lower but still relatively high growth rate of 4% per annum for the WB6, fourteen more years would be needed.

In the light of these considerations, in the attached report different growth scenarios were considered to discuss the global **future investment needs of the region**. Projections show that the "low-growth" or "do-nothing" scenario, implying no changes in the investment effort, will not put the Western Balkans on a convergence path towards the European Union. On the contrary, in our central scenario that assumes a relatively high growth level of 4.25% per year, we estimate that the total average annual gross investment needs for the WB region (private and public) would be of *EUR 28 billion per year* (*EUR 40 billion* with the addition of Croatia). It means that current investment levels should be multiplied by almost *1.9* in the WB6 region. If a more ambitious "high-growth" scenario is targeted, a more sustained investment effort would be required: the current level of investment should be multiplied by nearly 2.4, implying an average annual gross investment need of *EUR 35 bn* for the WB6 region and of *EUR 57 bn* for the Western Balkan region comprising Croatia.

Debt is generally considered as a constraint for further investment expansion in the region. In the beginning of 2015, the gross public debt stock of three of the countries of the region exceed the highly symbolic level of 60% of GDP: in Serbia and Albania it attained 71% of GDP while in Croatia provisional data indicates that it stayed at 81% of GDP. The total debt stock of the WB6 region, both private and public, attained some *94 EUR bn* in 2014 which almost equals the debt of Croatia (*EUR 102 bn*), bringing the total to *EUR 196 bn* for the whole region (WB6+Croatia). A large portion of the current total debt stock is due to an increase in private sector debt accumulation before the crisis.

The retained "central" investment scenario requires an increase average total debt of *EUR 24 bn* for WB6 and *EUR 29.5 bn* for WB6 + Croatia respectively. This corresponds respectively to 86% and 74% of the initial investment stimulus, therefore the total debt accumulation is less than proportional to the investment effort and this is due to the growth dynamics created by the investment multiplier-accelerator process, which appears to be stronger in Croatia than in the WB6. The debt accumulation dynamic is driven by the countries with structural "over-consumption" levels through private debt accumulation which counts for two thirds of the total debt increase.

It is important to link these growth scenarios to **employment prospects**, as this remains one of the key issues for the region's future. In order to consider this crucial aspect, the relationship between the suggested investment stimulus and its potential effect on employment levels is examined. It captures an indirect causality chain, passing through the increase in the growth rate due to investment. Our estimations for the period from 1995 to 2013 for the 6 Western Balkan countries show an employment growth elasticity to growth of GDP of 0.68 which we consider as an upper-bound measure of employment intensity of growth in the WB region and that can be compared to more modest but perhaps more realistic figures of 0.5 and 0.3.

With these parameters, our central investment scenario implying an annual investment effort of *EUR 28 bn* for WB6 (*EUR 40 bn* with Croatia) and consistent with an average growth rate of 4.8% (4.25% for WB6 and Croatia) would at best generate 3% employment growth per year. Assuming that the working age population of the region continues to grow at the average rate observed for the years 2000-2013,

that means that at least 11 years of continuous and stable growth would be needed to achieve the EU-11 average employment-to-population ratio (51%) meaning that employment should increase by 2.9 million persons (3.2 million for WB6 and Croatia). In the less favorable case (employment elasticity of 0.3), this would require up to 29 years.

It is important to underline that the low growth scenario (2% annual growth rate) is unable to reduce the high unemployment levels in the region. This is the main reason why it is so important to target and sustain high growth in the Western Balkans, which requires an important and sensible investment effort accompanied by structural an institutional reforms, in the absence of which, there are serious risks of high economic, political and social instabilities[5].

Once this objective is understood and shared, the next important element to consider is the financing of the investment effort and particular the debt profile that it entails for both the public and the private sector. According to the calculations made in the report with the help of an original and still relatively simple stock-flow consistent model built for this purpose, **public debt** would increase on average by *EUR 7 bn* per year if the annual investment stimulus averages *EUR 28 bn*. However, comparing this scenario with the others, shows that the public debt increase response decreases in relative terms when higher target GDP growth rates are considered. Indeed, if the investment stimulus is sufficient, the public debt increase is relatively modest relative to GDP, due to the fact that growth is boosted, which increases fiscal revenues. This positive result is obviously depending on the capacity of governments to prioritize productive investments that would generate growth of real wealth and it is assumed that the institutional framework provided by the Western Balkans Investment Framework and the associated EU accession regulatory framework provide an opportunity to improve the efficiency of the region's development policies.

In this perspective, coordination aspects are important. The Western Balkan countries are small open economies linked through trade and should be considered as an integrated region. This underlines the importance of close economic policy coordination. Through the cross-countries' effects of the economic multiplier, a positive shock on autonomous demand in one country not only produces an increase of revenues in the domestic economy, but also generates a positive impact in the other countries of the region through increased imports from the country where the shock originated. The **coordination of investment policy** in regionally integrated areas, as promoted under the *Western Balkans Investment Framework*, is thus beneficial. Based on the estimation of *cross-country demand multipliers*, it was calculated in the report that the *EUR 7.7 bn* envelope for pre-identified priority connectivity projects of the infrastructure core network agreed by the WB6 Vienna summit (WIIW estimate) implies up to 1% annual growth rate increase in the integrated region.

The **political support** is also essential to achieve the target of the region's development. In 2014, the Western Balkans Six process started in Berlin and it was announced that an additional EU budget of EUR 150 m per year for capital investment would be dedicated to the development of connectivity in the Western

[5] In the report investment is taken to be the national accounting concept of "Gross Fixed Capital Formation", which by and large comprises all goods whose life exceeds one year.

Balkans for the period 2014-2020[6]. The first projects were approved in the Vienna summit on August 27, 2015[7] , which retained six road and rail projects for the total amount of *EUR 342.5 million* for EU co-financing under the 2015 Instrument for Pre-Accession programme. In addition, four projects of power interconnectors and electricity transmission system for a total amount of *EUR 274 million* were also retained. Further projects will be approved at the Paris summit in early July 2016.

Beyond connectivity, a more important income effect could be achieved when considering a larger initial demand stimulus comprising not only transport and energy but also environment and social sector investments as well as SMEs supporting programs. This could be achieved with the help of IPA national investment budget. It can be estimated that in addition to the *EUR 1 bn* for connectivity, the IPA national budget can bring another *EUR 1.8 bn* for capital investment to the region. Given current estimates of available official support and the recent experience of the IFIs, official support flows could amount to *3.0 EUR bn* per year[8], representing 25% of the estimated infrastructure and 6% of the estimated SME investment needs projected in our central scenario.

Expected annual investment in WB6. Estimated distribution infra/SMEs	Inv. needs coverage 2015-2020	Assumption		Resulting estimate	
		% lending imputed to infra	% lending imputed to SMEs	Estimated Infra investment	Estimated SME investment
Estimated amount of annual investment in WB6	**24 271**	27%	51%	**6 510**	**12 467**
IPA II annual grants for investment	350	95%	5%	333	18
EIB annual lending	600	41%	39%	246	234
EBRD annual lending	1 000	60%	30%	600	300
CEB annual lending	150	66%	33%	100	50
WB annual lending	580	40%	0%	232	-
KfW annual lending	280	26%	29%	73	81
Other lending and grants	100	50%	50%	50	50
Total Official Flows	**3 060**	53%	45%	**1 632**	**732**
% of annual investment needs	**16%**			**25%**	**6%**

If the new institutional framework of the Western Balkans Investment Framework put in place by the IPA II and related regulations works effectively[9], there is thus a **concrete opportunity to make the difference in the Western Balkans**. It comes through selecting a wise strategy for economic development at national level coordinated regionally by the *Western Balkans Investment Framework*, which will provide financial and technical assistance support from all the involved donors. The strategy can benefit from the support of the WB6 process.

[6] See Commission's press release: http://europa.eu/rapid/press-release_IP-15-6299_en.htm.
[7] Western Balkans Summit Vienna (2015)
[8] The authors thank the IFIs consulted for kindly sharing the information available on their current investment plans for the region.
[9] "Instrument for Pre-accession Assistance's (IPA II)" regulation 231/2014 of 11.03.2014, OJ L77 of 15.03.2014 and regulation on "Common Implementation Rules" covering also instruments similar to IPAII: (CIR) 236/2014 of 11.03.2014, OJ L77 of 15.03.2014.

The report offers simple tools (essentially based on linear models) to help building a vision of the possible future of the Western Balkans economies given their investment needs and the associated financing requirements. This view, once established and owned at national level, can become the main building block of a common vision of the future of the region that is shared at regional level also with the bilateral donors, the EC Commission and the financial institutions that can provide the financial means to realize it. The report presents different scenarios, of which one is selected as central. Since these reference growth scenarios for the medium term are derived macro-economically, by definition they do not take into account the effects of structural change in the composition of the productive structure. However, the latter are slow and, as a first approximation, they can be neglected in building-up medium-term trends. The choice between these trend scenarios defines a reference growth outlook that reflects the views of the authors of the report. Obviously, different views are possible as the future is unknown. But an effort was made to make it easy to identify the assumptions on which the different scenarios are derived and to change them, given their essentially linear nature. It is relatively easy to use the report to examine the consequences of assumptions that are alternative to those retained by its authors, in particular for the level of investment as determinant of public and private debt, as well as domestic and external debt.

This work was supported financially by the *EIB Institute*, to which the authors are thankful. It does not reflect the views of the *EIB* or those of the *EIB Institute*. The authors hope that the tools it offers will prove useful for facilitating the dialogue between the donors and the beneficiaries in view of defining a shared view of the future of the region and of its investment needs[10], which is a preliminary step for financing its development and attaining the ambitious targets that it should set to itself.

[10] Programming can play an important role for the coordination of market expectations and the correct functioning of a market economy, as stressed for instance by Guesnerie (2013, p. 64) with reference to Massé (1965).

I. Western Balkans urge more investment

The six Western Balkan countries and Croatia need urgent investment if they want to catch-up with the European Union "core" countries as they have accumulated delays due to both the turmoil of the past and the chronic underinvestment and the profound structural changes since the beginning of transition.

Needs are great in all the sectors of the economy. However, while private investment in tradable sectors is weak in the current situation of sluggish European growth, there is an opportunity to accelerate the development pace through an infrastructural “big push”. This would eliminate binding constraints to growth and development and create a favourable environment for private domestic investment and FDI. If this opportunity to improve infrastructure endowments (which by all means are poor comparing to the peers) is missed, the Western Balkans might continue to struggle with the current structural imbalances and remain “stuck” in transition, underdevelopment and social tensions for the years to come. More and better infrastructure would necessarily improve the competitiveness of the region and its attractiveness for the private foreign capital

Thus, the focus of this chapter is on the quantification of the existing divide in economic development and infrastructural gaps between the Western Balkans and the European Union countries, which, as it will be shown in the next chapter, to be corrected requires doubling the investment efforts of the region. The first section provides the macroeconomic background and underlines structural problems faced by the Western Balkans. Then the infrastructure gap is examined at sectoral level in Section 2 which quantifies the investment needs based on available statistical data, existing planning documents and other evidence. Finally, an analysis is provided for the Small and Medium Enterprises (SME) in terms of its potential investment needs, given that it is the segment of the private sector that is more policy relevant in a strategy for development given its contribution to value added and employment. An effort is made to provide estimates of needs expressed as a percentage of GDP that can quickly be transformed in monetary terms depending upon the growth scenario that the user of this report may find more likely.

1.1. Macroeconomic background

Some authors have spoken of the divide or the divides between different European countries in terms of the economic development, which separate a successful industrial and competitive “North” from a low competitive, service-oriented “South” struggling with structural imbalances and high indebtedness level [Astrov et al. (2012), Landesmann (2015)]. In this perspective, emerging from two decades of economic transition, the war and the recent economic crisis, the Western Balkans's region clearly belongs to the “south” of Europe.

1.1.1. Structure of economy

A first obvious structural indicator of transition is the share of the private or the public sector in the economy. Today, these have almost attained the average European level: for the countries for which data is available, the institutional sector of private non financial firms produces the largest part of the value added (cf. *Table 1*).

Table 1. Gross Value Added by institutional sector[11], 2011

	MKD		SRB		Visegrád		EU-27	
	EUR Million	% of GDP	EUR Million	% of GDP	EUR Million	% of GDP	EUR Million	% of GDP
Private Sector	5 015	**67.2**	23 173	**73.6**	528 377	**76.1**	9 624 064	**76.0**
Non-Financial Corporations	3 830	**51.3**	13 856	**44.0**	336 446	**48.5**	6 481 415	**51.2**
Financial Corporations	185	**2.5**	939	**3.0**	26 623	**3.8**	622 193	**4.9**
Households and NPISHs	999	**13.4**	8 378	**26.6**	165 308	**23.8**	2 520 456	**19.9**
Public Sector (General Government)[12]	1 049	**14.0**	4 091	**13.0**	83 731	**12.1**	1 644 636	**13.0**

Sources: Eurostat, Statistical Office of Republic of Macedonia (2013) Statistical Yearbook, Statistical Office of Republic of Serbia (2012) Statistical Yearbook

Looking at the branches of homogenous economic activities, the structure of the economy has been continuously changing during the two last decades. While shares of agriculture and industry in value added decreased, the sector of services saw a considerable expansion, i.e. so called tertiarisation process is going on in the region. Comparing the current economic structure in the Western Balkans with the Visegrad countries (cf. *Table 2*), two important differences emerge. Despite a considerable decrease in its share of value added, the agricultural sector remains highly important in all Western Balkan countries and especially in Albania and Kosovo (19.5% and 17.5% of the gross value added). The average share of agriculture in the value added in the six Balkan countries is 11.8% compared to 3.7% in the Visegrad four. Agriculture is also very important for employment. More than 40% of employed persons in Albania and more than 20% in Bosnia and Herzegovina and Serbia work in agriculture (cf. *Figure 1*). As discussed further in this chapter, this feature, far from being a weakness, is an opportunity for the development of the region.

[11] One can notice that the sum of private and public sectors in % of GDP is less than 100%. The difference comes essentially from the VAT and other taxes on products accounted in GDP along with the GVA (gross value added).

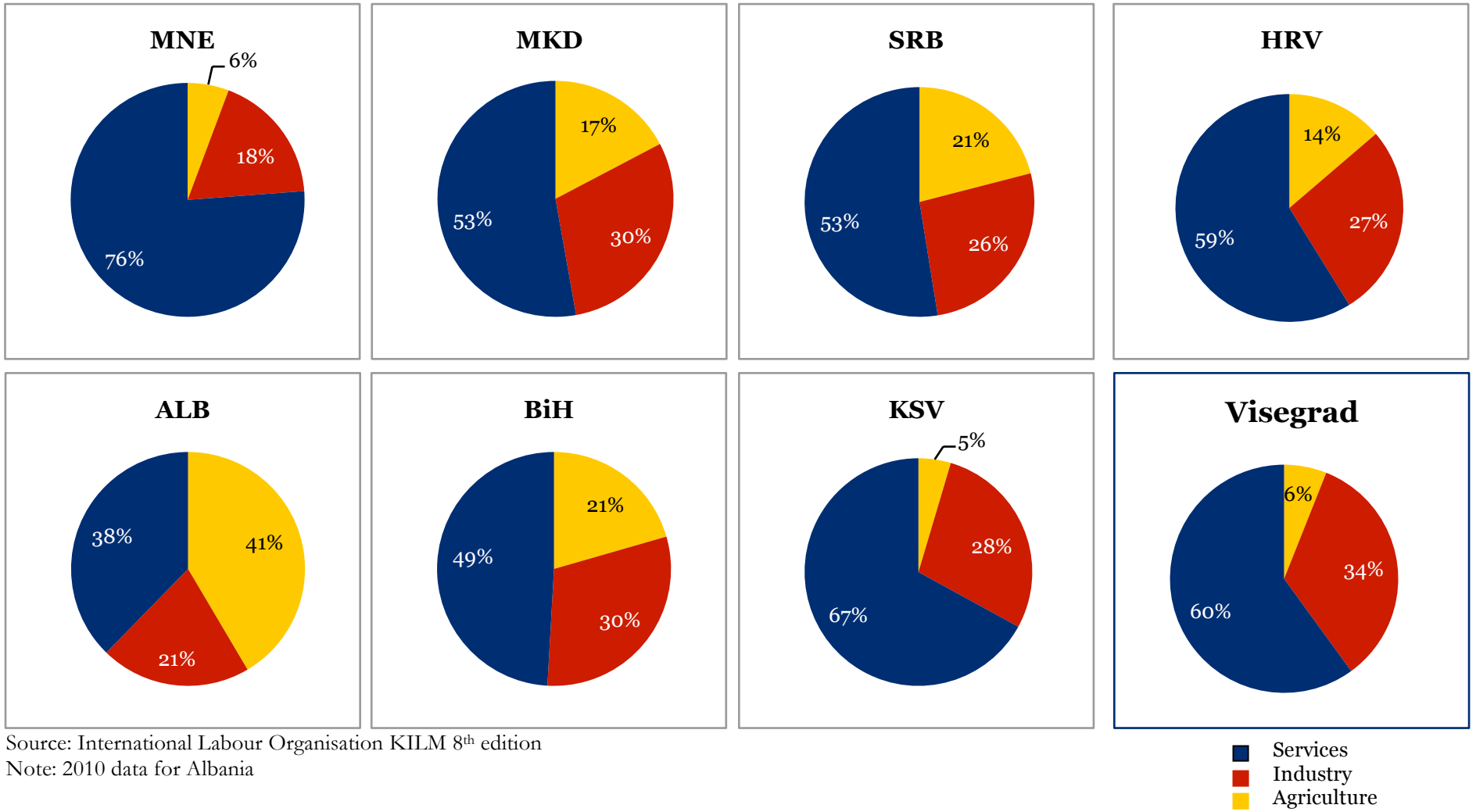
[12] State-owned enterprises are generally not consolidated with general government accounts and are accounted as a part of the private sector.

Table 2. Gross Value Added by activity in Western Balkans and Visegrád countries in 2011 (% of Total GVA)

Activity (NACE Rev.2)*	HRV	MNE	MKD	SRB	ALB	BiH	KSV	WB6	WB6+ HRV	CZE	HUN	POL	SVK	Vise-grad
A Agriculture, forestry and fishing	**4.7**	**9.5**	**10.9**	**10.5**	**19.5**	**8.2**	**17.5**	**11.8**	**9.1**	**2.3**	**4.6**	**4.0**	**3.4**	**3.7**
B Mining and quarrying	0.8	1.3	1.7	1.9	1.9	2.7	2.0	2.0	1.5	1.3	0.2	2.7	0.6	1.9
C Manufacturing	16.5	6.0	15.4	16.2	10.1	13.4	9.9	13.9	14.9	24.0	22.2	17.4	21.5	20.0
D Electricity, gas, steam, air conditioning supply	2.1	2.4	3.4	4.1	:	5.0	4.7	3.6	3.0	4.0	2.5	3.4	4.2	3.5
E Water supply, sewerage, waste manag., remediation	1.3	2.5	1.1	1.4	:	:	:	0.9	1.0	1.2	1.2	1.2	0.9	1.2
Industry (B+C+D+E)	**20.7**	**12.2**	**21.6**	**23.6**	**12.0**	**21.1**	**16.6**	**20.3**	**20.5**	**30.5**	**26.2**	**24.8**	**27.2**	**26.5**
F Construction	6.1	5.8	7.4	4.9	10.7	4.8	9.8	6.3	6.2	6.8	4.0	8.2	8.9	7.4
G Wholesale, retail trade, repair of motor vehicles etc.	11.1	14.5	15.4	10.6	21.8	15.5	17.9	14.3	13.0	11.2	10.3	18.7	14.7	15.4
H Transportation and storage	4.6	5.6	3.9	5.2	9.4	8.1	5.1	6.2	5.6	6.2	6.3	5.7	5.4	5.8
I Accommodation and food service activities	4.3	7.7	1.4	1.2	:	2.4	0.9	1.5	2.6	1.9	1.5	1.2	1.2	1.4
J Information and communication	4.8	6.1	4.7	5.0	:	0.0	0.0	3.1	3.7	5.0	5.1	3.7	4.5	4.3
Distributive trades, hotels and restaurants, transport and communications (G+H+I+J)	**24.9**	**33.8**	**25.4**	**22.0**	**31.1**	**26.0**	**23.9**	**25.0**	**25.0**	**24.3**	**23.3**	**29.3**	**25.8**	**27.0**
K Financial and insurance activities	7.2	4.9	2.8	3.5	:	4.6	5.7	3.3	4.8	4.9	4.6	4.4	3.9	4.5
L Real estate activities	10.9	8.1	0.5	12.4	:	10.5	6.6	8.4	9.4	6.8	8.8	5.6	6.7	6.4
M Professional, scientific and technical activities	5.2	3.3	2.6	4.0	:	:	:	2.3	3.4	5.0	5.1	5.0	5.0	5.0
N Administrative and support service activities	2.0	1.0	1.1	1.7	:	:	:	0.9	1.3	1.8	3.4	1.9	2.4	2.1
Financial intermediation, real estate, renting and business activities (K+L+M+N)	**25.3**	**17.3**	**7.1**	**21.6**		**15.1**	**12.3**	**15.0**	**19.0**	**18.5**	**21.9**	**17.0**	**17.9**	**18.1**
O Public administration, defence, compuls. soc.security	6.3	9.5	9.0	4.0	:	11.0	15.7	6.3	6.3	6.6	8.6	5.0	6.8	6.0
P Education	4.6	5.1	3.8	4.5	:	5.8	0.0	3.8	4.1	4.2	4.5	4.8	3.4	4.5
Q Human health and social work activities	4.8	4.5	4.0	6.5	:	5.6	0.0	4.6	4.7	4.4	4.0	3.9	3.2	3.9
R Arts, entertainment and recreation	1.5	1.5	2.4	1.1	:	:	:	0.8	1.1	1.2	1.2	0.8	2.3	1.1
S Other service activities	1.0	0.7	0.9	1.3	26.7	2.6	4.1	5.2	3.6	1.2	1.7	1.7	1.0	1.5
T Activities of households as employers and for own use	0.1	0.0	0.1	0.1	:	:	:	0.1	0.1	0.0	0.0	0.5		0.3
Public Administration, Education, Health and other services	**18.3**	**21.4**	**20.3**	**17.5**	**26.7**	**24.9**	**19.8**	**20.8**	**19.8**	**17.7**	**19.9**	**16.7**	**16.7**	**17.4**

Sources: calculations based on wiiw Annual Database and Statistical Office of Republic of Kosovo. Note: (*) for Albania, Bosnia and Herzegovina and Kosovo, the GVA decomposition is provided according to NACE Rev. 1 classification and is not complete; (**) Montenegro, FYROM, Serbia, Albania, Bosnia and Herzegovina, Kosovo (UNSCR 1244/99); (***) Croatia, Montenegro, FYROM, Serbia, Albania, Bosnia and Herzegovina, Kosovo (UNSCR 1244/99)

Figure 1. Distribution of Employment by main productive activity, 2012



Source: International Labour Organisation KILM 8th edition
Note: 2010 data for Albania

On the contrary, the share of industry is on average much more important in the Visegrad countries than in the Western Balkans (26.5% versus 20.3%) mainly due to the difference in the share of manufacturing (13.9% of the value added in the Western Balkans against 20% in the Visegrad countries), in particular for Albania, Kosovo and Montenegro. Such low manufacturing production shares are linked to the major macroeconomic imbalances of the Western Balkans, which are those of the current account and of unemployment. It comes to no surprise that a small manufacturing sector is associated with the relatively poor export performances in the low and medium-income countries, while in the high income countries with a more developed tradable services sector exports are based also a lot on services [Landesmann (2015)].

When comparing GVA and employment structures by economic activity, one can notice that agriculture is the least productive sector in the Western Balkans. Thus, for example, the Serbian agriculture sector produces 10.5% of the value added while it accounts for 21% of total employment. In this regard, industry has a productivity almost twice as high with 26% of total employment producing 23.6% of value added. The services sector appears as the one with the highest average labour productivity, with 53% of employed producing about 61% of value added.

1.1.2. Structural imbalances and consequences of the crisis

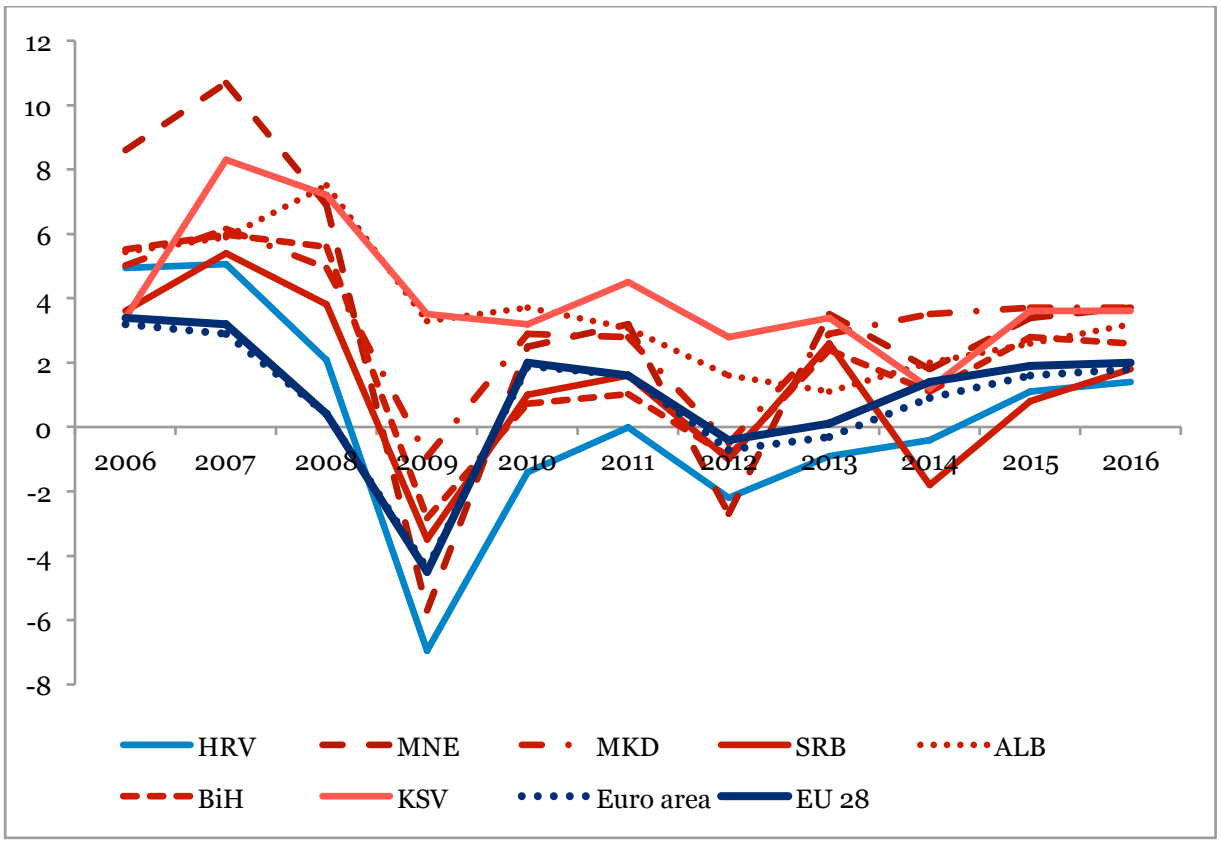
Following transition[13], the period previous to the crisis was characterised by fast consumption-led growth and expanding trade balance and current account deficits. The severity of the crisis and the double dip and even triple-dip recession (in the case of Serbia, cf. *Figure 2*) put an end to this growth model deemed to be unsustainable[14]. The external imbalances led to the accumulation of foreign debt, mostly by the private sector[15]. The external financing tightening and deleveraging during the crisis proved to be hard for investment that shrunk dramatically (cf. *Figure 3*) thus delaying the return to growth.

[13] For the period previous to transition in ex-Yougoslavia, see Bićanić (2010), as well as Vanek & Jovicic (1975) and Ottolenghi & Steinherr (1993).

[14] For the analysis of the pre-crisis growth model in the Western Balkans, see, for instance, ECFIN (2010), World Bank's SEERER reports.

[15] Debt dynamic will be analyzed in depth in the Chapter 2.

Figure 2. Double- and triple-dip recession, real GDP growth rate (%)

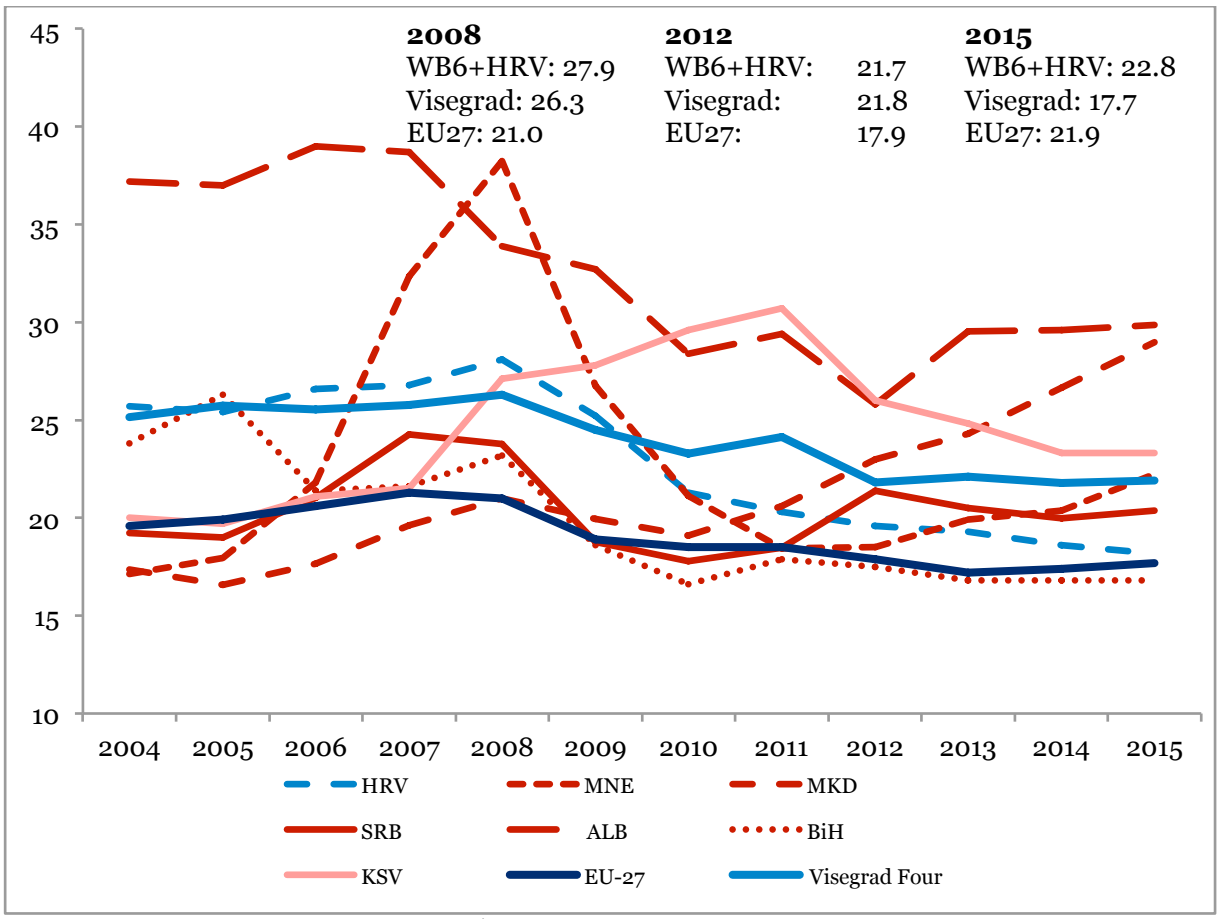


Sources: Eurostat, DG ECFIN (CCEQ 1/2015), World Bank estimations

The positive developments in 2015 might mark however a turning point as growth was driven mostly by investment in Albania, Kosovo, Serbia and Montenegro and net exports (in all WB countries with the exception of Kosovo) [World Bank (2016)]. It is crucial to sustain this positive trend to put the Western Balkans again on a medium-term convergence path. Given the prevailing global uncertainties and risks, private investment, which was the cause of the growth revival in 2015,[16] remains fragile and should be supported by the governments. Better infrastructure improving the business environment (easier electricity access, better and faster transport connections to the markets and skilled labor better adapted to the needs) could certainly provide positive signals to attract the foreign private sector.

[16] with the exception of Montenegro where investment increase was driven by public spending

Figure 3. Dramatic collapse of investment level

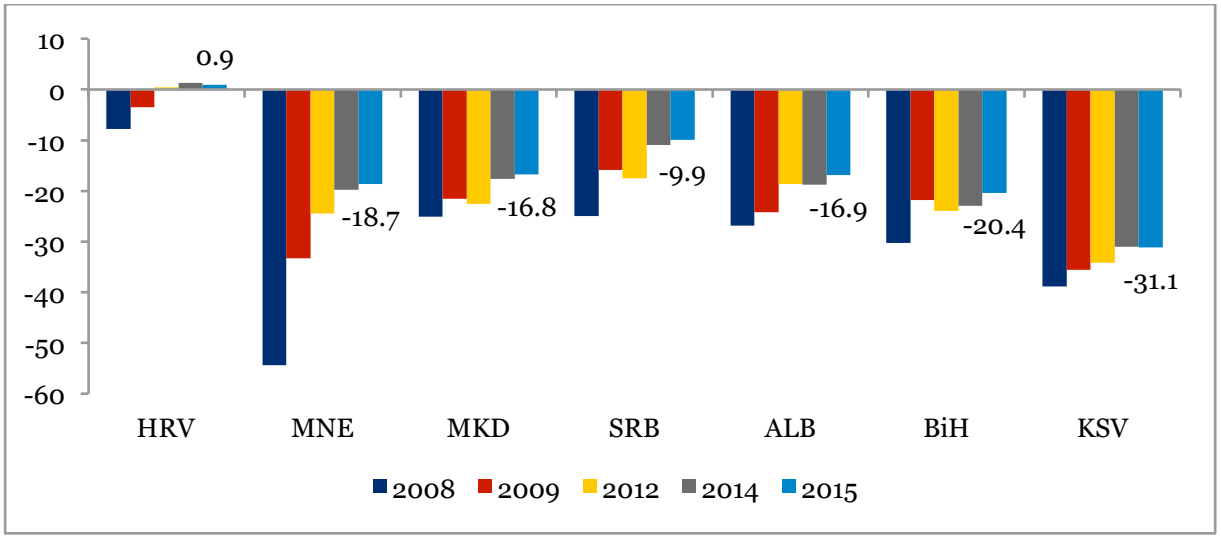


Sources: Eurostat, DG ECFIN (CCEQ 1/2015), World Bank estimations

Due to the crisis, the imbalances in trade and the current account (cf. *Figure 4 and Figure 5*) diminished. This is due in particular to the spectacular import contraction in the beginning of the crisis and the export expansion in the following years. Export dynamic was very positive in some of the countries of the region during the last years (Serbia, Macedonia and Bosnia and Herzegovina) while little changes comparing to pre-crisis level were observed in the others. Thus, in Serbia, exports of goods and services increased from 29% in 2008 to 44% of GDP in 2014 (cf. *Figure 6*) (exports of goods only increased from 26.5% of GDP in 2012 to 34.3% of GDP in 2015 [World Bank (2015)]).

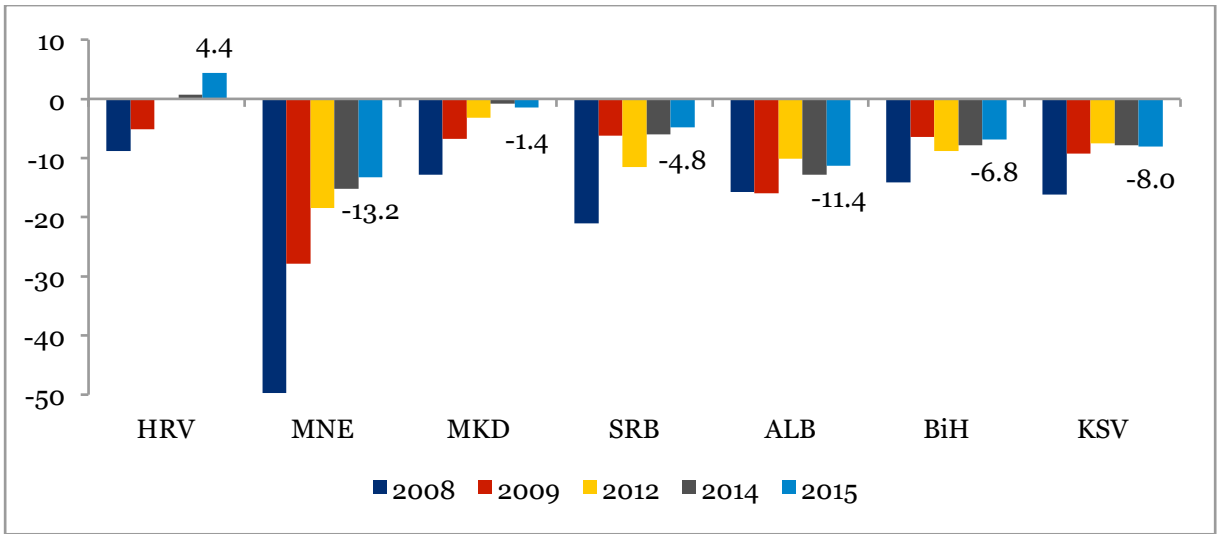
Despite these positive developments, the external trade imbalance remains extremely high (around 10% of GDP in Serbia and more than 15% in other countries of the region). For the time being, it is not possible to envisage a return to a trade balance equilibrium, but only to envisage decreasing the gap between imports and exports to all extent possible. However, further expansion through export-led growth is conditional on the capacities of the countries to enlarge their manufacturing sectors. This challenge could be met through a carefully designed industrial policy accompanied by further improvements in infrastructure and the institutional environment.

Figure 4. Trade balance as a % of GDP before, during and after the crisis



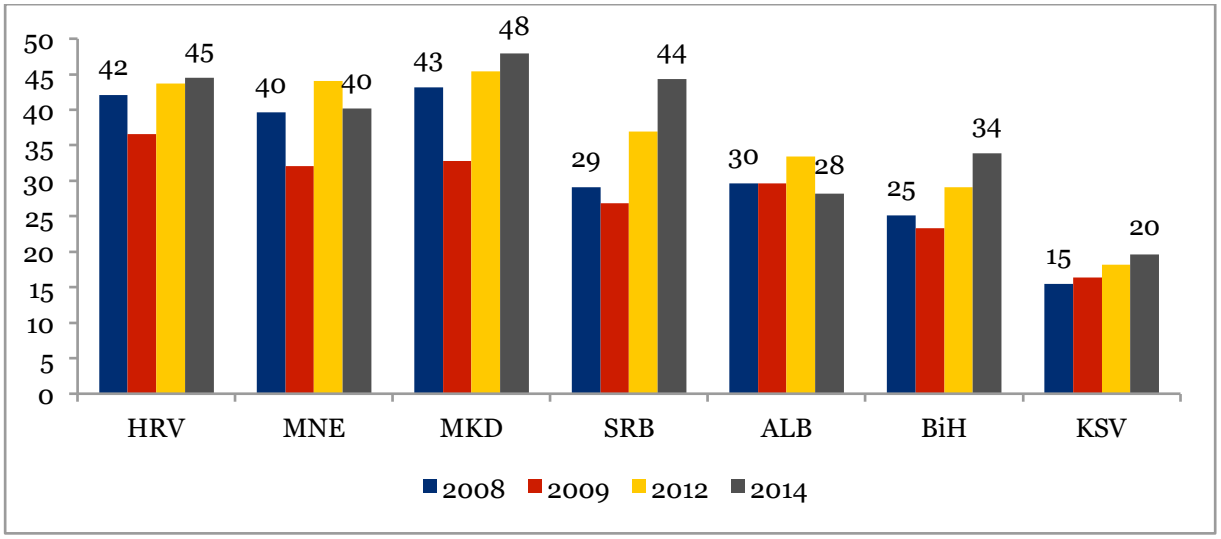
Sources: Eurostat, DG ECFIN, World Bank

Figure 5. Current account as a % of GDP before, during and after the crisis



Sources: Eurostat, DG ECFIN, World Bank

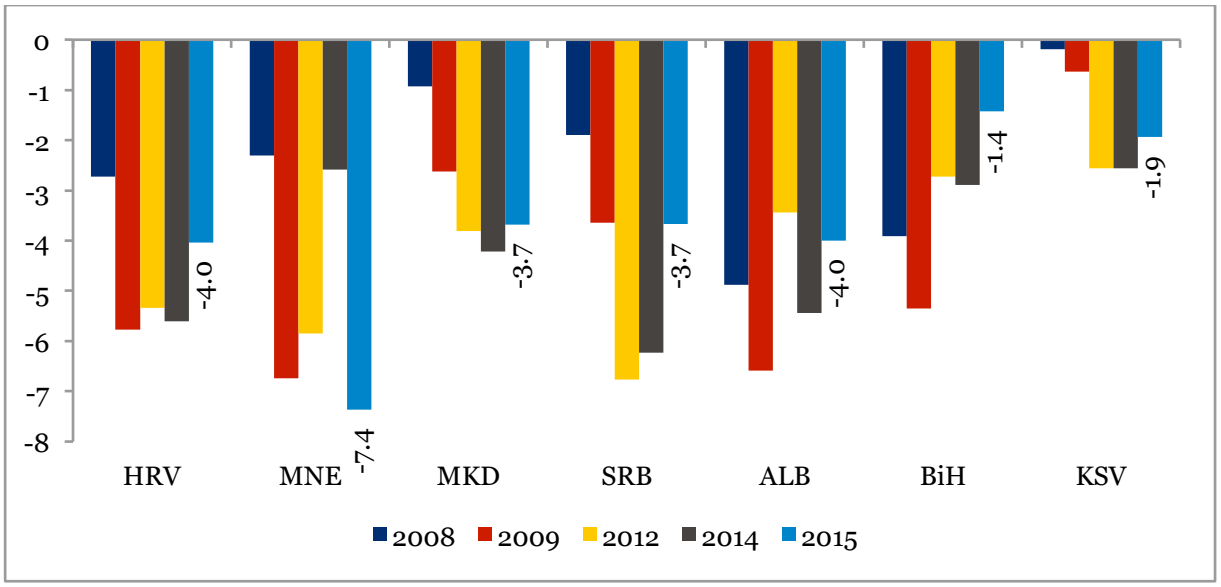
Figure 6. Export of goods and services as a % of GDP before, during and after the crisis



Sources: Eurostat, World Bank

The crisis generated a deterioration of the countries' finances and this provoked a wave of fiscal consolidations aimed at limiting public debt expansion. Thus, Bosnia and Herzegovina decreased their fiscal deficit from more than 5% of GDP in 2009 to 1.5% in 2015 (cf. *Figure 7*). But by far the most important consolidation effort was realized by Serbia, which managed to reduce the fiscal deficit from 6.7% of GDP in 2014 to 3.7 in 2015. However, on the expenditure side, cuts concerned essentially the wage bill and pensions (almost 2% of GDP), resulting in a contraction of consumption.

Figure 7. Government balance, % of GDP

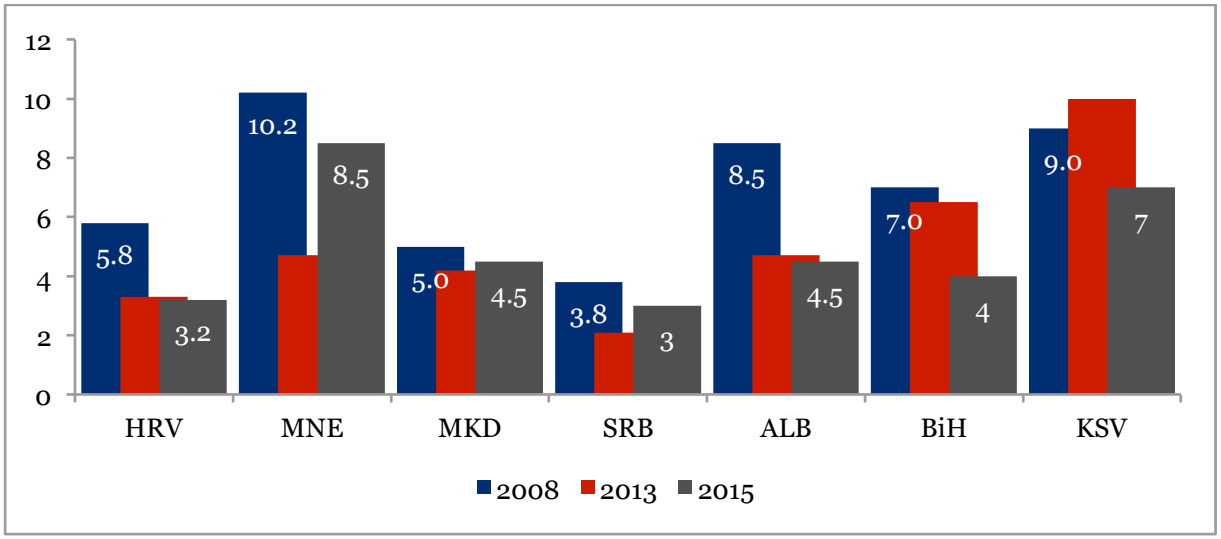


Sources: IMF WEO, World Bank estimations

But in general during the crisis public expenditure cuts concerned mainly public investment. In all the countries of the region public capital spending by the General

Government decreased dramatically but begins now to recover with the growth revival (cf. *Figure 8*).

Figure 8. Public investment before, during and after the crisis

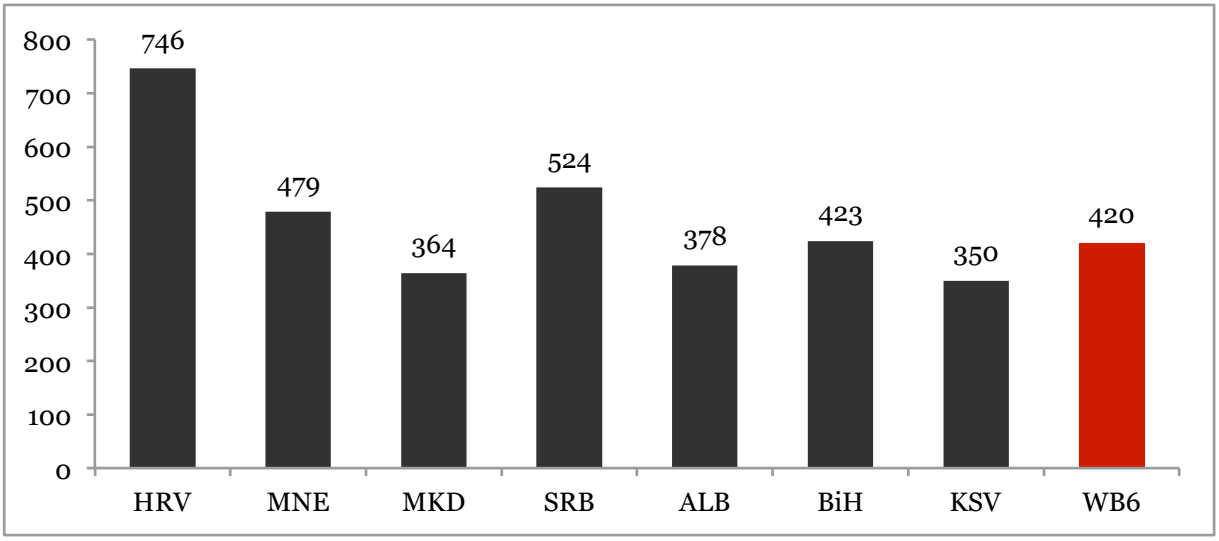


Sources: Eurostat, World Bank (2014, 2016)

Despite considerable fiscal consolidation efforts, public debt increased in all countries of the region (cf. Chapter 2). As pointed by Astrov et al. (2012), the risk is that the conditions for the success of fiscal consolidation might not be met. In such a case, even if fiscal stability is achieved, it will be coupled with slow growth and thus a weak catching up pace. The logic of a fiscal consolidation strategy relies on the assumption that fiscal stability and supply-side policies bring increased competition and productivity (that all things being equal imply labour lay-offs), lower labour costs and thus improve the country's cost competitiveness. The latter must then attract FDIs in the private sector and thus finance the current account balance, while improving external competitiveness, employment and growth. In the case of the Western Balkans, such scenario seems at least over-optimistic as institutional adjustments would take time and meanwhile fiscal austerity and further cuts in already modest household incomes (coupled with high unemployment rate) would be harmful for growth and economic and social cohesion.

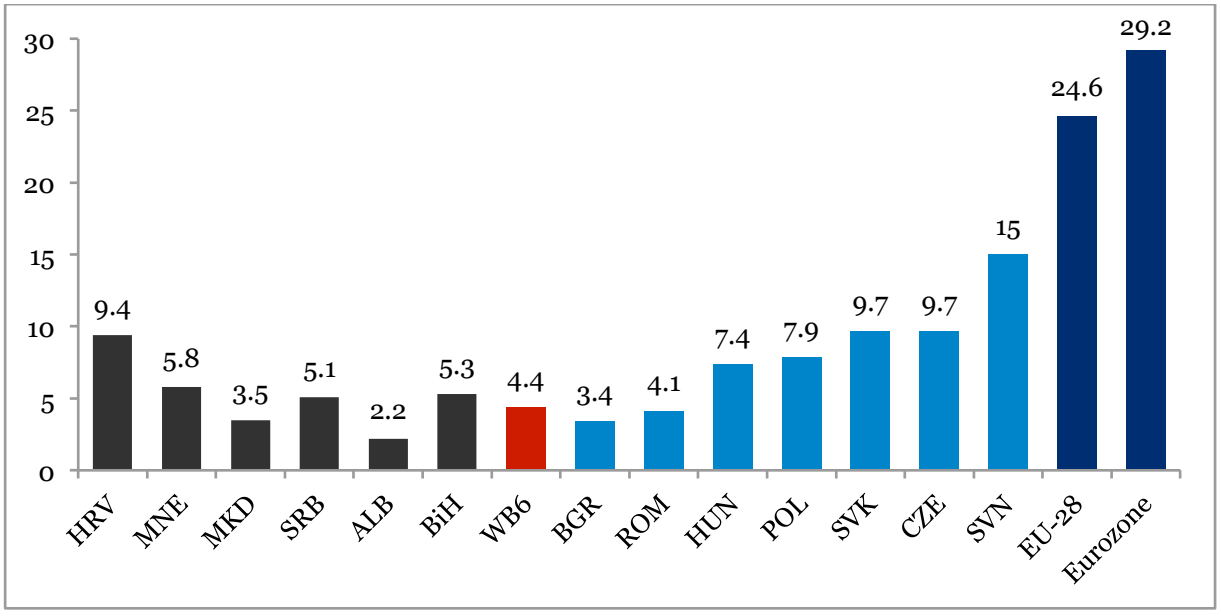
Though rapidly increasing in the past, average wages in the region are well below the European levels. The average WB 6 monthly wage is only 420 EUR. As for the labour costs, the average labour cost per employee per hour is 4.4 EUR. Albania has the lowest hourly labour cost per employee in Europe with 2.2 EUR per hour, which is less than 10% of the EU average (cf. *Figure 9* and *Figure 10*).

Figure 9. Average monthly nominal wages, 2014 (EUR)



Note: Here and hereafter "WB6" comprises six Western Balkan countries: Albania, Bosnia and Herzegovina, Kosovo, FYR of Macedonia, Montenegro and Serbia.
Source: Eurostat

Figure 10. Average hourly labour cost per employee, 2014 (EUR)

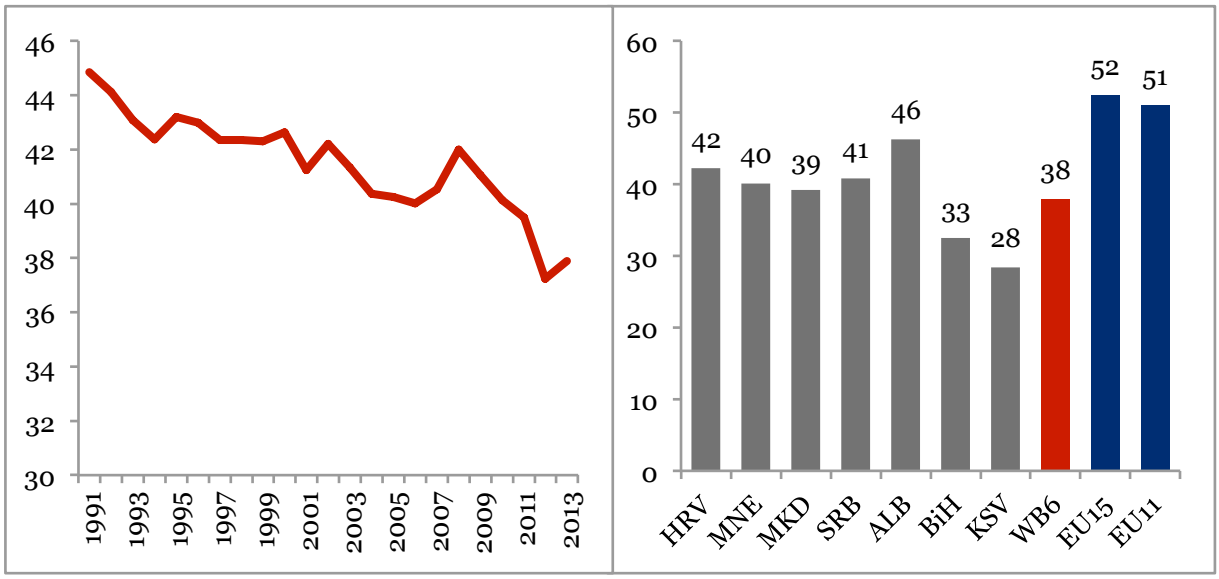


Note: data for Kosovo is unavailable
Sources: Eurostat, Instat (2015)

1.1.3 Employment

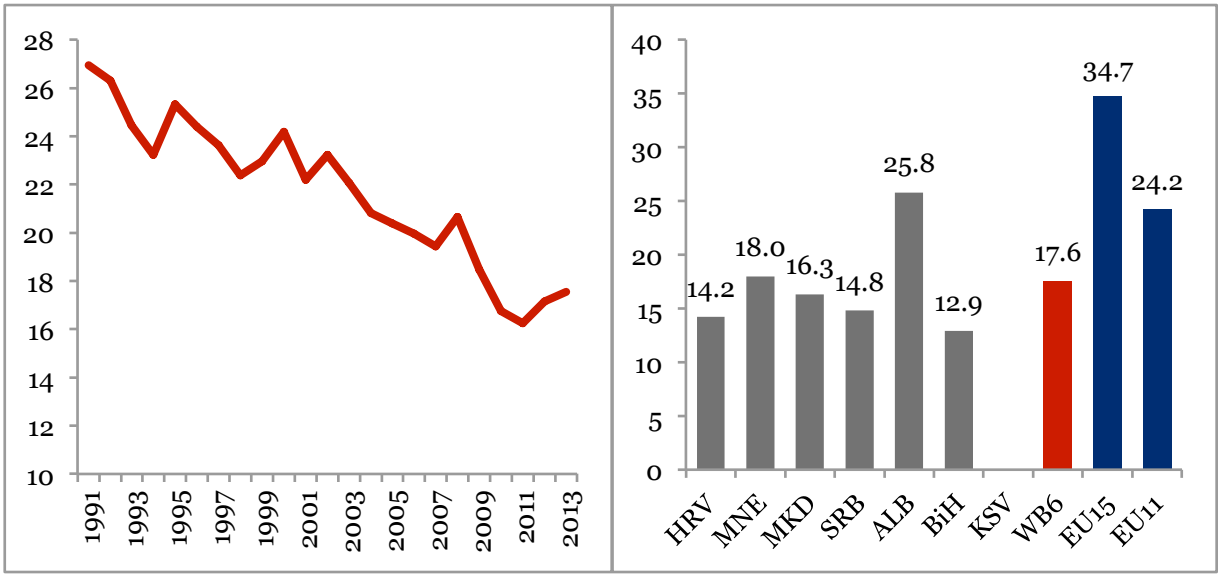
Without doubts, amongst all the structural problems of the Western Balkan economies, employment can be considered as the main challenge for the following years together with the associated imbalance of the current account. During the last two decades, the situation has progressively worsened. The ratio of employment to population decreased from around 45% in 1991 to 38% in 2013 (cf. *Figure 11*). The gap of WB6 with the EU15 average is 14 %. The situation is worse for the young: only 17.6% of young people are employed (cf. *Figure 12*).

Figure 11. Employment-to-Population ratio[17] in % in the WB6: evolution (1991-2013) (left) and in 2013 compared with the EU11 and EU15 averages[18] (right)



Source: International Labour Organization KLM 8th edition, World Bank (2013) Results of the Kosovo 2012 Labour Force Survey, World Bank (2014) Results of the Kosovo 2013 Labour Force Survey.

Figure 12. Youth Employment-to-Population ratio in % in the WB6: evolution (1991-2013) (left) and in 2013 compared with EU11 and EU15 averages (right)



Source: International Labour Organization KLM 8th edition, data for Kosovo is unavailable

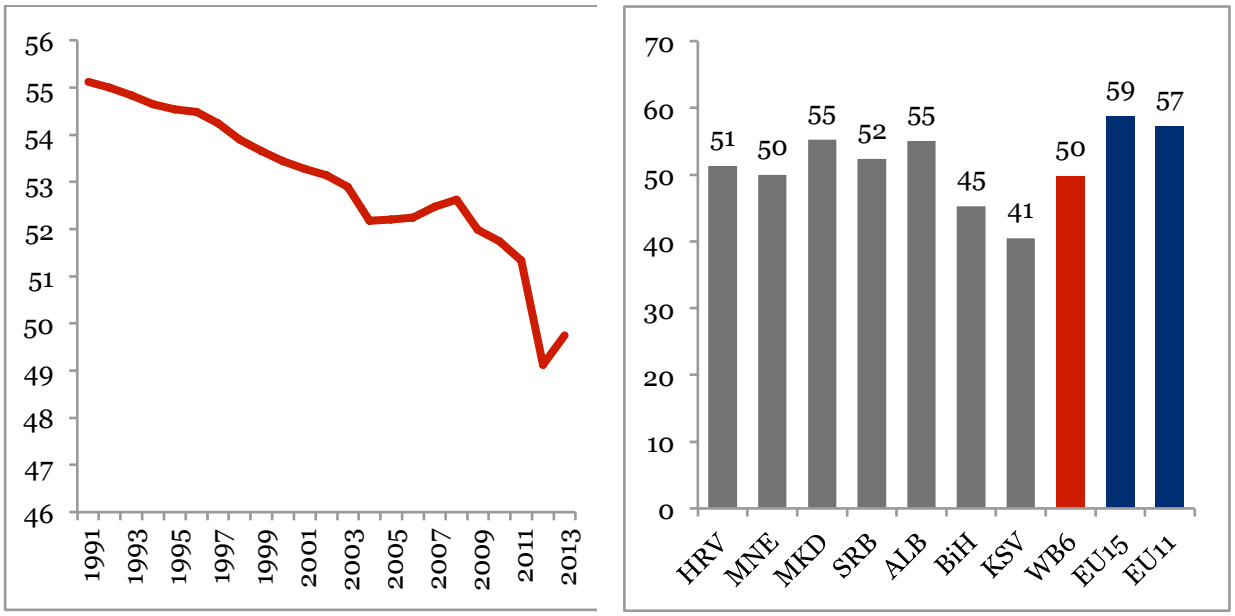
[17] The employment-to-population ratio is defined as the proportion of a country's working-age population that is employed. A high ratio means that a large proportion of a country's population is employed, while a low ratio means that a large share of the population is not involved directly in market-related activities, because they are either unemployed or (more likely) out of the labour force altogether.

[18] The group of ***EU15*** countries comprises: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom; ***EU11*** refers to the 10 European Union (EU) member states joined the EU in 2004 and 2007 — Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, the Slovak Republic, and Slovenia—and the latest member State since 2013 - Croatia.

The situation is even more alarming knowing that the share of young people in the population structure is on average much higher in the Western Balkans than in Europe.

This problematic situation is also apparent in the figures for the labour force participation rate, which were below 50% of total population in 2013 (cf. *Figure 13*).

Figure 13. Labour force participation rate[19] in % in WB6: evolution (1991-2013) (left) and in 2013 compared with the EU11 and EU15 averages (right)



Source: International Labour Organization KLM 8th edition, World Bank (2013) Results of the Kosovo 2012 Labour Force Survey, World Bank (2014) Results of the Kosovo 2013 Labour Force Survey.

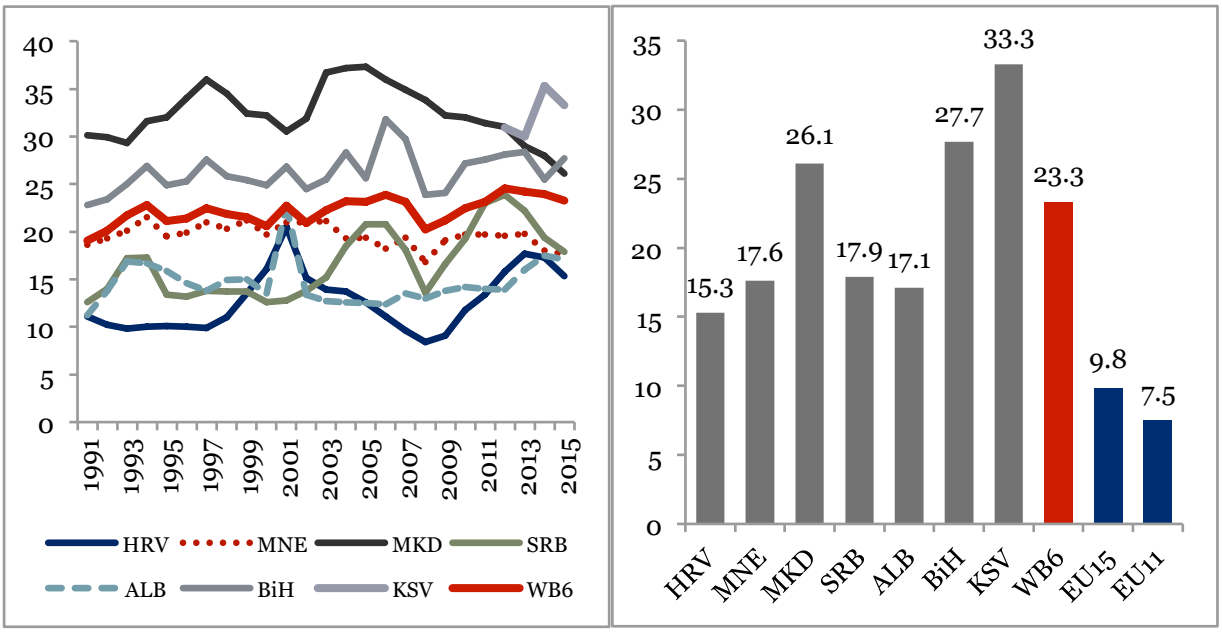
Finally, the official unemployment rate is disastrously high[20] with more than 23% of active population being unemployed. The situation is particularly difficult in Kosovo and Bosnia and Herzegovina where, despite positive and relatively high growth, unemployment gives little signs of decreasing. However, in Serbia and Macedonia a positive trend seems finally to take place: in Serbia the unemployment rate decreased from 23.9% in 2012 to 17.9% in 2015, while in Macedonia, where the positive trend in employment started in 2005 was not interrupted by the crisis, it went down from 29% in 2013 to 26.1% in 2015. Some positive developments can also be observed in Croatia and Montenegro since 2014 and in Albania since 2015.

Youth unemployment is very worrying in all the countries of the region, but in Bosnia and Herzegovina and in Kosovo the situation is the worst, with no sign of improvement (cf. *Figure 15*).

[19] The labour force participation rate is a measure of the proportion of a country's working-age population that engages actively in the labour market, either by working or looking for work ([employed + unemployed]/working age population). It provides an indication of the relative size of the supply of labour available to engage in the production of goods and services. However it does not take into account those excluded from the active population against their will, which should be included in the active population and be counted as effectively unemployed. Their magnitude can be estimated either by the change in the participation rate in the last 10 years or as a difference with respect to the participation rates of the advanced market economies following de facto full-employment policies, such as Scandinavian countries (of the order of 80%). This estimate

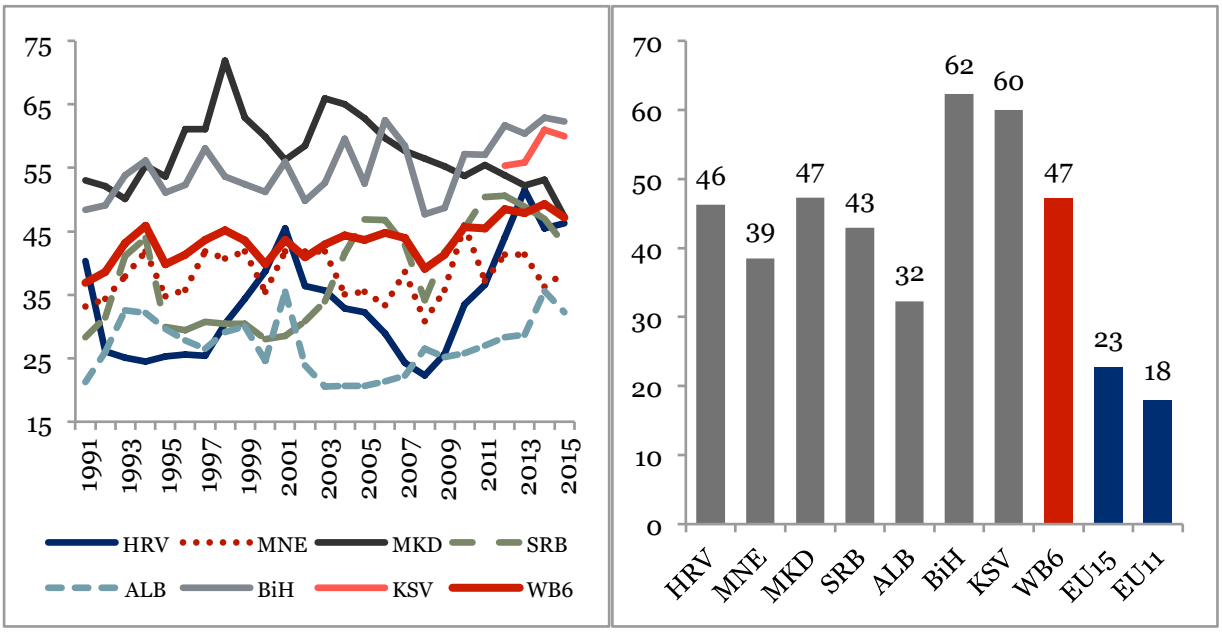
[20] But lower than the effective unemployment rate mentioned above.

Figure 14. Unemployment rate (%)[21]: evolution (1991-2015) (left) and 2015 (right)



Source: International Labour Organization KLM 8th edition, World Bank (2013) Results of the Kosovo 2012 Labour Force Survey, World Bank (2014) Results of the Kosovo 2013 Labour Force Survey, World Bank (2016).

Figure 15. Youth unemployment rate in %: evolution (1991-2015) (left) and 2015 (right)



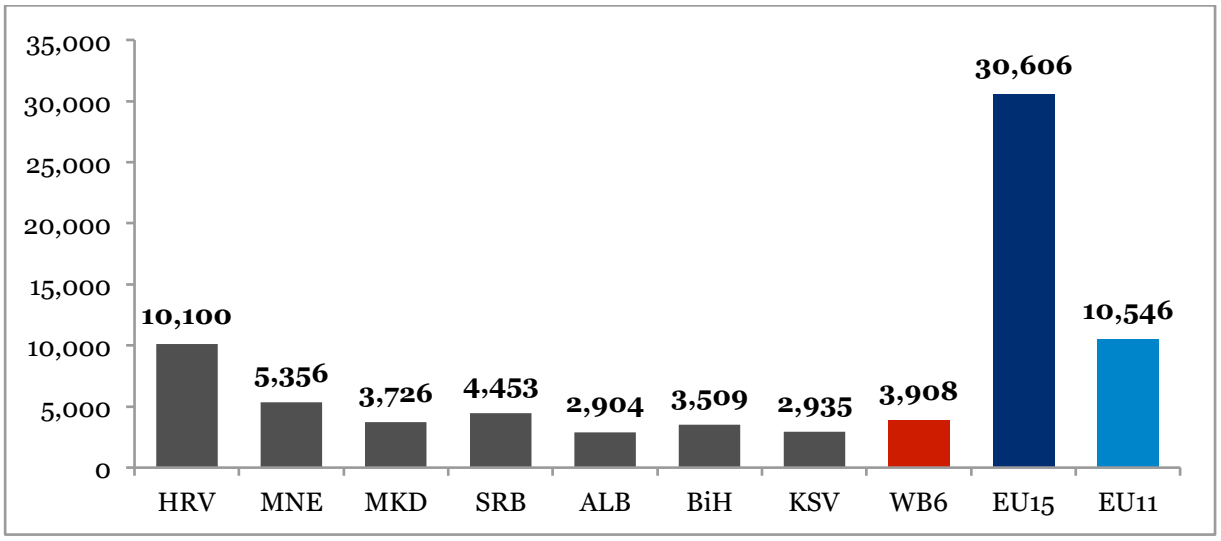
Source: International Labour Organization KLM 8th edition, World Bank (2013) Results of the Kosovo 2012 Labour Force Survey, World Bank (2014) Results of the Kosovo 2013 Labour Force Survey, World Bank (2016).

[21] The unemployment rate gives the percentage the active population that is not employed. It does not include those not counted as active. Not all inactive should however be considered unemployed as a certain proportion could be employed in the black economy.

In other countries of the region the situation seems to improve with the return to growth, which is a positive signal. It is important however to maintain economic growth during a long period of time to decrease youth unemployment at least to European levels (as discussed in Chapter 2, youth employment has a low elasticity to growth and many years of sustained growth are in general needed to observe a significant reduction in the stock of unemployed people).

It is important to keep in mind that despite a notable improvement in living standards during the transition period preceding the crisis, the income gap between the Western Balkan countries and other European countries is strikingly high. GDP per capita in nominal terms does not exceed 17% of the EU15 average and 37% of the EU11 average (cf. *Figure 16*). As discussed in Chapter 2, many years of continuous growth would be needed for the Western Balkans to converge to the European income level. Meanwhile, the risk persists that the young people entering the job market and finding no employment opportunities in their home countries would continue to consider migrating to the EU as an obvious alternative.

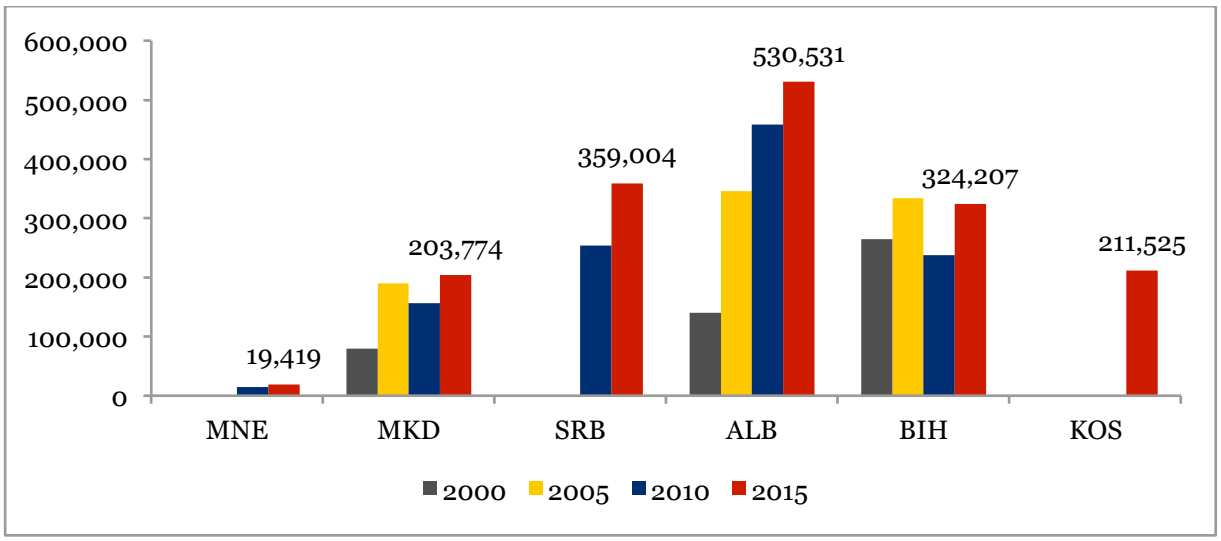
Figure 16. GDP per capita (EUR) in 2013: WB versus EU15 and EU11 averages



Source: Eurostat
Note: WB6, EU15 and EU11 are GDP weighted averages.

Migrations have always been a fundamental element of the Balkans reflecting a tormented history of the region [cf. Bonifazi and Mamolo (2004)]. The recent events are only a part of a long history of population movements in the Balkans and beyond its borders. According to available data, more than *1.6 million citizens of the six Western Balkan countries* are living in the European Union. *Figure 17* gives the breakdown by country of origin from 2000 to 2015 reflecting a growing path of economic migration over the last 15 years. Italy and Germany are the principal destination countries receiving more than 1.2 million WB6 citizens (cf. *Table 3*).

Figure 17. WB6 citizens living in EU28, 2000 -2015



Sources: Eurostat

Table 3. WB6 citizens living in EU28, Switzerland and Norway, 2015

	MNE	MKD	SRB	ALB	BIH	KOS	WB6
Belgium	415	6 381	6 091	6 793	2 426	8 018	**30 124**
Germany	12 627	78 597	165 544	26 183	152 262	114 927	**550 140**
France	:	2 839	:	5 031	8 174	:	**16 044**
Italy	2 731	77 703	43 811	490 483	8 379	45 836	**668 943**
Austria	1 129	20 745	113 947	2 016	91 993	21 686	**251 516**
Slovenia	764	10 105	9 730	73	44 885	12 071	**77 628**
Sweden	641	1 925	6 776	1 128	6 541	4 942	**21 953**
United Kingdom	:	41 621	:	10 481	:	:	**52 102**
EU28	**19 419**	**203774**	**359 004**	**530 531**	**324 207**	**211 525**	**1 648 460**
Switzerland	2 537	63 516	78 092	1 488	32 583	0	**178 216**
Norway	160	704	2 967	417	3 532	1 222	**9 002**

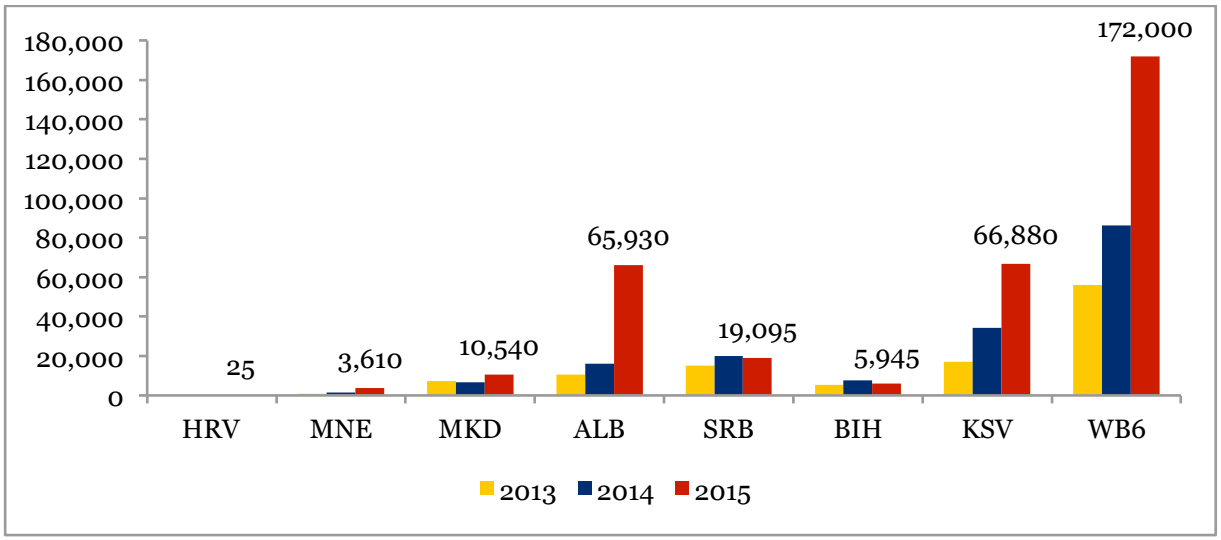
Note: data for France and United Kingdom is for 2005
Sources: Eurostat

The current migration problem goes much beyond the borders of the Western Balkans, as the region is heavily implicated in the migration flows of asylum seekers. Geographically it is the locus of the "Balkan Route" taken by some of the migrants from Syria, Irak and other Middle East countries to Western Europe[22]. Politically this flow of people has already provoked a number of political problems and complicated the process of economic and social integration in the region.

[22] In 2015, close to 900,000 migrants arrived on the Greek islands and preceded to destination countries in Western Europe through the "Balkan Route". From October 2015 to March 2016 only more than 525,000 migrants transited through Macedonia and Serbia. The Western Balkan corridor has been officially closed since the EU-Turkey Plan was first announced on 8 March. However, this has resulted in the emergence of new smuggling routes, through the Western Balkans. Migrants continue to arrive through irregular means from FYROM and Bulgaria into Serbia, but there are no reported departures or arrivals for the refugee camp in Tabanovce indicating that these migrants are not from the already stranded population in FYROM (it is estimated that approximatively 1000 people are currently waiting in Tabanovce, on the border with Serbia). [UNHCR (2016), REACH (2016)].

It is also noteworthy that one should add the flow of migrants originated from the Western Balkans to this flow of transiting migrants. Indeed, in two years the flow of first-time asylum seekers originated from the WB6 tripled from 56 thousand in 2013 to 172 thousand in 2015 principally due to the migrants from Albania and Kosovo (cf. *Figure 18*). WB6 asylum seekers represent as much as 15% of the total number of asylum seekers originated from non-EU28 countries. The chance of a positive outcome for an asylum claim for migrants originating from the Western Balkans is less than 5% as their region is considered as "safe" (it is about 95% for Syrian nationals) [cf. De Lima et al. (2016)] meaning that a large part of this people is likely to stay in the EU illegally.

Figure 18. First-time asylum seekers from the Western Balkans, 2013-2015.



Sources: Eurostat

While solutions to the current migration issue must be found at European level, it is clear that any improvement in the local labour market conditions in the Western Balkan region may delay the so-called economic migration and possibly slow down also the migration of asylum seekers.

1.2. Infrastructure: state and needs

What is the current state of inherited basic and social infrastructure in the Western Balkan region? And how much investment is needed to cover existing infrastructure gaps? These are the questions essential to be answered if any programming and foreseeing exercise is to be undertaken as a preliminary to action. This is all the more important given that the *National Investment Committees* created with the IPA II regulation must establish priorities for investment for all the IPA assistance, national and regional, which represents a volume of potential investment grants of the order of *EUR 2 bn* over the period 2015-2020. In the logic of the *Western Balkans Investment Framework*, these should be logically leveraged by higher amounts of loans form IFIs and by bilateral assistance in the form of grants and loans, up to the amounts judged to be appropriate. Needs for infrastructure provision equalisation are estimated below by sector, as this is clearly a pre-condition for catching-up.

1.2.1. Transport

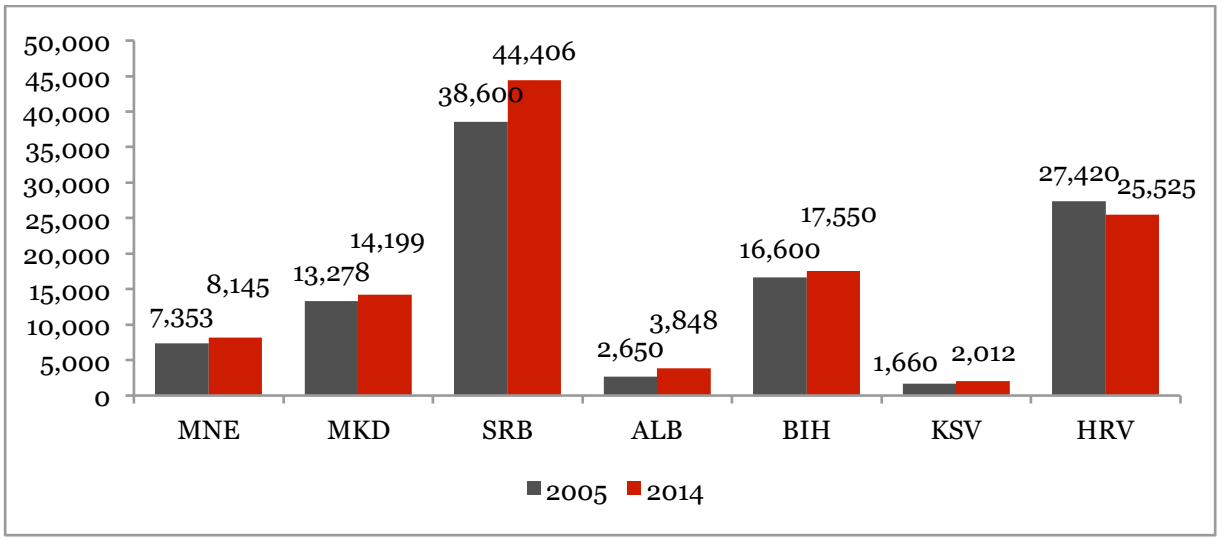
Despite the recent positive dynamic, the state of the transport infrastructure in the Western Balkans could be characterised as underdeveloped comparing to European peers. Networks are globally less extended and have been lacking appropriate maintenance for years.

This situation has deep historical roots. From the 16th to the beginning of the 20th century the region was under the rule of the Ottoman Empire which itself experienced stagnation and decline. Thus the industrial revolution came late to the region comparing to the rest of Europe and so did the transport network development. Thus, for example, Albania was the last European country to build a railway in 1917. The damages of the World War II were important, human and material losses being the greatest in Europe after the Soviet Union and Poland, leaving the region in ruins because of the systematic destruction of the transport infrastructure, mining and manufacturing industry [cf. Simon (2012)]. Even Tito's period of industrialisation was not sufficient to fill the gap in infrastructure development. The break-up of Yugoslavia, long lasting conflicts and disintegration of the region prevented much needed appropriate maintenance and extension of both road and rail infrastructure.

Roads

During the last decade an important effort has been undertaken to extend the road network in the region. In relative terms this effort was the most impressive in Albania and Kosovo which extended their network of roads (other than motorways) by 45% and 21% respectively from 2005 to 2014 (cf. *Figure 19*).

Figure 19. Roads other than motorways in 2005 and 2014, km

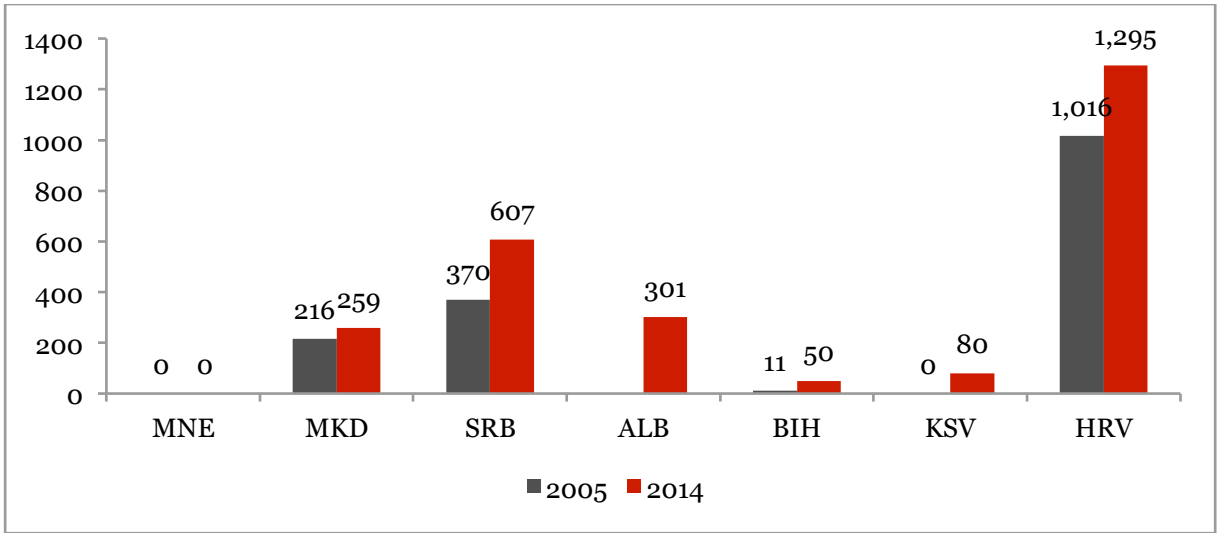


Note: Last available data for Croatia is for 2013; for Bosnia and Herzegovina – 2009.
Sources: Eurostat

During the last ten years, the most important effort in motorway construction was realized by Albania with more than 300 km built (cf. *Figure 20*) followed by Croatia and Serbia with around 280 and 240 km of new motorways respectively. Bosnia and Herzegovina and Macedonia extended their motorways by around 40 km during this period while in Montenegro not a single kilometer was built till May 2015 when the

Bar – Boljare motorway construction started[23]. Compared to their respective land area, one can speak about an important extension of motorways network only in Albania and Kosovo. This could be explained by initial conditions characterized by more important road infrastructure gap in these countries but also by higher degree of centralization and ethnic homogeneity as underlined by Holzner et al. (2015).

Figure 20. Motorways network in 2005 and 2014, km

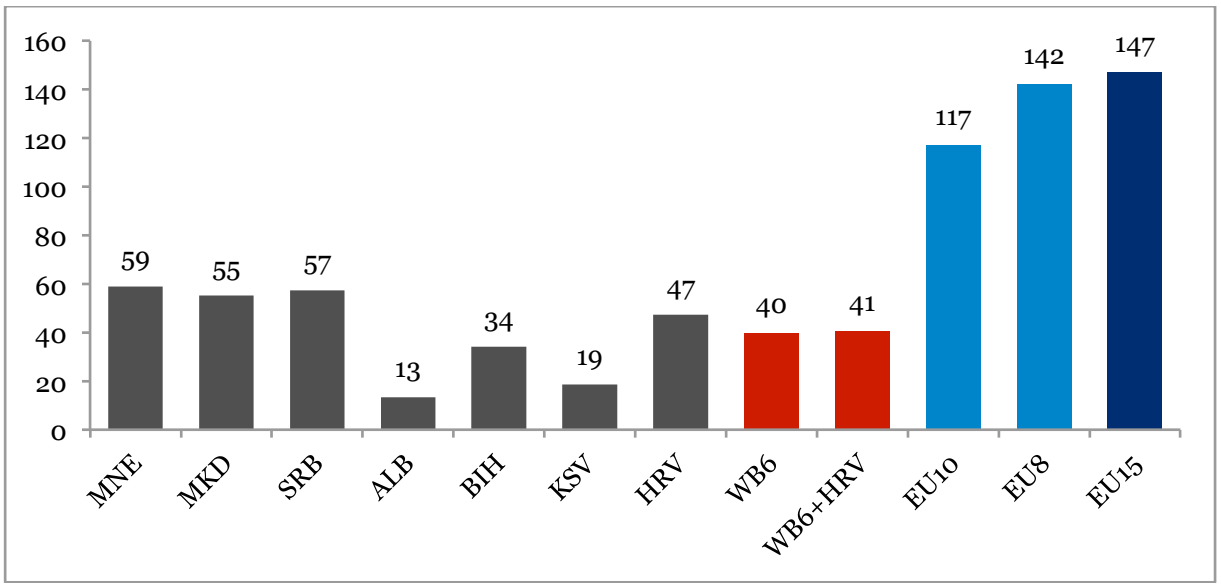


Note: data for Croatia is for 2013
Sources: Eurostat

However, as shown by *Figure 21*, much and more is to be done as the road infrastructure gap remains important. Thus, road density in the Western Balkans is still more than three times lower than the EU-15 average and the average of the eight countries which joined EU in 2004. For reference, this is even lower than South Asia and Sub-Saharan Africa averages [Ianchovichina et al. (2012), Andres et al. (2014)]. By far the highest density in the region in terms of area (59 km of roads per 100 square kilometers) and population (13 km of roads per 1000 inhabitants) is observed in Montenegro. Albania and Kosovo have the lowest road density in the region with 1 km of roads per 1000 inhabitants (cf. *Figure 22*).

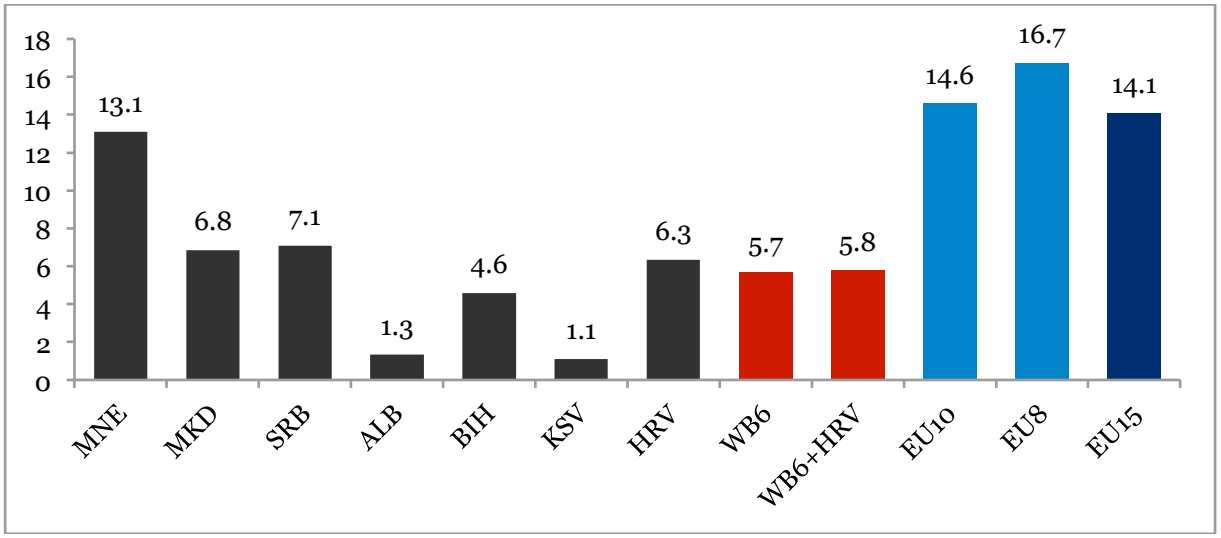
[23]The Bar-Boljare motorway will have a total length of 169 km and be part of Belgrade-Bar stretch of Pan-European Corridor X. The construction of the first section Smokovac-Uvac-Matesevo officially started in May 2015 by the Chinese civil engineering company CRBC, the project being financed by a 687 EUR mn loan provided by China's Ex-Im Bank and the Montenegrin government [Dascalovic (2015)].

Figure 21. Road density, 2014 (km of road per 100 km^2 of land area)



Note: when 2014 data was unavailable, the last available year was used; Data for Albania and Kosovo should to be considered with caution because of the large discrepancies in data between the Eurostat database and WDI data (available till 2011). This is certainly due to paved and unpaved roads accounting. EU10 includes Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, the Slovak Republic, and Slovenia; EU8 comprises the same countries as EU10 except Bulgaria and Romania.
Sources: Eurostat, World Bank Development Indicators

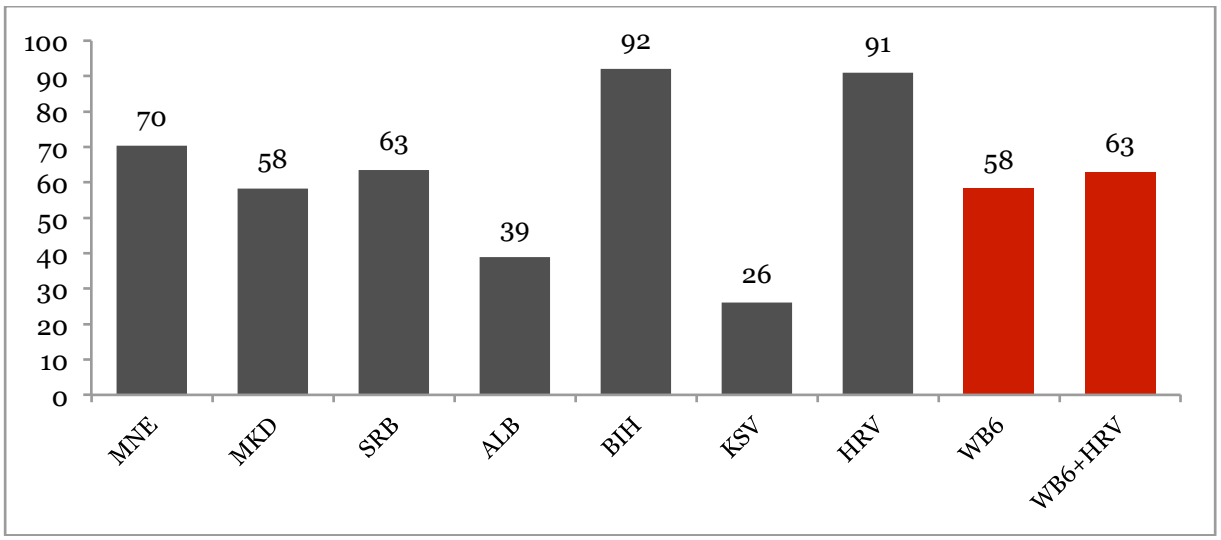
Figure 22. Road density, 2014 (km of road per 1000 inhabitants)



Note: idem as in the previous figure
Sources: Eurostat, World Bank Development Indicators

The quality of roads, which could be approximated by the share of paved roads in the total road network, also requires improvement. Only in Croatia and Bosnia and Herzegovina the share of paved roads is over 90%, in Serbia, FYROM and Montenegro it varies from around 60 to 70% while the situation is poor in Albania and Kosovo where only around 30-40% of roads are paved.

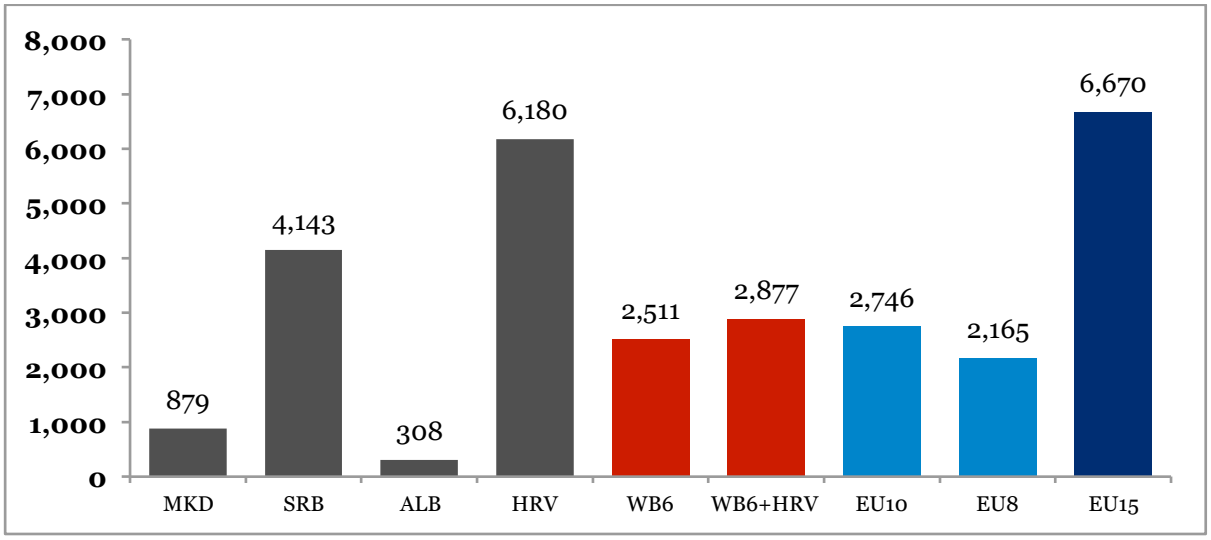
Figure 23. Paved roads, 2011 (% of total)



Note: Last available year for Albania, Bosnia and Herzegovina and Kosovo
Source: World Bank Development Indicators

Another hint at the road quality could be given by the average maintenance costs during the last years. The extension of networks is often politically more appealing than maintenance efforts to preserve the existing network and in this is a typical case where the efficiency of public expenditures could be questioned. Insufficient road maintenance leads inevitably to road quality deterioration and hence to the need for further investments for reconstruction and refurbishment. While in Croatia, average road infrastructure maintenance during the last years attained the EU-15 level, this is far from being so in the Western Balkans countries (cf. *Figure 24*), which indicates shortcomings in quality and safety.

Figure 24. Road infrastructure maintenance expenditures (EUR constant per km of road), average 1995 – 2011.



Sources: Eurostat, OECD

According to SEETO, maintenance of the transport infrastructure is still one of the major challenges in the region. The cost of maintenance per km varies greatly among the countries and from one period to another with no consistent methodology for

defining maintenance costs based on the quality level [SEETO (2015, 2016)]. Only 44% of existing SEETO road network are classified as satisfactory and do not require any immediate maintenance or upgrade interventions up to 2030. And 30% of the network is identified for immediate maintenance and rehabilitation (cf. *Table 4*).

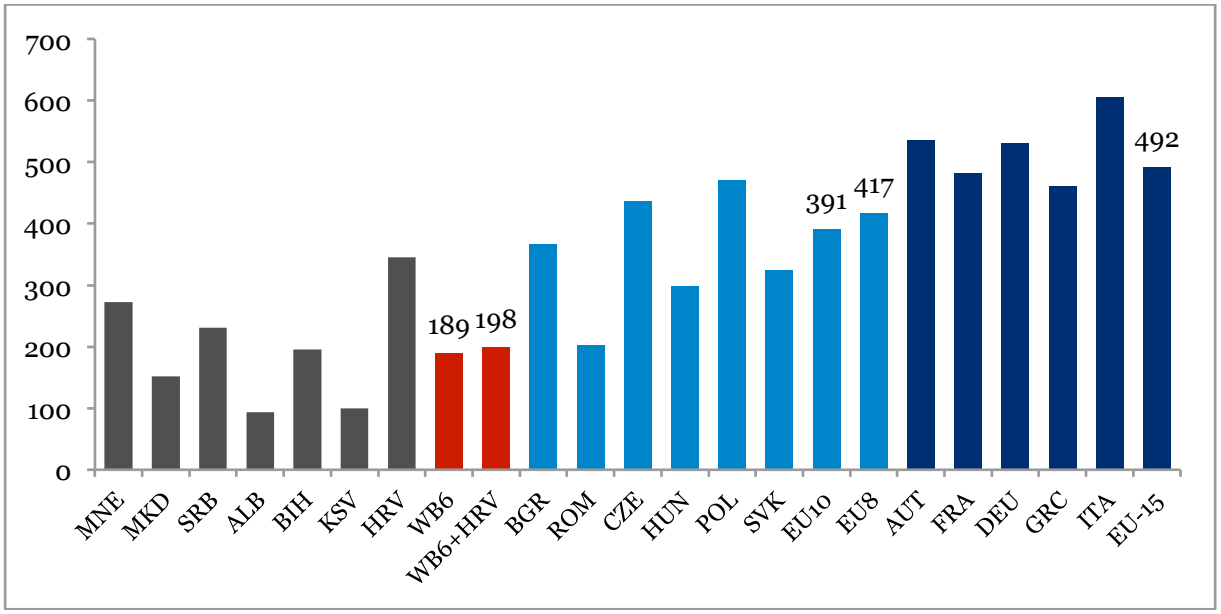
Table 4. *SEETO road comprehensive network maintenance needs in the WB6*

	km	% of total
Total length	4 925	
No immediate maintenance or upgrade requirements up until 2030	2 178	44%
Requirement for immediate maintenance/rehabilitation only	1 495	30%
Requirement for immediate upgrading to increase capacity	913	19%
Upgrading to increase capacity	719	15%
Upgrading and widening from 2 to 4 lanes	162	3%
Upgrading and widening from 4 to 6 lanes	32	1%
Requirement for future upgrading to increase capacity	894	18%
Upgrading by 2030	737	15%
Widening by 2030	157	3%

Source: SEETO (2015)

Concerning the demand for road infrastructure, it is lower in the Western Balkans than in the EU countries. Indeed, the region's motorization rate is less than the half of the EU level (on average, only one in five people own a car in the Western Balkans while almost one in two people own a car in the EU-15). However, as this indicator is related to the households income level, one may expect the motorization rate to grow fast with the forthcoming income convergence, like it occurred already in the past (for instance, the number of passenger cars per 1000 inhabitants more than doubled in Albania from 2001 to 2011).

Figure 25. Motorisation rate (number of passenger cars per 1000 inhabitants)

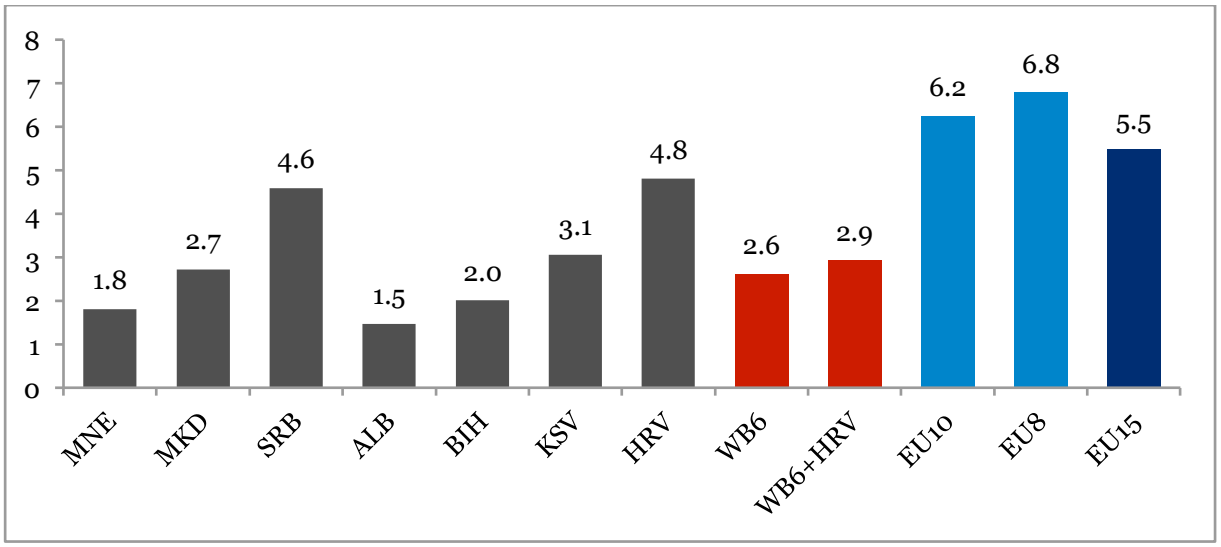


Source: World Bank Development Indicators, Eurostat

Rail

Regarding railway infrastructure, the global picture is quite similar to the road infrastructure in terms of the density of the existing network. It is more than two times lower than the EU average. For 2.6 km or railways per 100 square km in the Western Balkans, there are 5.5 km in the EU-15 and 6.3 km in new member states. Only Serbia and Croatia have rail densities comparable to the EU level (cf. *Figure 26*). The difference lies in that the rail network received much less investment than roads during the last decade and there was no network expansion. In Albania, the rail network has even been reduced.

Figure 26. Railway density (km of rail per 100 km^2), 2012

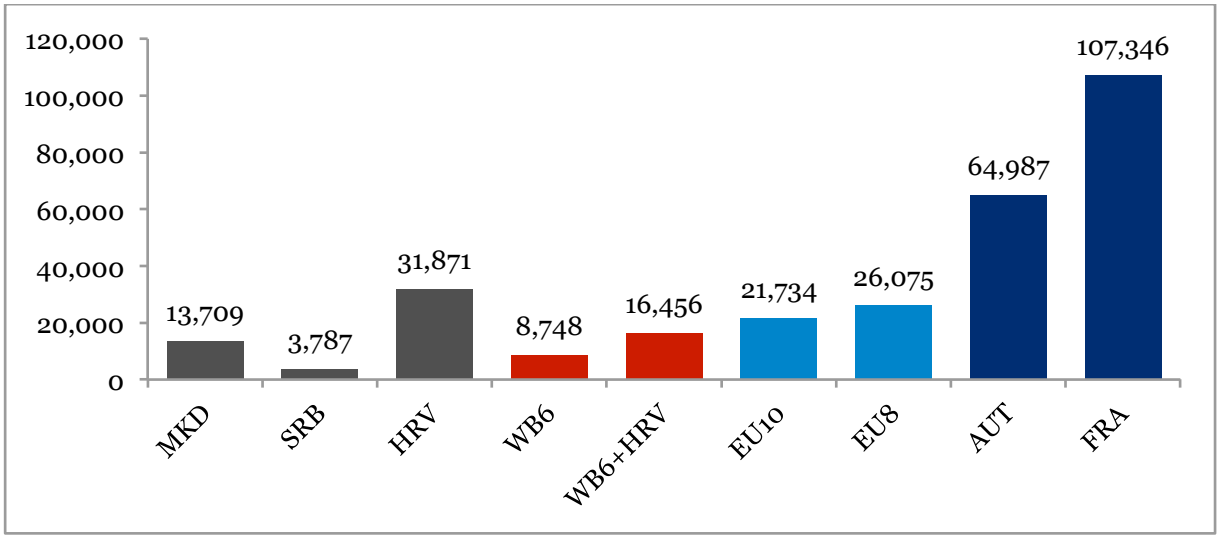


Source: World Bank Development Indicators, Eurostat

During the transition period the rail network lacked maintenance cruelly. *Figure 27* compares available data on average rail maintenance costs per km of rail with European peers. The magnitude of this underinvestment in maintenance becomes even more striking when considering the Serbian railways, the largest rail network in the region. During the period from 1990 to 2000, repairs were done on only 145 km of the tracks, which is less than what should have been done in a year given the track conditions [Barjaktarevic (2001)]. Poor maintenance for a prolonged period of time resulted in a disastrous state of the tracks, the destruction of the infrastructure and a very limited average speed on a great part of the routes. The average train speed does not exceed 60 km/h and on some rail portions it is limited to 40 -45 km/h. Train delays of many hours are common. The development of efficient transport rail services in these conditions is clearly very difficult.

> *"The Serbian Railway was founded in 1881, a few months before its founder, Prince Milan Obrenović, was crowned the first king of the Kingdom of Serbia. In 1884 the rail link between Belgrade and Niš was inaugurated. The first trains on that section travelled at an average speed of just under 40 km per hour. In Serbia today, more than a century later, the situation has not changed much. The average speed of passenger trains, by the most generous estimates, is around 44 km per hour." [Sicurella (2013)].*

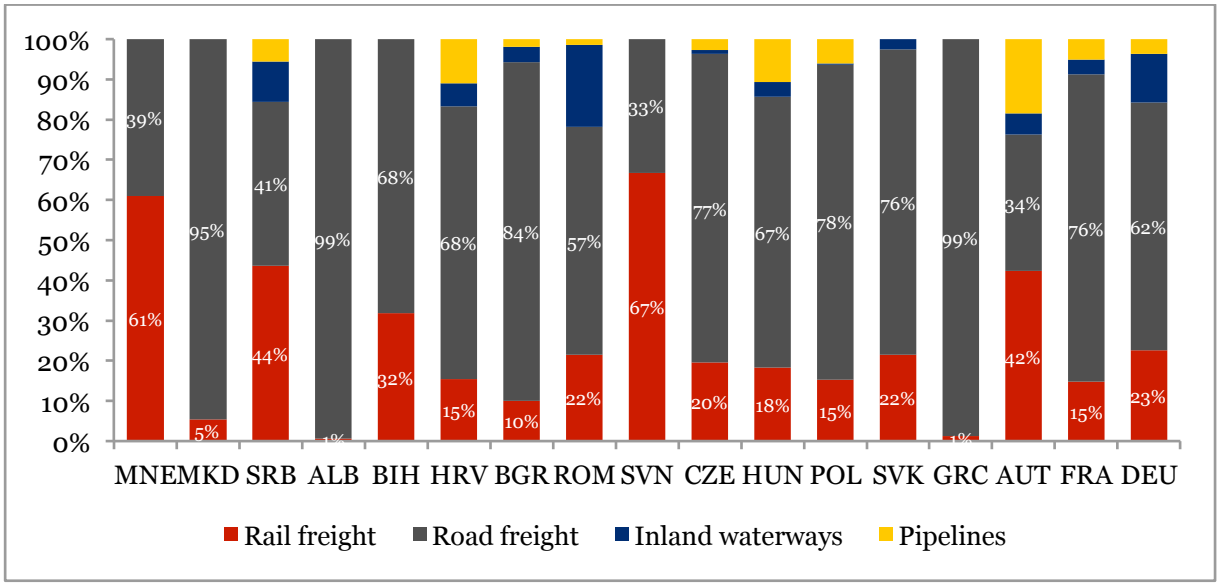
Figure 27. Rail infrastructure maintenance expenditures (EUR constant per km of rail), average 1995 – 2011.



Sources: Eurostat, OECD

At the same time, rail is highly important for freight transport in Serbia (44% of total freight) and Montenegro (61%) despite the recent development of road freight (cf. *Figure 28*). The decline in the demand for rail is in great part explained by the deficiencies of the infrastructure.

Figure 28. Freight structure (% of total freight), 2013



Source: OECD

According to SEETO, 36% of the comprehensive rail network need investment for rehabilitation (cf. *Table 5*).

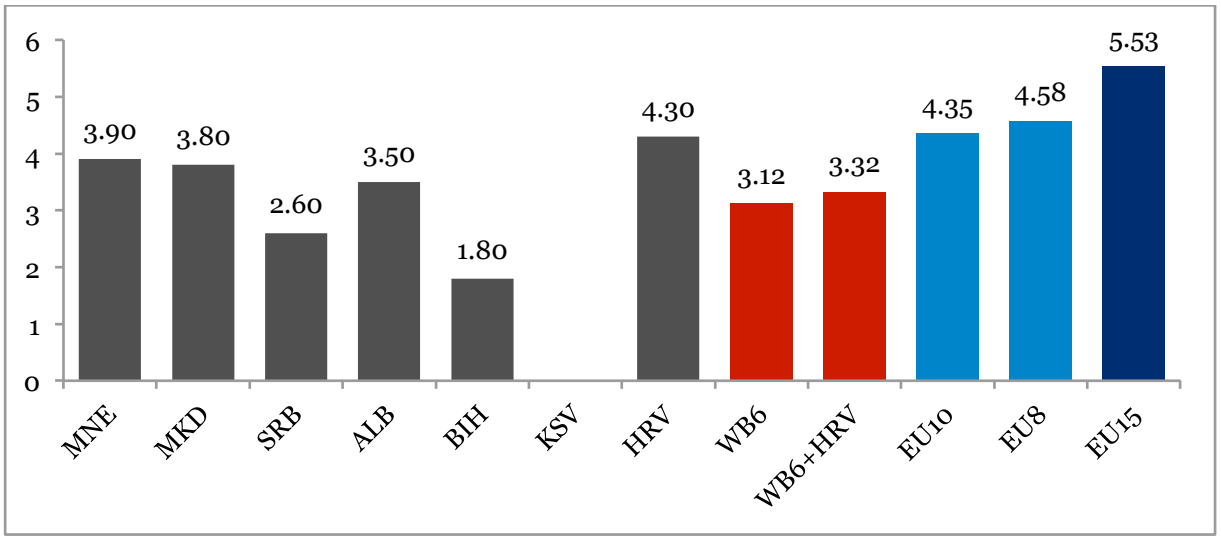
Table 5. SEETO rail comprehensive network maintenance/rehabilitation needs, WB6

	km	% of total
Total length	3 530	
Length with no capacity constraints (utilisation less than 40%)	2 262	64%
Length with minor constraints - minor rehabilitation needed (utilisation 40-65%)	788	22%
Length with significant constraints - major rehabilitation needed (utilisation 65-80%)	178	5%
Length with significant constraints - construction of new line is needed (utilisation more than 80%)	149	4%
Missing links	211	6%

Source: SEETO (2015)

Unfortunately, little comparable data exist on other modes of transport, such as inland water ways, air transport and seaports. Only in Serbia and Croatia, inland waterways occupy a considerable part of freight transport (about 10%). However, with further emphasis being put on intermodal connections in regional strategies (such as the Danube, EUSAIR or Alpine EU macro-regional strategies), things might change. River ports in the region have substantial capacity but the infrastructure and equipment require appropriate investment for rehabilitation [SEETO (2015)]. In the same way, the seaport infrastructure requires modernisation, reconstruction and investment to mechanical units as well as improvement of the connectivity to road and rail networks. *Figure 29* illustrates the gap in quality of the port infrastructure between Western Balkans and European peers.

Figure 29. Quality of port infrastructure



Note: 1=extremely underdeveloped to 7=well developed and efficient by international standards
Source: World Bank WDI

In the recent past, transport investments were dominated by road projects. Thus, since 2004, the total amount of investment in Ten-T infrastructure reached EUR 12 bn (committed and/or disbursed) with road infrastructure representing more than 80% of the total investments in the Ten-T Comprehensive Network, of which rail represented 13.5%, air infrastructure – 3.6%, inland waterways and seaport – only about 1% [SEETO (2016)].

Given the existing transport infrastructure gaps, substantial investments are still needed. According to SEETO, urgent investment needs for rehabilitation of poor condition segments and bottlenecks removal (rail and road infrastructure only) were estimated at *12.4 EUR bn* (9.3 EUR bn for rail and 3.1 for road network). Only for implementation of 48 priority projects stated in the 2016 Multi-annual Plan, *9.64 EUR bn* are needed. Out of the 2.67 EUR bn estimated cost of projects eligible for funding, almost 2 EUR bn are for road infrastructure, 0.6 EUR bn for rail and 0.1 EUR bn for inland waterways projects. Total estimated cost for projects under preparation is 6.97 EUR bn, 4.9 EUR bn for road, 2 EUR bn for rail and 0.07 EUR bn for airport and seaport projects. In addition, the secondary road and rail network not included in TEN-T comprehensive network also needs maintenance and investment.

A way to address the estimation of global transport network needs is to consider international experience. Thus, in the Western Europe annual investment in road network is about 0.8% of GDP. OECD estimates that the investment of 2.5% of world GDP per year would be needed till 2030 to cover global infrastructure needs across the land transport (road, rail), telecoms, electricity distribution and water sector. This amount would rise to 3.5% of GDP per year if electricity generation and other energy related infrastructure in oil, gas and coal is included into the estimation.

According to transport sector experts, taking into account the accumulated lags in the development of networks in the Western Balkans, it is reasonable to estimate the sector investment needs of *2-2.5% of GDP per year*. It corresponds to *1.6 – 2 EUR* bn per year for the WB6 (*2.6 – 3.3 EUR bn* if Croatia is included) till 2020 if medium growth scenario is assumed.

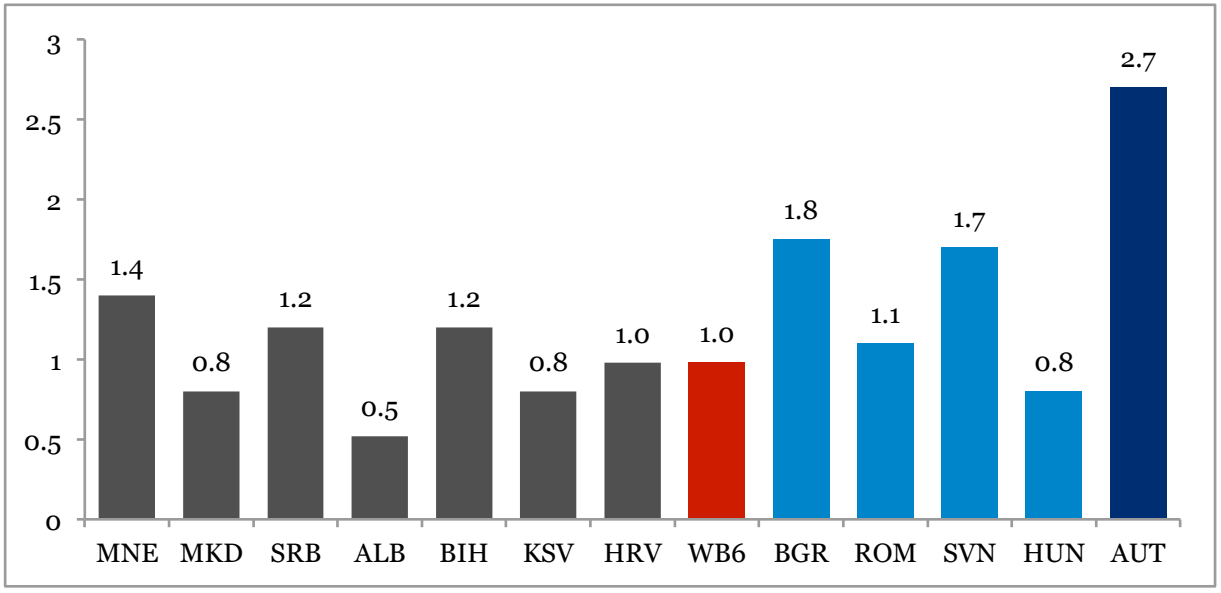
As a reference, the Serbian General Master Plan for Transport 2009-2027 estimates total costs of infrastructure needs at over *22 EUR bn* or more than *1.2 EUR bn per year*.

1.2.2. Energy

Energy has very high potential for development that could have very significant impact on the downstream user sectors. The infrastructure gap is important comparing to the European peers and future development is subject to a series of legislative, institutional, regulatory and political constraints.

Current low power generating capacity is a binding constraint for the economic activity and attractiveness for foreign investments. It concerns in the first place Albania and Kosovo, as well as Macedonia, where generating capacity does not exceed 0.8 kW per inhabitant (cf. *Figure 30*); this is more than two times lower than in Slovenia and almost four times lower than in Austria.

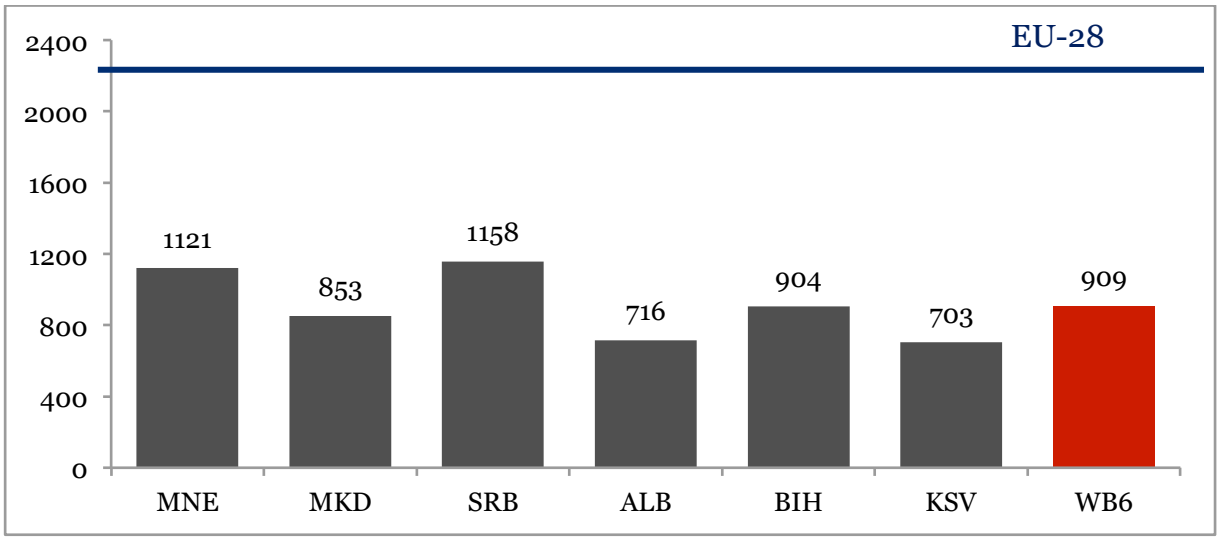
Figure 30. Power generating capacity (kW per inhabitant)



Source: Energy Community

It is true that energy consumption is more than two times lower than in the European Union (cf. *Figure 31*). However, the development of industry which is the condition for a successful export-led strategy and is the most energy intensive sector would increase energy consumption.

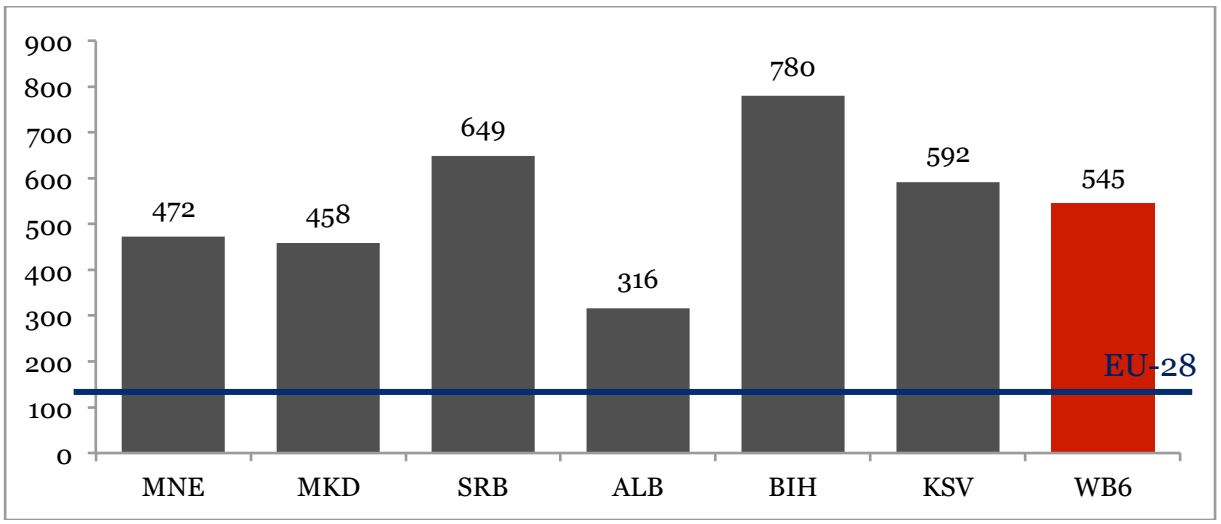
Figure 31. Final Consumption of Energy per Capita in 2013 (in kgoe)



Source: Energy Community

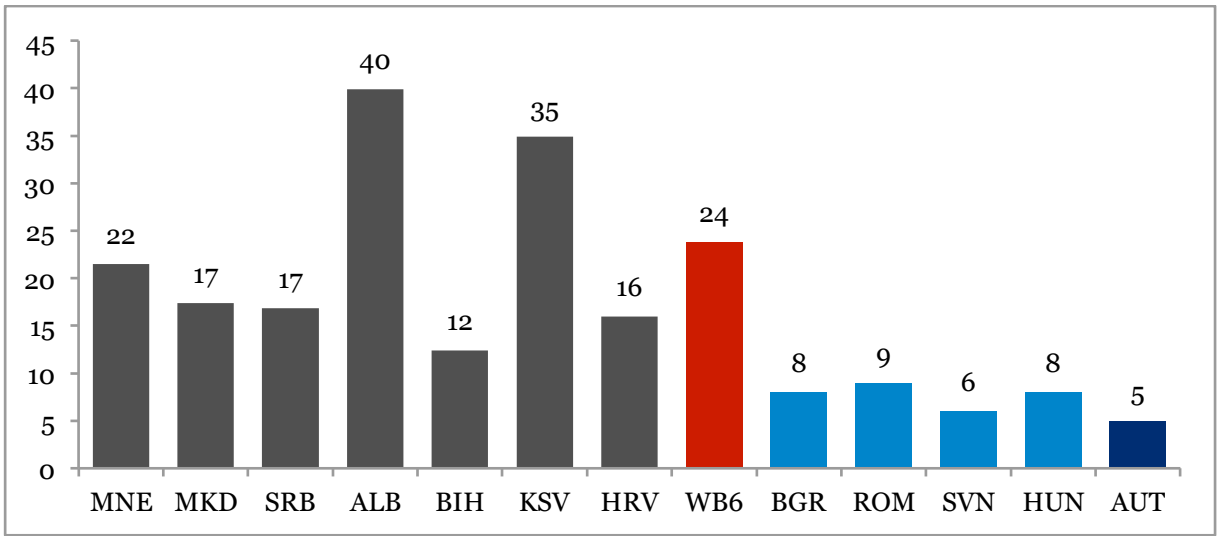
Despite a slight reduction in energy intensity in pre-crisis years which was mainly driven by economic growth, its level remains high comparing to the EU level (*Figure 32*). This is a sign of poor energy efficiency of the region. One comes to the same conclusion when analysing the losses in electricity transmission and distribution (*Figure 33*). They are particularly high in Albania and Kosovo: 40% and 35% of electricity output is lost in transmission and distribution networks what is by all means a very poor performance (to compare with 5% and 6% respectively in Austria and Slovenia).

Figure 32. Energy Intensity of the Economy in 2013 (in kgoe/1000 EUR)



Source: Energy Community

Figure 33. Losses in electricity transmission and distribution (% of output), 2014



Source: Energy Community

High electricity transmission and distribution losses result however only partly from technical losses. The larger part of losses occurs during distribution and is due to non-technical causes (commercial losses i.e. theft and inaccurate metering). In order to deal with this problem, a combination of law enforcement measures and investment should be applied. Thus, regulatory measures helped to reduce the level of commercial losses in Montenegro from 13-14% in 2005 to some 10.8% in 2007 [REKK (2014)].

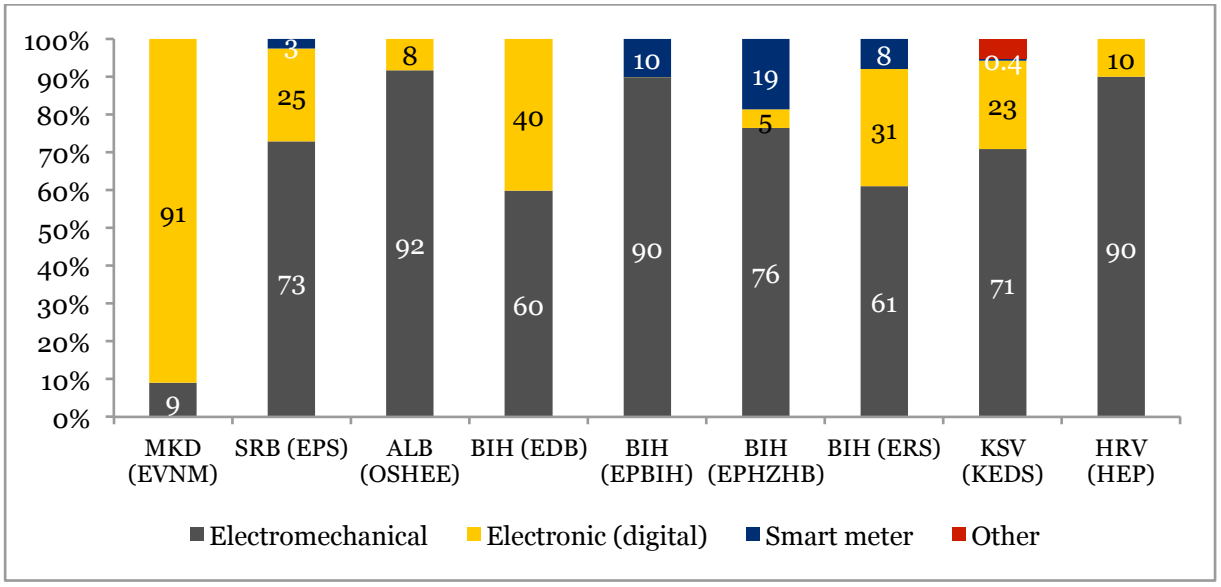
Reading of consumers' meters is often performed manually as the majority of installed meters (for household customers) represent old electro-mechanical devices more than 20 years old[24] (cf. *Figure 34*). Smart metering[25] and smart grid

[24] With the exception of Macedonia where electronic meters dominate.

[25] "Smart meters" are digital devices supplemented with electronic communications enabling the transmission and reception of consumption data and processing software to provide a new set of services for consumers and various benefits to the society as a whole. The term "smart metering" does not only refer to the metering device but also to the whole measurement, collection and allocation system. The term "smart grid" is a larger term

infrastructure is only at its beginnings in the region and requires further investment. Montenegrin smart metering program financed through EBRD loan provided 175,000 households with smart meters from 2011 to 2014. Serbian Electric Power Company (EPS) is currently introducing the smart metering system which should be realised by September 2017 (project financing being secured by EBRD and EIB loans).

Figure 34. Share of different meter types by DSO, households, 2012



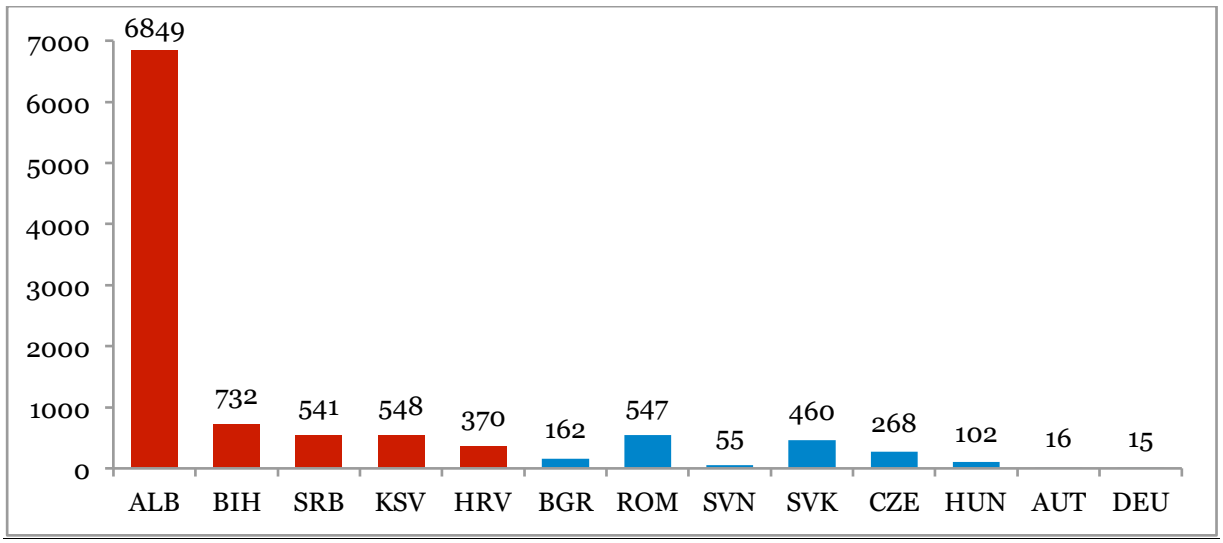
Note: Distribution System Operators (DSO): EVNM (EVN Macedonia), EPS (Eletroprivreda Srbije), OSHEE (Operatori i Shpërndarjes së Energjisë Elektrike), EDB (JP Komunalno Brcko), EPHZHB (JP Elektroprivreda Hrvatske Zajednice Herceg-Bosne), ERS (JP Elektroprivreda Republike Srpske), KEDS (Kosovo Electricity Distribution and Supply), HEP (HEP – Operator distribucijskog sustava d.o.o)
Source: USAID (2015)

Smart grid and smart meters should also contribute to a better quality of services. Indeed, the quality of electricity distribution, as characterised by the continuity of service, is subject to improvement comparing to the peers (cf. *Figure 35*). In Albania[26] unplanned interruptions represent on average 6849 minutes (114 hours) per customer per year. The situation is better in other countries of the region with 732 minutes on average in Bosnia and Herzegovina, 541 minutes in Serbia and 548 minutes in Kosovo, which is however a poor performance comparing to 16 and 15 minutes respectively in Austria and Germany.

understanding "an electricity network that can intelligently integrate the actions of all users connected to it - generators, consumers and those that do both – in order to efficiently deliver sustainable, economic and secure electricity supplies" [REKK (2014)].

[26] Albania has the most aged distribution network in the region with the average age of 37 years (to compare with 33 years in Serbia and 17 years in Croatia) [USAID (2015)].

Figure 35. Unplanned interruptions in minutes per customer served, 2012



Note: data unavailable for Macedonia and Montenegro
Sources: USAID (2015), REKK (2014)

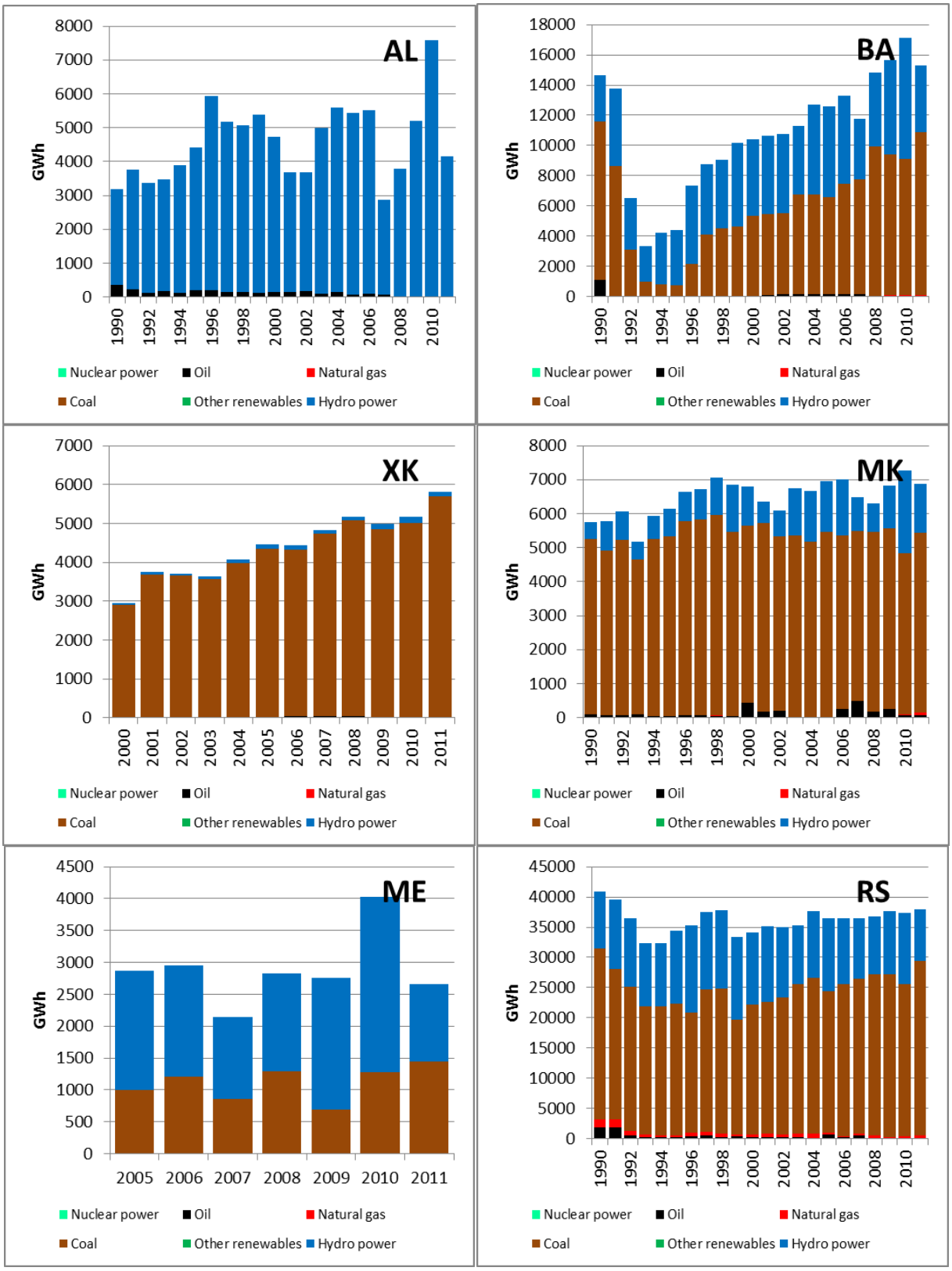
The Western Balkan countries have very different electricity production patterns. But globally for the region, coal and hydro-power electricity dominate (cf. *Figure 36*). Albania produces almost 100% of its electricity from hydro-power while in Bosnia and Herzegovina, Kosovo, Macedonia, Serbia coal-produced power represents the largest part of total electricity production. Comparing to the neighbouring EU countries, WB6 have a less diversified electricity production structure.

In the current state of generating capacities, all the countries of the region are unable to satisfy their peak demand and import electricity (though their import dependency is lower than EU average). That is the reason why a better regional cooperation in the energy sector is crucial for energy security of the countries.

The average electricity price in the Western Balkans (0.07 EUR/kWh) is more than twice lower than in the EU (0.17 EUR/kWh). This creates a potential for export of excess electricity generation and the Western Balkans have an ambition to realise this potential. However, as underlined by a recent report, an export-oriented strategy of development of electricity sector and planned investments should be considered carefully. In fact, if all planned capacities were built, there would be a danger of "stranded assets" and of "export-dependency", as the Western Balkan countries would compete not only between themselves but also with Bulgaria, Romania and other EU countries [Weishaar and Madani (2015)]. Besides, further development and refurbishment of coal-based power generation involves the potential non-compliance with EU directives and carbon leakage[27] issues. This also engenders financing problems as EU funds cannot be involved in the financing of such projects and other sources should be found.

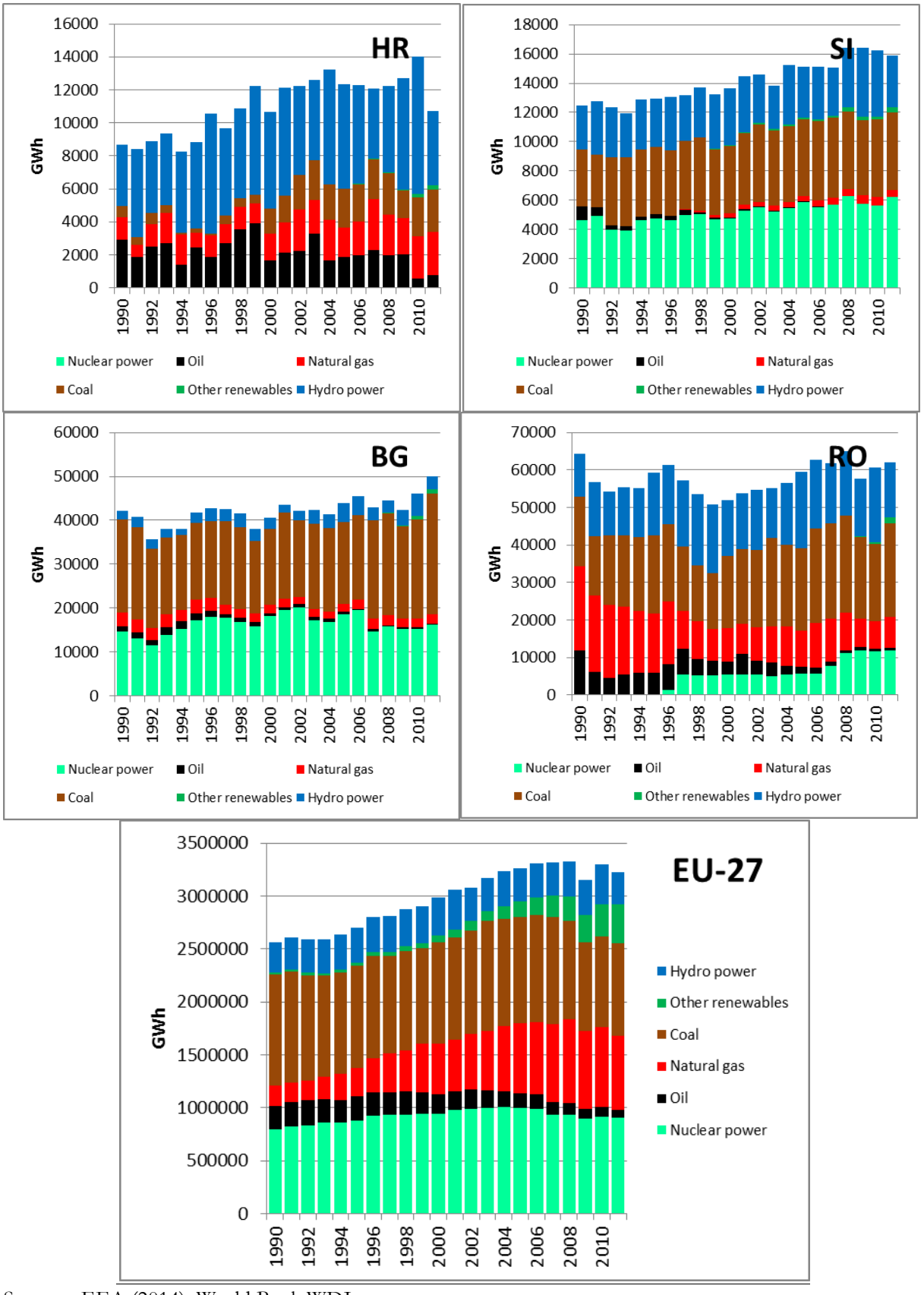
[27] Carbon leakage is the term used to describe the situation that may occur if, for reasons of costs related to climate policies, businesses were to transfer production to other countries which have laxer constraints on greenhouse gas emissions. This could lead to an increase in their total emissions. The risk of carbon leakage may be higher in certain energy-intensive industries.

Figure 36. Electricity production by fuel type in Western Balkans (GWh)



Sources: World Bank, EEA (2014)

Figure 37. Electricity production by fuel type in peers (GWh)



Sources: EEA (2014), World Bank WDI

A coal-based strategy creates also negative spillovers for other sectors (such as environment) and particularly has negative health effects. According to a recent report [HEAL (2016)], annual health damage from existing thermo-power plants in the five Western Balkan countries (WB6 except Albania) can be estimated at *1.2 EUR bn* (lower bound) - *3.5 EUR bn* (upper bound) per year. When extended to the EU scale, the damage across Europe of emissions from existing thermo-power plants in the Western Balkans is estimated to be comprised between *3 EUR bn* to *8.6 EUR bn* per year. While the planned new generation power-stations are expected to operate under much tighter environmental standards, they still will cause health damage in the region and beyond its borders.

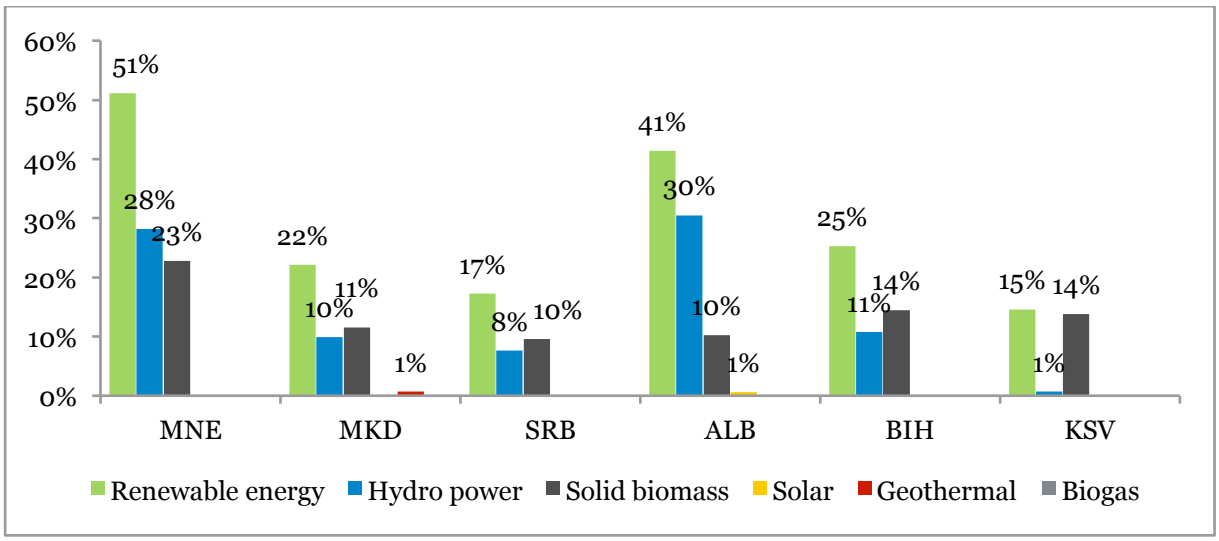
Till now, gas was relatively absent in the Western Balkans' energy mix. It represented only 4% and 1% of primary energy production respectively in Serbia and Albania in 2013, its share being null in other countries. Gas represented 12% of gross inland consumption in Serbia, 5% in Macedonia, 2% in Bosnia and Herzegovina and 1% in Albania (in Kosovo and Montenegro its share was null). However, investing in gas infrastructure in the Western Balkans is a mean to diversify the sources of energy in the region. It is also a mean to secure and diversify gas supply for the Western Europe by bringing natural gas from the Caspian region. The Trans Adriatic Pipeline project (TAP) connecting Greece, Albania and Italian border is a part of the Southern Gas Corridor which can be considered as a major component of the European energy policy. The Ionian Adriatic Pipeline (IAP) project is to connect the TAP with the existing gas network and thus ensure further gasification of the region. Besides, though the South Stream project was abandoned in 2014, it is not impossible that in the close future another project bringing Russian gas to the region could develop. Despite an evident interest and high priority given to gas on the European level, the implementation of large gas projects remains difficult for many reasons, of geopolitical nature including a coal lobby.

The potential for development of hydro-power is large in the Western Balkans. The hydropower potential is the highest in Bosnia and Herzegovina where the big majority of the potential remains unexploited (in per capita terms, it is Montenegro which has the highest potential in the region) [EEA (2014)]. On the other hand, hydro-power, though renewable, cannot be perceived as entirely environmentally-friendly as it endangers ecosystems. According to Schwarz (2015) numerous hydropower projects[28] threaten ecologically valuable rivers of European importance. In particular medium and low-sizes hydropower plants disconnecting entire catchments and floodplains from river systems could be particularly harmful as they are often located on rivers with high ecological value and some of them in national parks. A careful planning coordinated with environmental targets and opportunities (such as wildlife and fishing tourism, for example) would help to minimise the possible negative impact.

The share of renewable energy in primary production is relatively high in the Western Balkans mainly due to hydro-power and solid biomass-based production. The other sources of renewable energy are essentially absent (cf. *Figure 38*), implying however a large potential for future development.

[28] The report states 313 hydropower projects in Albania, 165 in Bosnia and Herzegovina, 87 in Kosovo, 84 in Montenegro, 199 in Macedonia, 878 in Serbia, 124 in Croatia;

Figure 38. Renewable energy in primary production (%), 2013



Sources: Energy Community (2015)

As the energy sector development can take divergent paths depending on a multitude of factors, it is difficult to estimate the whole sector needs in terms of investment. However, regional cooperation under Energy Community permitted to establish a list of priority projects, Projects of Energy Community Interest (PECIs), considering different scenarios of development. The initial Energy Community Strategy considered three scenarios: "current trends scenario", "minimum cost scenario" and "low emission/ sustainable scenario".

Table 6. Energy sector investment needs till 2030

	Current trends scenario	Minimal investment cost scenario	Low emission / sustainable scenario
Scenario's main features	Slow (and inadequate) development, little new generating capacities are built; investment needs focus on keeping aging plant in service; Electricity demand is not able to be met by 2020 implying shortages and massive imports.	Modest development in an attempt to move towards partial compliance with energy efficiency and renewable energy targets; Electricity demand would be met fully.	Ambitious development assuming that the energy efficiency targets will be met (9% reduction in total final energy consumption by 2018) and that renewable energy resource targets are also achieved; "gas ring" is introduced allowing both gas supply for distribution and gas supply for power generation.
Total Investments required between 2012 and 2030	15.8 EUR bn	35.2 EUR bn	59.9 EUR bn
Average annual investment	0.88 EUR bn	1.96 EUR bn	3.33 EUR bn
Average annual investment in % of GDP 2016	0.7%	1.6%	2.7%

Note: Energy community contracting parties are six Western Balkan countries, Croatia (before entering the EU), Moldova and Ukraine; the estimates are given excluding Ukraine but including Moldova.

Sources: Energy Community (2013), own calculations

Though the final PECIs list adopted in October 2013 foresees only *14.2 EUR bn* of investment for priority projects, the scenarios of *Table 6* indicate the scale of the energy development challenge faced by the Western Balkans. For reference, the annual average costs of the three scenarios correspond respectively to *0.7%*, *1.6%* and *2.7%* of GDP (in current 2016 prices). Thus, a reasonable estimate of energy investment needs in GDP terms for the Western Balkans would be *1.5% - 2.7%*[29].

Considering the magnitude of needs and potential for development, past investments were relatively modest. In eighteen years, from 1996 to 2014, the total amount of investment in the Western Balkans is estimated at *5.3 EUR bn* [Energy Community (2015)].

1.2.3. Environment

Western Balkans benefit from rich natural land and water resources. To preserve and take plainly advantage of them will be an important challenge for the future. The success would depend highly on capability of the countries to invest in infrastructure, in particular in water and waste management, and their efficiency of dealing with the ongoing urbanisation process.

Land use and urbanisation

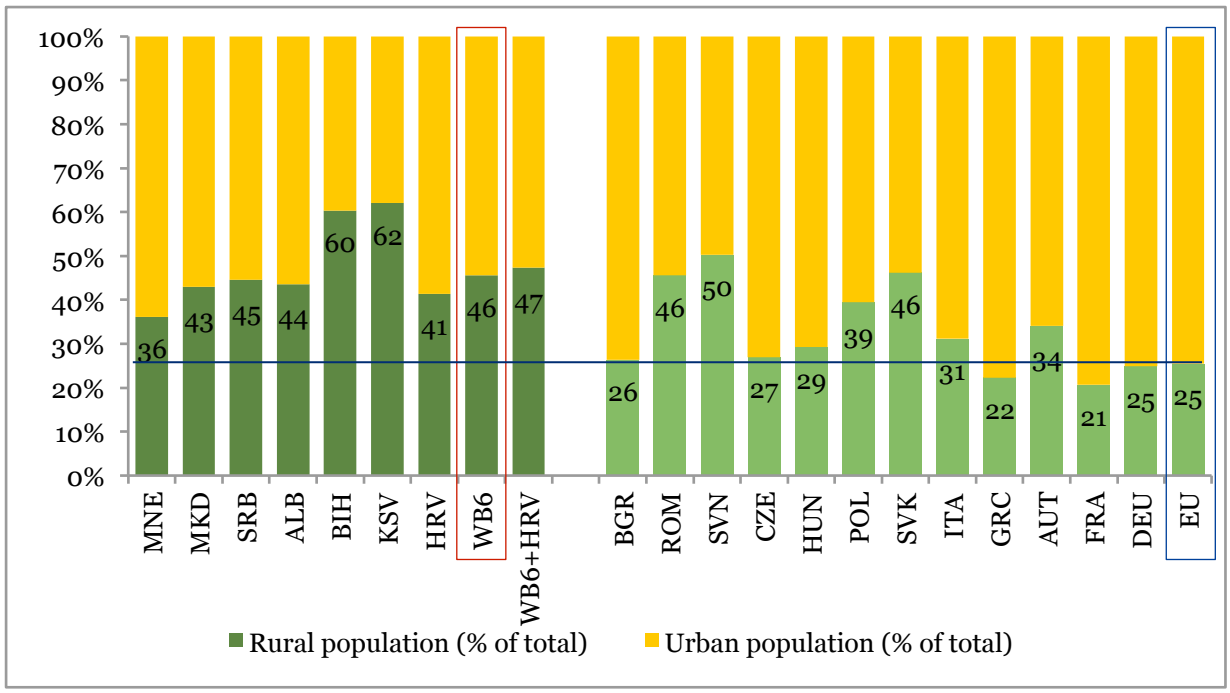
The share of rural population in the Western Balkans is 45 %, which is almost the double than in the EU. However, the disparities between countries of the region are high (see *Figure 39*). Kosovo has the highest share of rural population (62%) closely followed by Bosnia and Herzegovina (60%). Albania, Macedonia and Serbia have more than 40% of rural population, while the lowest share of rural population is in Montenegro (36%), where it is however still higher than the EU-28 average.

The development of the share of urban population is also quite differentiated by country, even if a global trend of declining rural population can be observed from 1995 to 2014 (*Figure 40*). It can be expected that this trend will continue in the following years, which will necessarily impact on the geographical distribution of infrastructure needs in all the sectors. Only in Macedonia a slight increase in rural population share could be observed, while in Bosnia and Herzegovina it remained relatively stable and high over the time. The most dramatic decrease of rural population took place in Albania, where it decreased from some 64% in the beginning of the 1990s to 44% nowadays. The consequences result in uncontrolled land take[30] and urbanization around big cities [EEA (2014)].

[29] This estimate is in line with the literature taken into account existing lags of aging energy infrastructure in the Western Balkans.

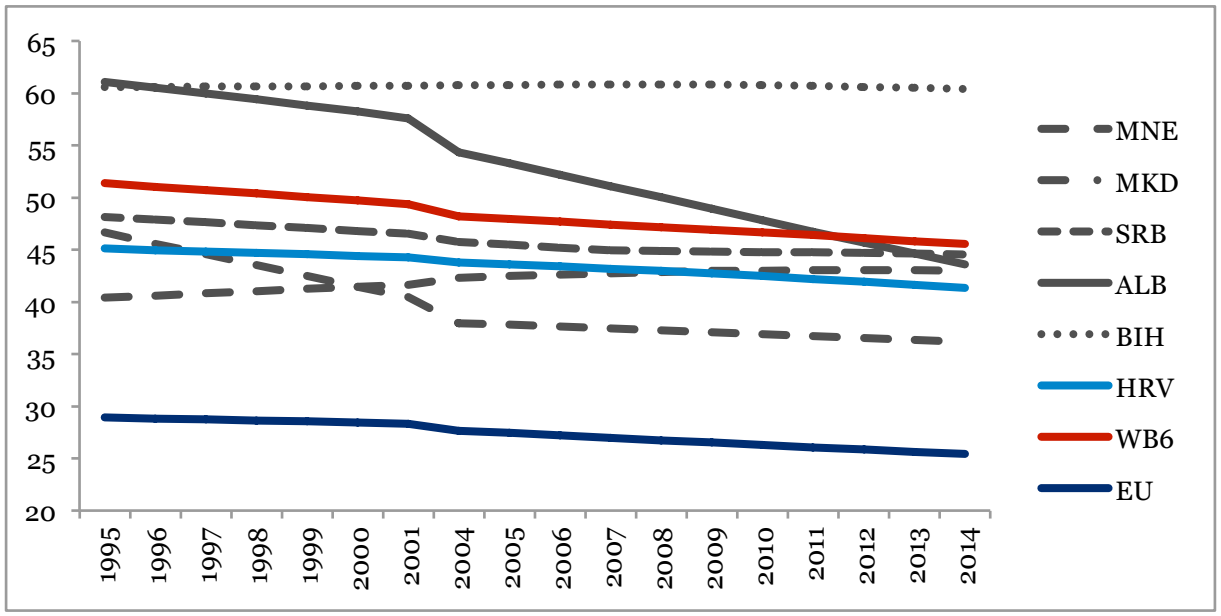
[30] According to European Environment Agency, urban land take means a change of the amount of agriculture, forest and other semi-natural and natural land taken by urban and other artificial land development. It includes areas sealed by construction and urban infrastructure as well as urban green areas and sport and leisure facilities. Land use by urban and related infrastructures has the highest impacts on the environment due to sealing of soil as well as disturbances resulting from transport, noise, resource use, waste dumping and pollution.

Figure 39. Rural and urban population breakdown, 2014



Sources: WDI (World Bank), UNDP(2014) for Kosovo

Figure 40. Evolution of rural population (% of total), 1995-2014

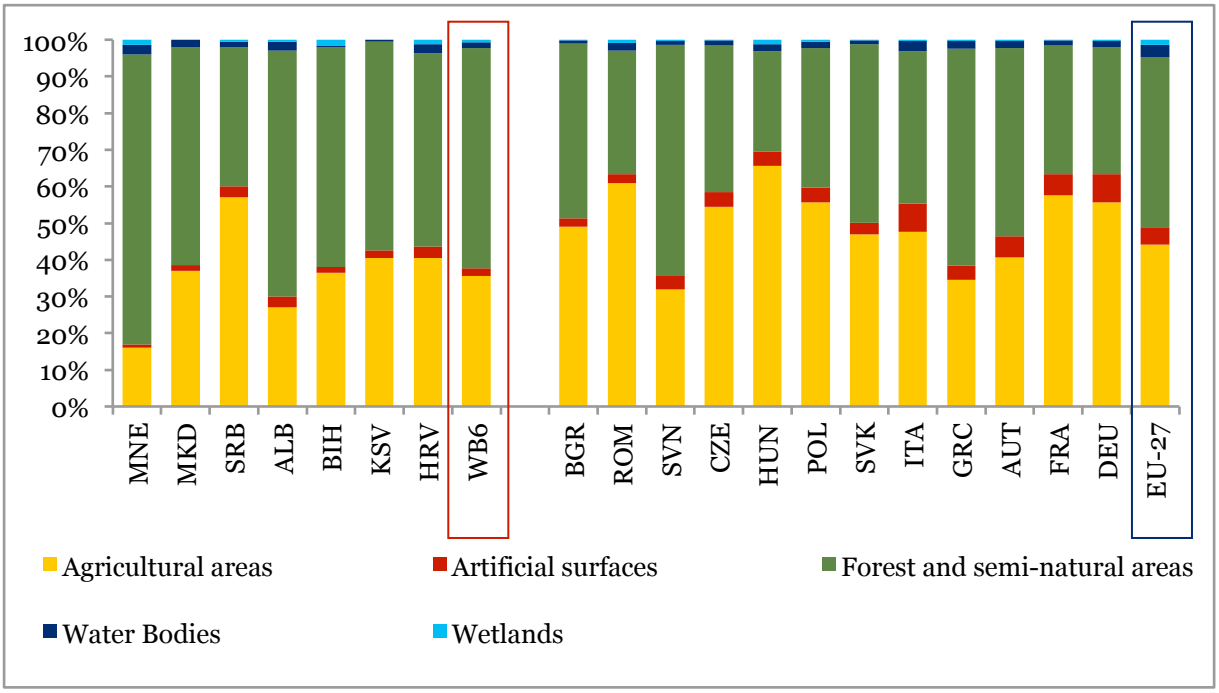


Sources: WDI (World Bank)

A look at the land cover composition shows that the largest part of the territory remains natural (*Figure 41*). Some 60% of the region represents woodland, shrubland and other semi-natural areas while the EU-27 average is about 47%. Montenegro is the most forested country in the Western Balkans (forests and semi natural areas are covering 79 % of the country), mainly due to unique karst mountainous landscape with high slopes [EEA (2014)].

On the other hand, with the exception of Serbia, agricultural coverage is lower than in EU-27. The country with the highest share of agricultural areas (57 %) is the Republic of Serbia, due to intensive farming crop areas in Vojvodina. The artificial lands share (comprising settlements, production sites and infrastructure) is lower than the EU-27 average. This shows that the growing urbanization process is far from being achieved, but it also indicates that the infrastructure stock is underdeveloped compared to European peers. Croatia has the highest share of artificial surfaces (3 %), which is still below the EU-27 average (4.6 %).

Figure 41. Land cover by types, % of total



Sources: EEA (2014), Eurostat

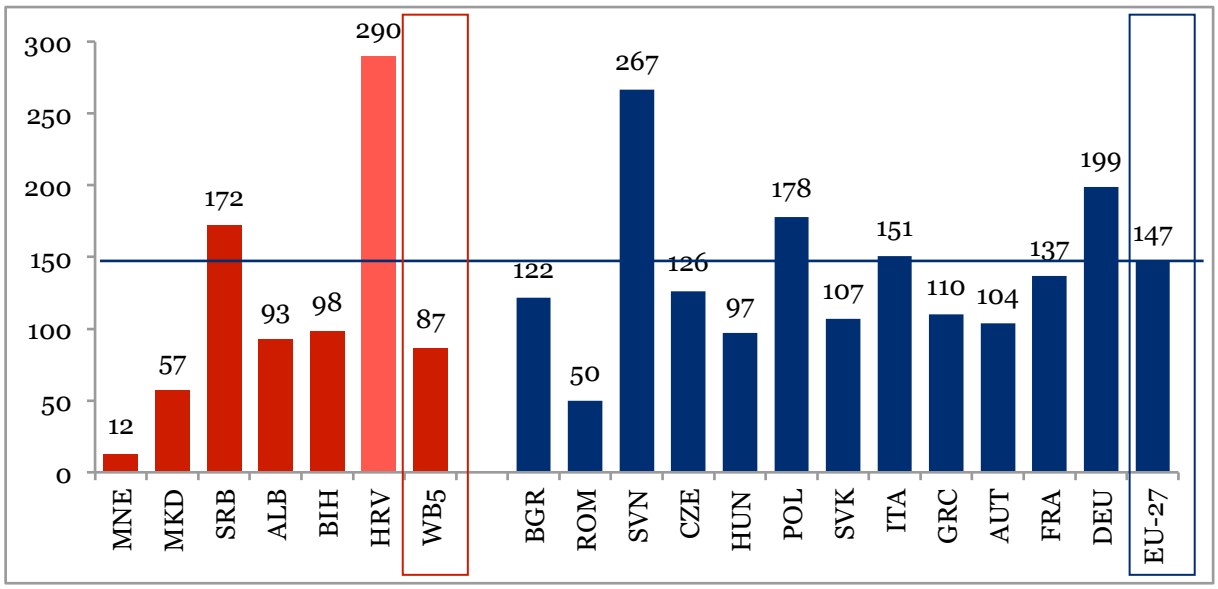
Agriculture remains an important economic activity in the Western Balkans despite a reduction of its share of value added. It is less intensive than in the EU as confirmed by the fertilizer consumption level (see *Figure 42*). In the Western Balkans this indicator is lower (87 kg/ha of arable land) than in EU-27 (147 kg/ha of arable land) and neighbouring countries[31] (133 kg/ha of arable land). Croatia has the highest level with 290 kg/ha of arable land which is almost the double of the EU-27 average[32]. By far the lowest fertilizer consumption was observed till very recently in Montenegro (12 kg/ha)[33]. This gives to the Western Balkan countries a good potential for organic farming development which could become one of the keys of success to increase export and employment thus avoiding depopulation of rural areas.

[31] Bulgaria, Romania, Slovenia, Hungary, Italy and Greece

[32] Fertilizer consumption is calculated as fertilizer production plus imports minus exports. Because some chemical compounds used for fertilizers have other industrial applications, the consumption data may overstate the quantity available for crops.

[33] According to the last available data provided by the World Bank WDI, in only one year it increased by more than 2600% to achieve 325 kg/ha thus moving the WB simple average to 145 kg/ha. This sudden increase in data is however very surprising and need to be confirmed.

Figure 42. Fertilizer consumption (kilograms per hectare of arable land), 2012



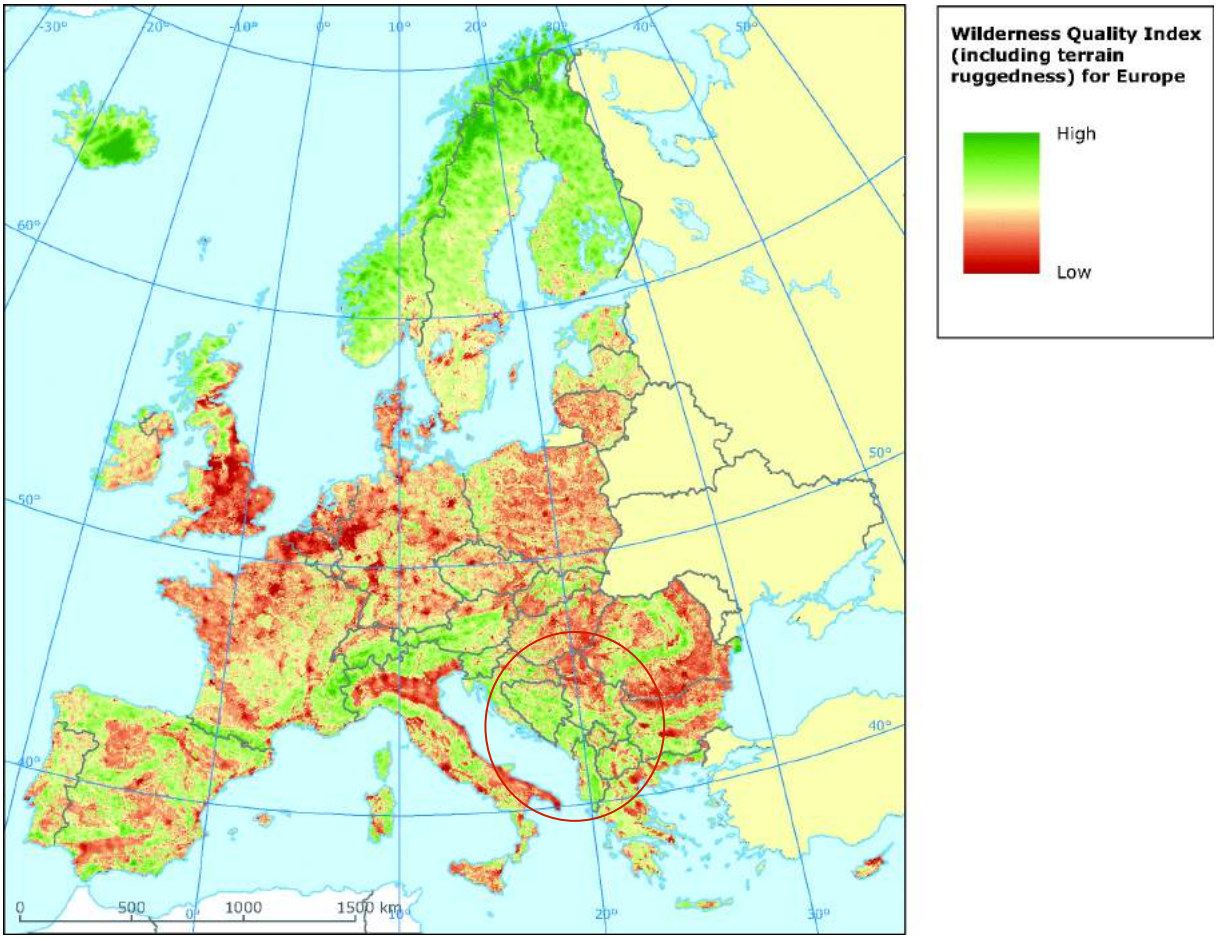
Sources: WDI (World Bank)

Note: data for Kosovo is not available; WB5 stands for Western Balkan average without Kosovo; blue line indicates average EU-27 level

Another potential advantage for the future development of the Western Balkans lies in the relatively well preserved unused wild areas. This gives an opportunity and space not only for further development of industrial and agricultural activities but also for the creation of particularly attractive wild zones and parks boosting tourism and services. As *Figure 43* shows, the wilderness quality index (WQI) in the Western Balkans is high compared to the average European level. Albania, Montenegro and Bosnia and Herzegovina, with important mountainous areas, have the largest share of areas with high WQI[34]. On the contrary Serbia with important crop areas has a large share of low WQI territories. However, remaining wild areas still represent a valuable resource and could be put into advantage by improving transport accessibility and environment protecting infrastructure (for example, Timok region in Eastern Serbia [see Zoï Environment Framework (2013)]).

[34] European Environment Agency distinguish three groups

Figure 43. Wilderness quality index, 2011

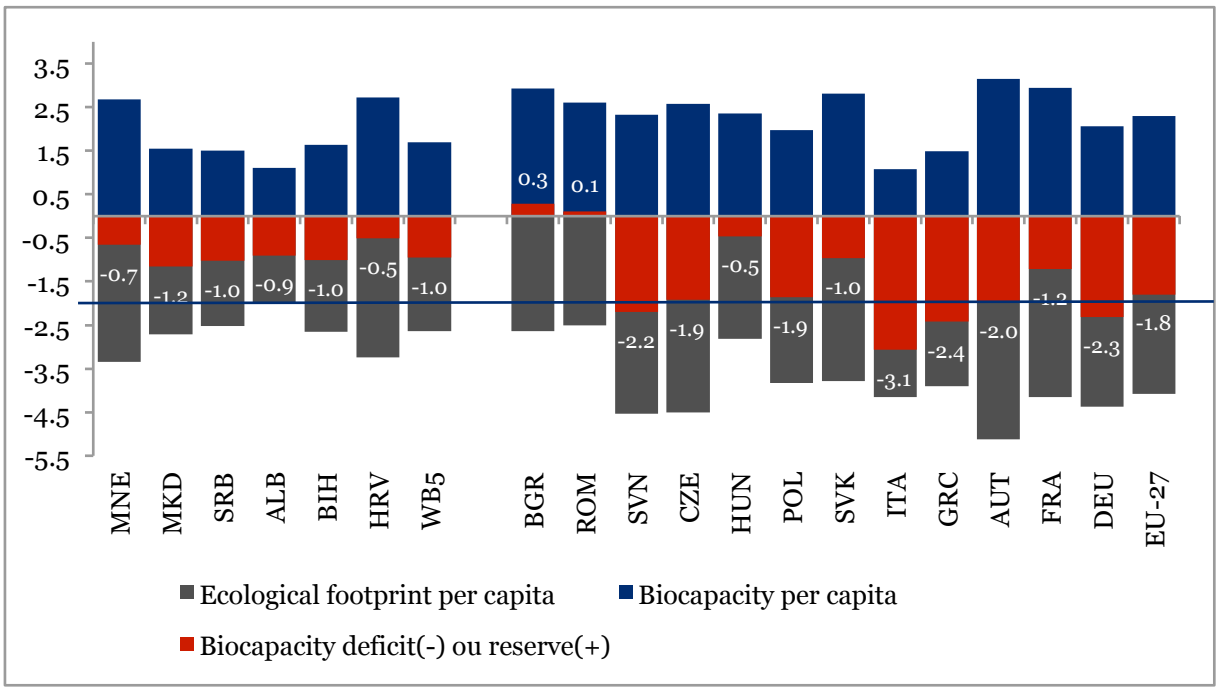


Sources: European Environment Agency, 2011 (http://www.eea.europa.eu/data-and-maps/figures/wilderness-quality-index#tab-documents)

Despite the rich natural resources, it will be highly important to invest into environmental protection measures and infrastructure to preserve this natural capital. Ecological footprint[35] exceeds biocapacity[36] in the Western Balkans meaning that environmental issues will be more and more important in the close future in the region. Nevertheless, ecological footprint and ecological deficit[37] are both lower than the EU-27 average in absolute terms (*Figure 44*). This difference is not so important, however, in relative terms. Thus the average percentage by which the ecological footprint exceeds the biocapacity is 62% while EU-27 average is only 16% higher (78%).

[35] A measure of how much an area of biologically productive land and water an individual, population or activity requires to produce all the resources it consumes and to absorb the waste it generates, using prevailing technology and resource management practices. The ecological footprint is usually measured in global hectares.
[36] The capacity of ecosystems to regenerate what people demand from those surfaces. Biocapacity is therefore the ecosystems' capacity to produce biological materials used by people and to absorb waste material generated by humans, under current management schemes and extraction technologies.
[37] The difference between the biocapacity and ecological footprint of a region or country. An ecological deficit occurs when the Footprint of a population exceeds the biocapacity of the area available to that population. Conversely, an ecological reserve exists when the biocapacity of a region exceeds its population's Footprint. If there is a regional or national ecological deficit, it means that the region is importing biocapacity through trade or liquidating regional ecological assets, or emitting wastes into a global commons such as the atmosphere.

Figure 44. Ecological footprint and biocapacity, 2011



Sources: Global Footprint Network (2015)
Note: data for Kosovo is not available; WB5 stands for Western Balkan average without Kosovo; blue line indicates average EU-27 level

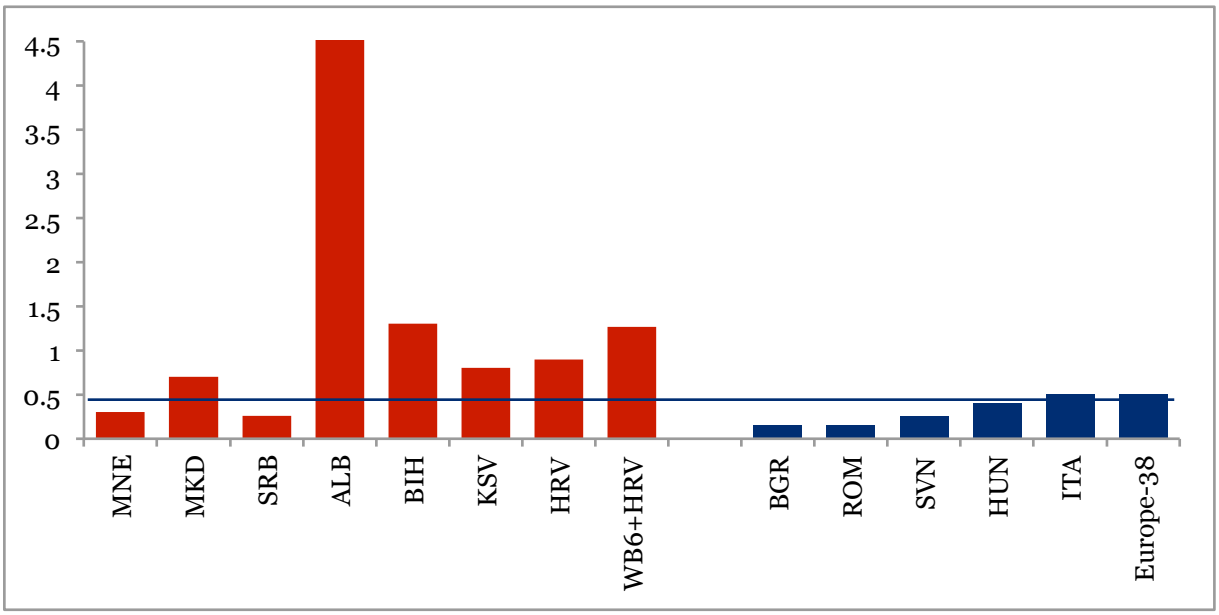
To preserve nature in the region might offer several opportunities. It would also require managing well the ongoing urbanization process. As a consequence of growing urban population, all Western Balkan countries except Montenegro and Serbia had mean annual urban land take[38] higher than in Europe (see *Figure 45*). Not surprisingly, it is in Albania that urban land take was the most intensive in the years 2000-2006, when in six years urban areas grew by more than 4.5%. This is explained by uncontrolled migrations from rural areas to the cities without investments into urban infrastructure. It concerns in the first place Tirana and its surroundings [EEA (2014)]. This urbanization process will continue to make pressure on existing urban infrastructure, thus augmenting maintenance costs, and demand investment for the new utilities. Energy supply, urban and interurban transport networks, telecommunications, connection to water and waste water systems, social infrastructure, such as schools and hospitals, need to be upgraded or created to respond to the new urban population demand. As it is nicely summarized by Lewis (1977):

> *"Urbanization is decisive because it is so expensive. The difference between the costs of urban development and rural development does not turn on comparing the capital required for factories and that required for farms. Each of these is a small part of total investment, and the difference per head is not always in favour of industry. The difference turns on infrastructure. Urban housing is much more expensive than rural housing. The proportion of children for whom schooling is provided is always much higher... The town has to mobilize its own hospital service, piped water supplies, bus transportation. In all these respects the towns*

[38] cf. definition p. 48.

require more per head in terms of quantity than rural areas, but even if quantities per head were the same, urban facilities would cost more in money terms than rural facilities."

Figure 45. Urban land take, average 2000-2006 (% of artificial land in 2000)



Sources : EEA (2014)
Note: Blue line indicates the average of 38 European countries

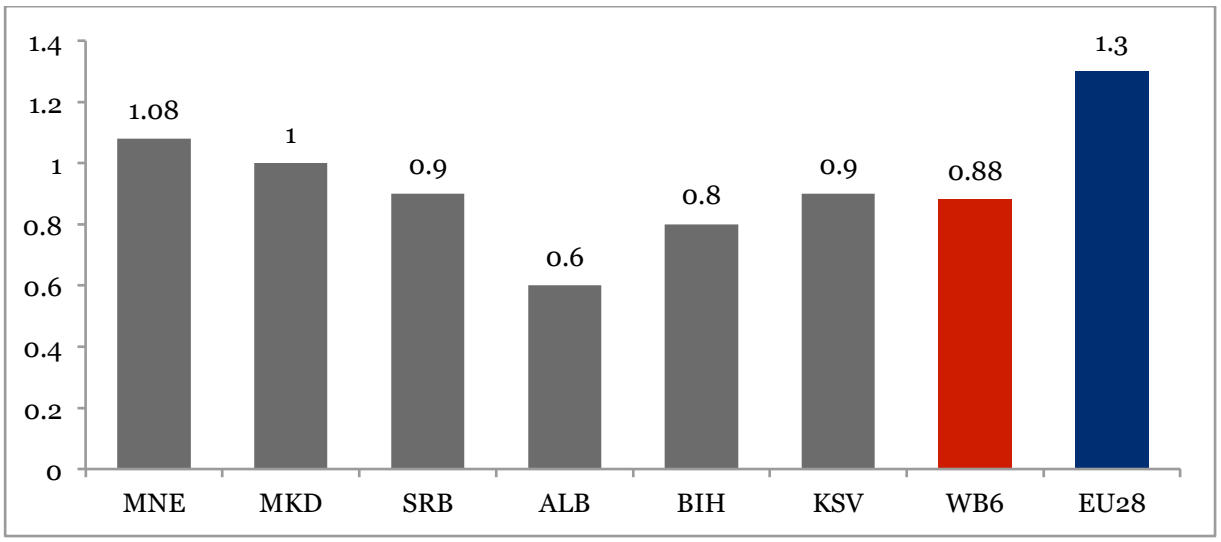
No estimates can be provided yet as for future urbanisation costs though their importance makes no doubt.

Solid waste management

During the pre-crisis years, waste generation was in constant progress accompanying fast economic growth rates. Only in six years, from 2003 to 2009, municipal waste generation in the Western Balkans increased by 53% from 220 to 340 kg per capita rapidly converging to the EU level [EEA (2010), ZOI (2012)]. As there is a strong correlation between waste generation and income level, this trend is going to remain.

The most recent data shows (cf. *Figure 46)* that a person in the Western Balkans on average generates 0.88 kg of waste per day (i.e. 313 kg per year). Compared to the average EU level (1.3 kg per day per person), Albania has the lowest level with 0.6 kg per day, i.e. two times lower, though Montenegro is already very close to the EU level (1.1 kg per day).

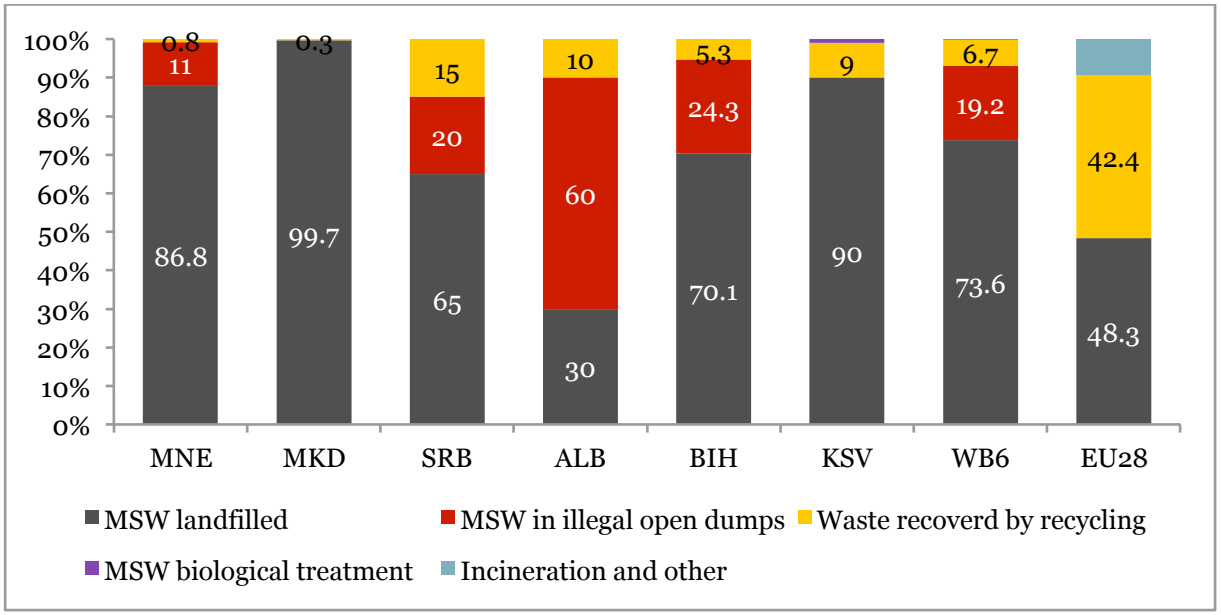
Figure 46. Municipal waste generation per capita (kg per day), 2014



Source: NALAS (2016)

At the same time, countries of the region are not adequately prepared to such an intense increase and lack the capacity to manage it. Waste is mainly disposed on landfills without any previous treatment. Municipal landfills are often full and illegal garbage dumps are organised in the rural areas. Besides, the rates of waste collection in rural areas are typically much lower than in municipalities. On average, 74% of collected solid waste is landfilled in legal sites. In Albania the proportion of illegal landfills is 60% and it is also very high in other countries of region. According to the available estimates, Serbia achieved the highest rate of recycling in the region with 15% of waste being recovered for recycling, which is low compared to the EU level (42%).

Figure 47. Municipal solid waste (MSW) by type of treatment, 2014

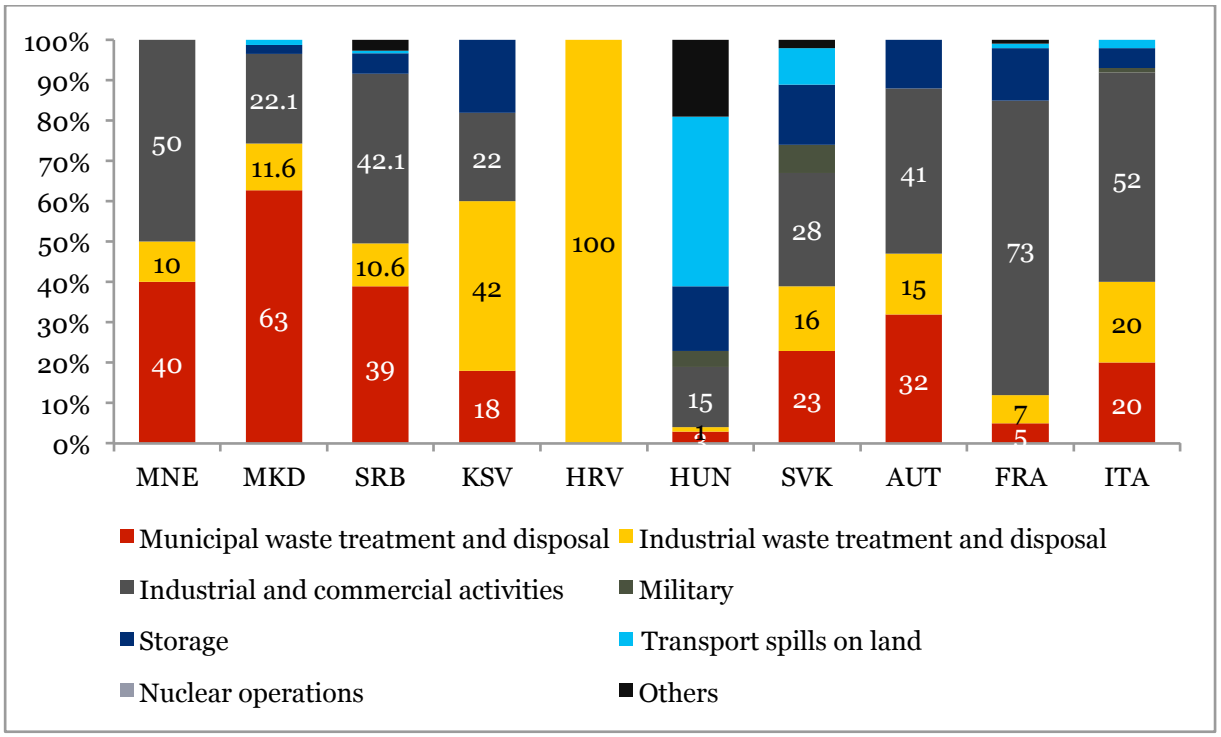


Source: NALAS (2016)

Knowing that an average municipal landfill site can produce up to 150m³ of leachate (liquid seeped through solid waste) a day, such landfills are also the cause of soil and

water contamination. Unlike in the EU countries, municipal waste is one of the largest sources of soil contamination along with industrial and commercial activities (cf. *Figure 48*). In Macedonia, it counts for 63% of soil contamination.

Figure 48. Breakdown of activities causing soil contamination, 2014



Source: EEA

Thus, important investment is needed in the region to comply with the environmental *acquis* in solid waste treatment and to minimize dangers for the environment and health. It was estimated that *2.8 EUR bn* is needed in Serbia to meet the requirements [Government of Serbia (2011)]. This corresponds to 8% of GDP of Serbia, and assuming that the target is achieved in 2030, it implies annual investment needs of 0.5% of GDP[39]. Though, there is no exact estimation of the costs for the other countries of the region, it is reasonable to assume that it should not be lower than in Serbia.

Water management

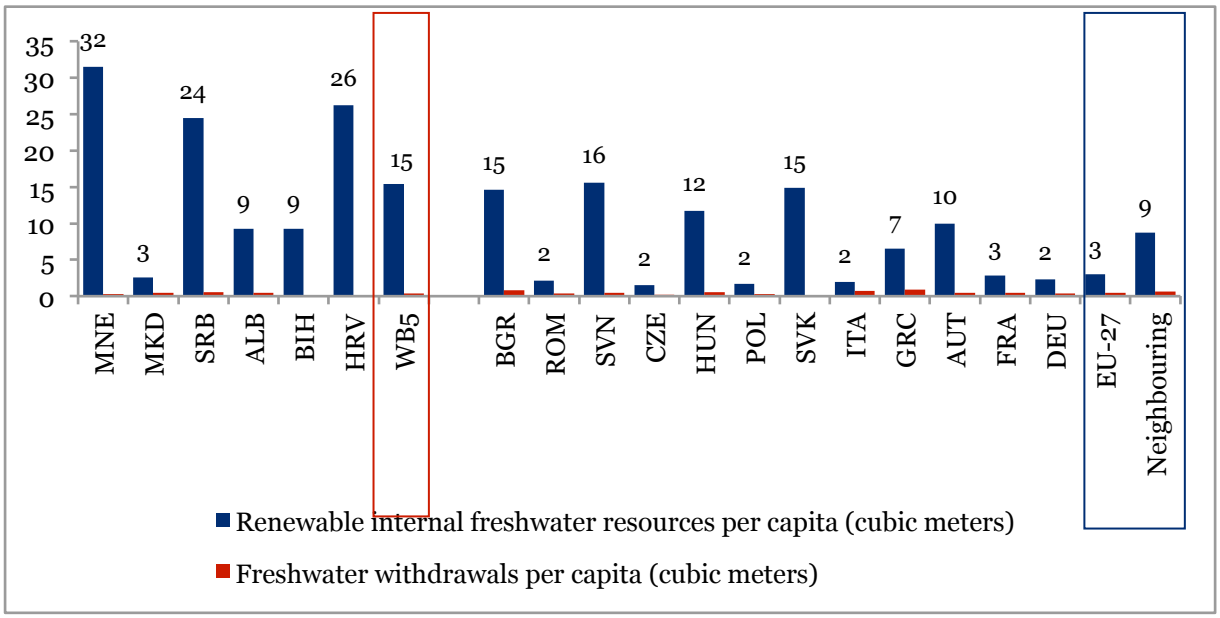
The Western Balkan region has broadly abundant and adequate water resources though they are unevenly distributed among countries and sub-regions and some countries face localised water shortages. The countries of the region share many water resources, including the Danube basin and its tributaries such as the Sava River. Serbia is dependent on water resources that originate outside of its territory (90% of water sources). About 60 % of Croatia's territory and over 70 % of Bosnia and Herzegovina's lie in the Danube river basin.

Croatia and Serbia have abundant water resources. Albania and Bosnia and Herzegovina have relatively abundant water resources, but lately they are unevenly distributed. Unfortunately, there is a deficiency in the most populated areas, such as the sub-basin of the Bosna River, where water is scarce and most polluted. The same

[39] In terms of GDP in 2016

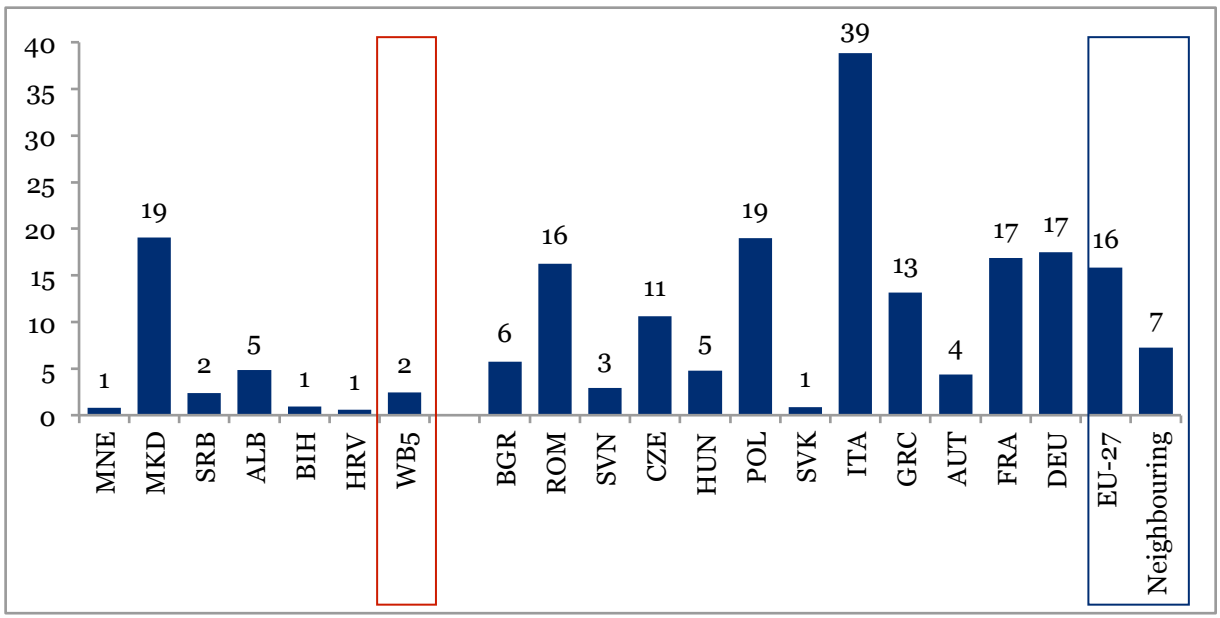
problem of uneven distribution exists in Montenegro and Macedonia. Only Kosovo has limited renewable internal freshwater resources with 1600 m3 per capita per year [EEA (2014), World Bank (2003), Danube Water Program (2015a-g)].

Figure 49. Freshwater resources and withdrawals per capita (cubic meters, thousand), 2013



Sources: Eurostat, WDI (World Bank), EEA (2014)
Note: Neighbouring countries average includes Bulgaria, Romania, Slovenia, Hungary, Italy and Greece.

Figure 50. Freshwater withdrawals as a share of renewable resources (%), 2013



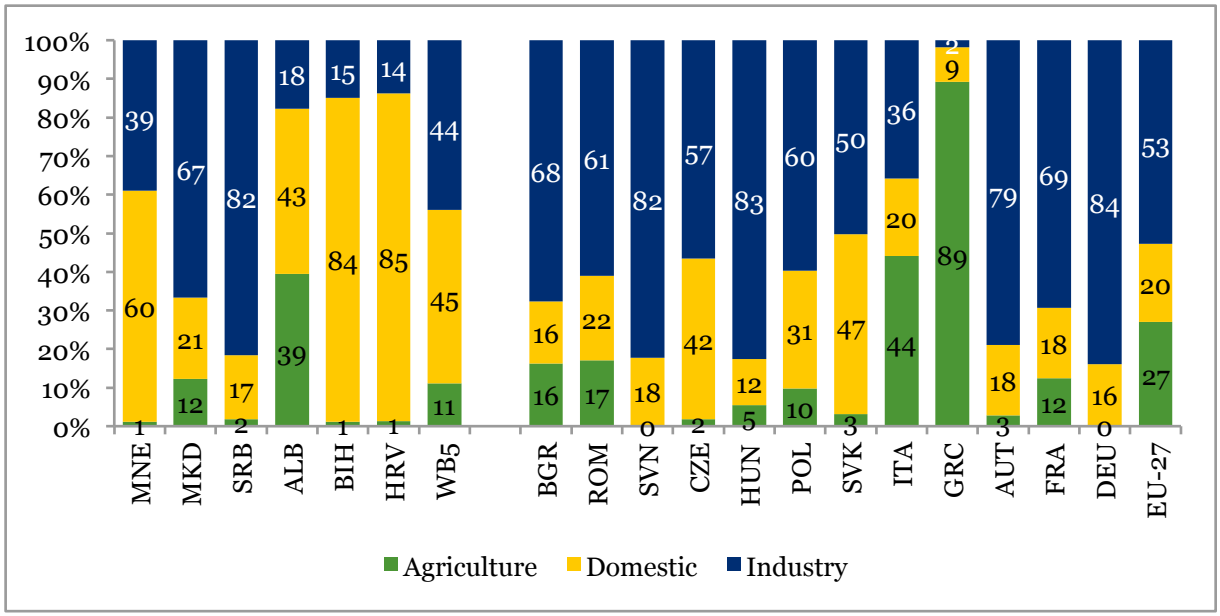
Sources: Eurostat, WDI (World Bank), EEA (2014)

Figure 49 compares freshwater resources and withdrawals per capita in the Western Balkans with those of neighbouring countries, Visegrad-4 and overall EU-27 level. Average freshwater resources level in the Western Balkans is higher than the EU-27 average and the average of immediate neighbours. Only a relatively small part of

these resources is withdrawn with an exception of Macedonia where withdrawals share of renewable freshwater resources is approaching 20% (*Figure 50*).

There are also important differences in water withdrawals by sector (see *Figure 51*). Water use in industry is important in Serbia, Macedonia and Montenegro. In Serbia the largest part of this share is however due to electricity production (cooling). In Albania mostly 40% of water is used for irrigation purposes. Macedonia also has a relatively large share of agricultural use (12%). These countries are heavily impacted in the case of modest rainfall. One common characteristic when comparing EU peers is the large proportion of domestic water supply indicating losses and inefficient water distribution systems.

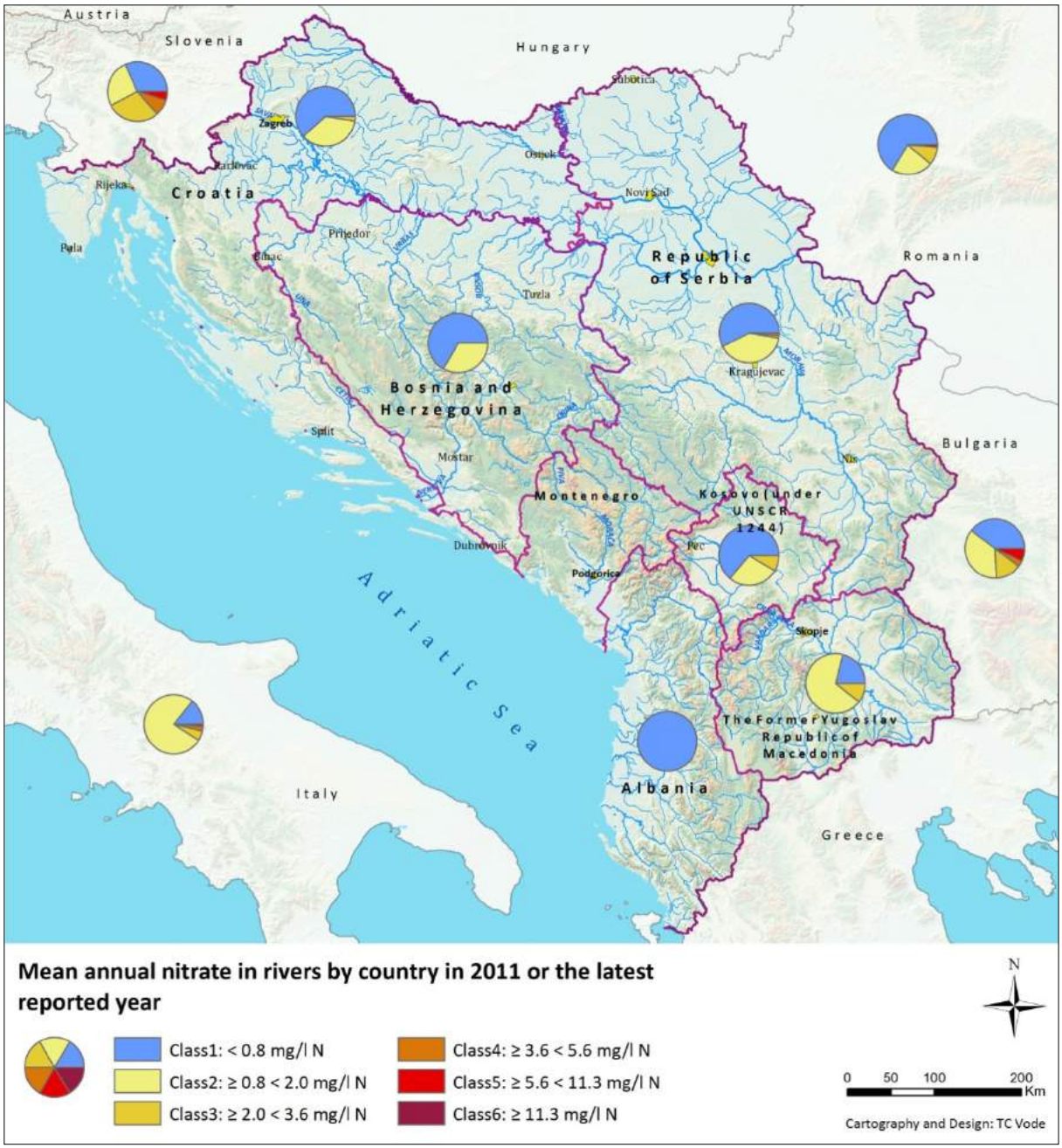
Figure 51. Water withdrawals by sector, 2013



Sources: WDI (World Bank), EEA (2014)

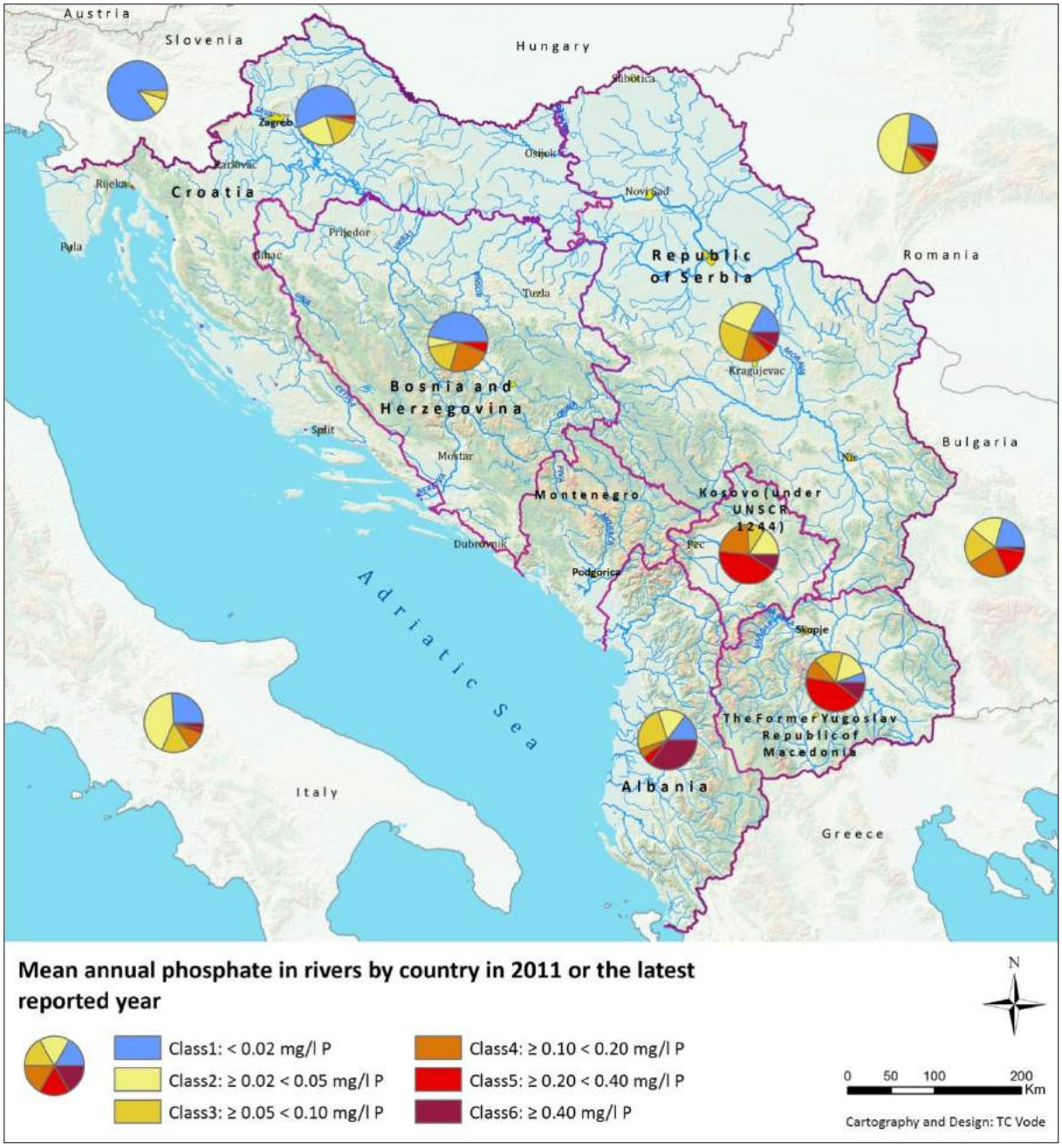
Water quality also differs across countries. As illustrates the following map (*Figure 52*) average nitrates level is relatively low in the Western Balkans. This is mostly due to the moderate use of fertilizers as discussed earlier. On the contrary, high phosphate concentrations (*Figure 53*) indicate the deficiency of sewage and wastewater treatment infrastructure. The lowest levels are observed in Croatia, this can be explained by important investment in waste water infrastructure realised during the last years.

Figure 52. Mean annual nitrate levels in rivers, 2011



Sources: EEA (2014)

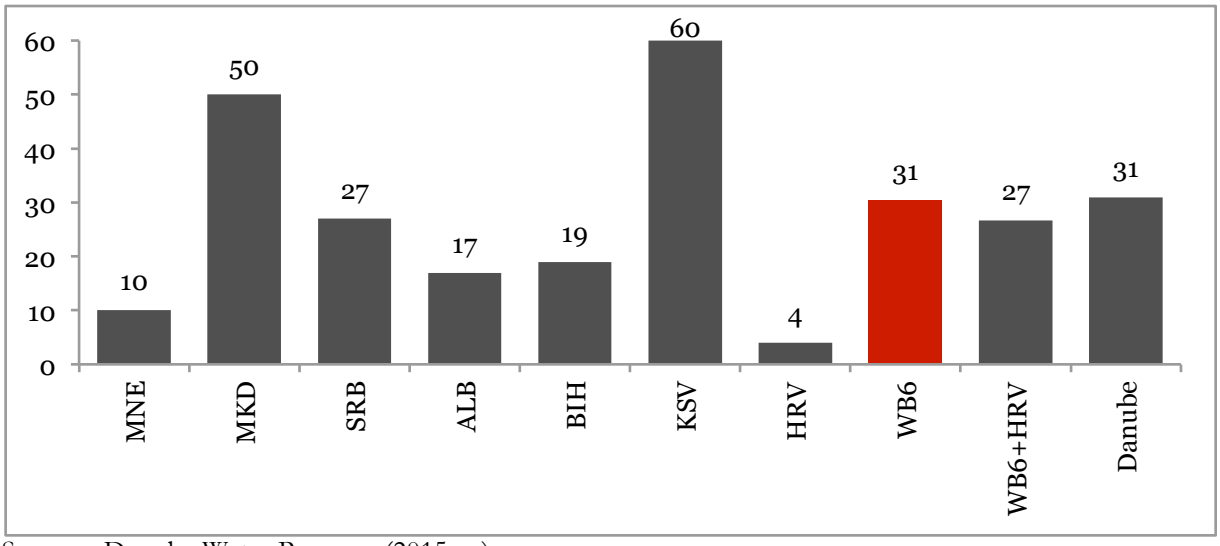
Figure 53. Mean annual phosphate levels in rivers, 2011



Sources: EEA (2014)

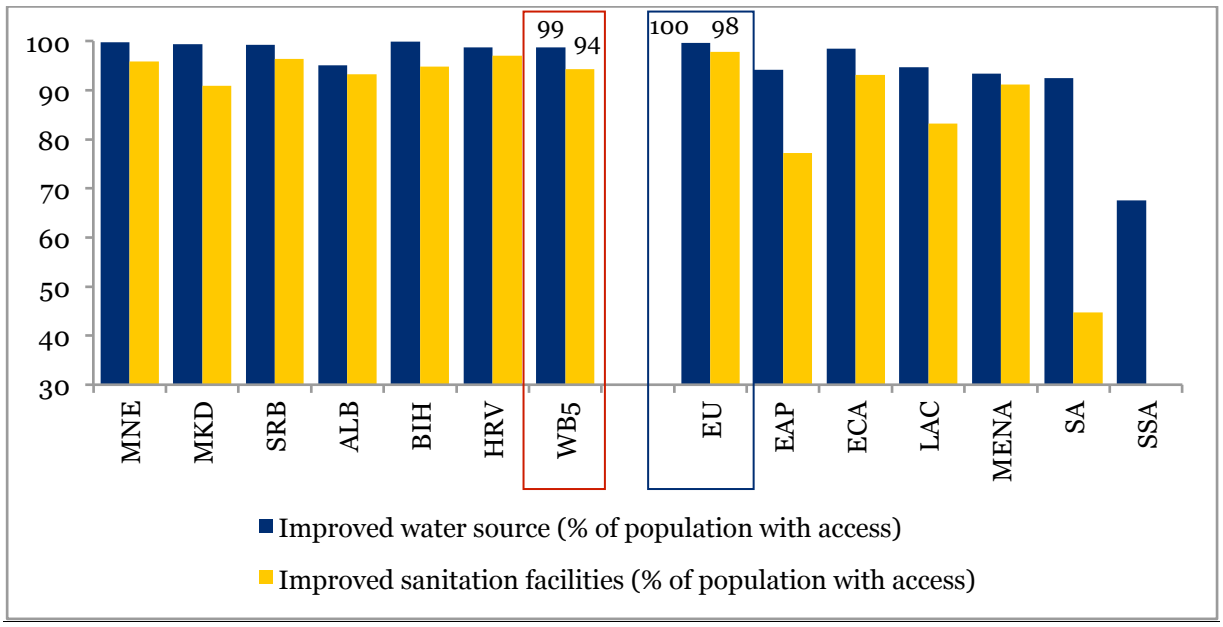
On average, 31% of the drinking water in the Western Balkans is of surface origin. Though the quality of surface water is generally moderate, in some areas it could have a risk for the health, as it is the case in some regions of Serbia and Kosovo. In Serbia, surface water collected from streams and accumulations has high concentrations of ammonia, nitrates, sulphides, iron, and mineral oils in the Tisa River basin; evaporable phenols and manganese in wells in the area of Bačka; and arsenic in the rest of Vojvodina. Almost no effective sanitary protection zones have been implemented at water intakes (for both surface and ground waters) [Danube Water Program (2015g)].

Figure 54. Share of surface water as drinking water source (%), 2014



Sources: Danube Water Program (2015a-g)
Note: Danube average includes beside WB6 countries and Croatia Austria, Bulgaria, Czech Republic, Hungary, Moldova, Romania, Slovakia, Slovenia and Ukraine

Figure 55. Population with improved water and sanitation facilities



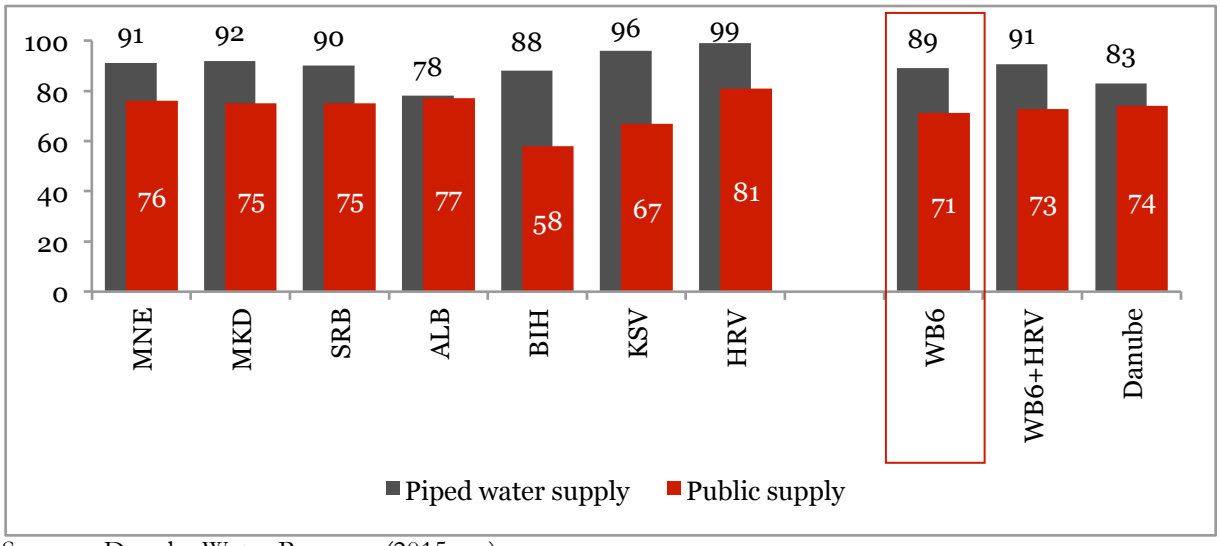
Sources: WDI (World Bank)
Note: EAP – Eastern Asia and Pacific, ECA - Europe and Central Asia, LAC – Latin America and Caribbean, MENA – Middle East and Northern Africa, SA - South Asia, SSA - Sub-Saharan Africa.

Access to improved water and sanitation facilities[40] is generally high in the Western Balkans compared to the other developing regions of the world though has not yet achieved the EU-27 level (see *Figure 55*).

[40] World Health Organization/UNICEF Joint Monitoring Program (JMP) for Water Supply and Sanitation defines an *improved drinking-water source* as "one that, by nature of its construction or through active intervention, is likely to be protected from outside contamination, in particular from contamination with fecal matter". These different sources are: piped water into dwelling, piped water into yard/plot, public tap/standpipes, tubewell/boreholes, protected dug wells, protected springs, rainwater collection, bottled water. An *improved*

The insufficiency of the existing water and wastewater infrastructure becomes obvious when analysing piped water access to dwellings, sewerage and waste water treatment. On average, 89% of population is connected to piped water, 71% of piped water is provided by public supply (see *Figure 56*). With 99% Croatia has by far the highest connection level, while Albania and Bosnia and Herzegovina the lowest (78% and 88% respectively, only 58% is provided by public supply in Bosnia and Herzegovina). The disparities between urban and rural areas are important, thus, in Albania 90% of urban population is connected to piped water while only 59% of rural; in Macedonia - 98% for urban and 80% for rural; in Kosovo - 100% for urban and 60% for rural.

Figure 56. Piped water supply (% of population with access), last available year (2010-2013)

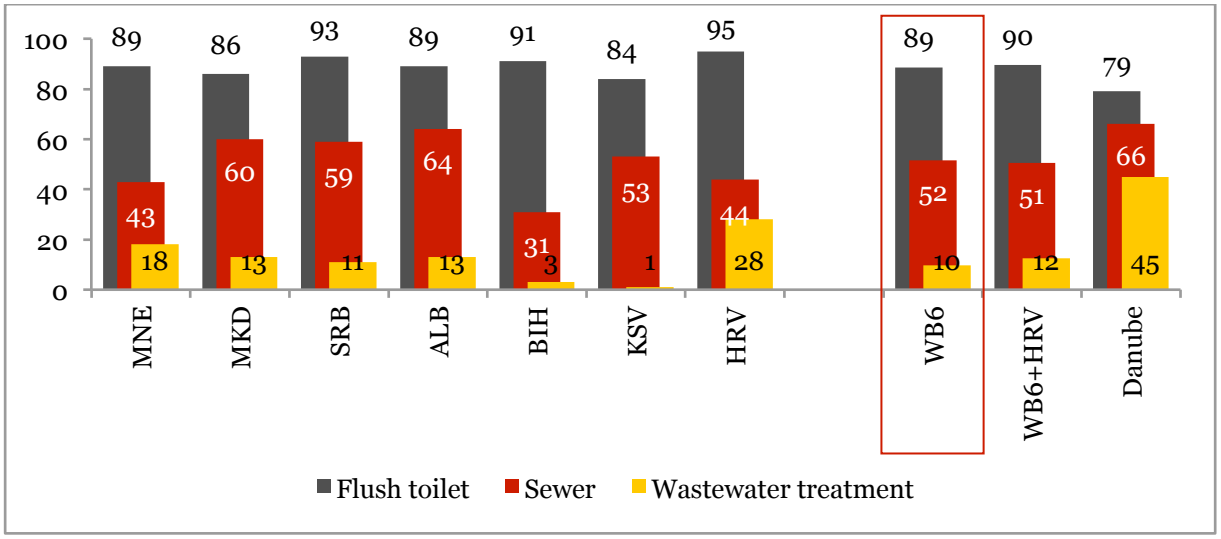


Sources: Danube Water Program (2015 a-g)

On average, 89% of the population in the Western Balkans has an access to flush toilet (cf. *Figure 57*). However, only 52% is connected to a sewerage network and only 10% is connected to a waste water plant. In Bosnia and Herzegovina and in Kosovo only 3% and 1% of waste water is treated. Because of such low levels of waste water treatment the discharge of wastewater is the major cause of pollution of both surface and groundwater sources.

sanitation facility is defined as one that hygienically separates human excreta from human contact (flush toilet, connection to a piped sewer system, connection to a septic system, flush/pour-flush to a pit latrine, pit latrine with slab, ventilated improved latrine, composting toilet).

Figure 57. Sanitation and sewerage (% of population with access), last available year (2010-2013)



Sources: Danube Water Program (2015 a-g)

Table 7 summarizes the existing water and waste water installations. The wastewater network is clearly underdeveloped and insufficient as it represents only one third and even less of water supply network.

Table 7. Water and waste water infrastructure

	MNE	MKD	SRB	ALB	BIH	KSV	HRV	WB6	WB6+HRV
Number of treatment plants									
water	-	41	56	2	59	9	60	167	227
wastewater	4	9	50	4	8	2	141	77	218
Length of network [km]									
water	-	3 456	38 653	7 478	16 291	3 836	44 363	69 714	114 077
wastewater	-	1 804	15 159	1 752	4 339	1 660	10 539	24 714	35 253

Sources: Danube Water Program (2015 a-g)

Globally water and waste water infrastructure is in a high need of upgrading. Most of the infrastructure was built 40 or even 50 years ago, missed appropriate maintenance and does not satisfy appropriately needs any more. High water consumption figures in some countries (Montenegro and Serbia) indicate not only leakages but also nonrevenue consumption (cf. *Table 8*). As for the quality of services, there is a large room for improvement. In Albania average water supply continuity is 12 hours a day. Only two water utilities in Albania (Korce and Librazhd) can provide 24 hours of pressurized water supply service across their entire system all day and throughout the year [Danube Water Program (2015a)]. Other countries experience shortages as well. Drinking water quality is of high concern in Serbia and Bosnia and Herzegovina. Finally, customers' satisfaction by services in the Western Balkans is low and far beyond the Croatian 82% level.

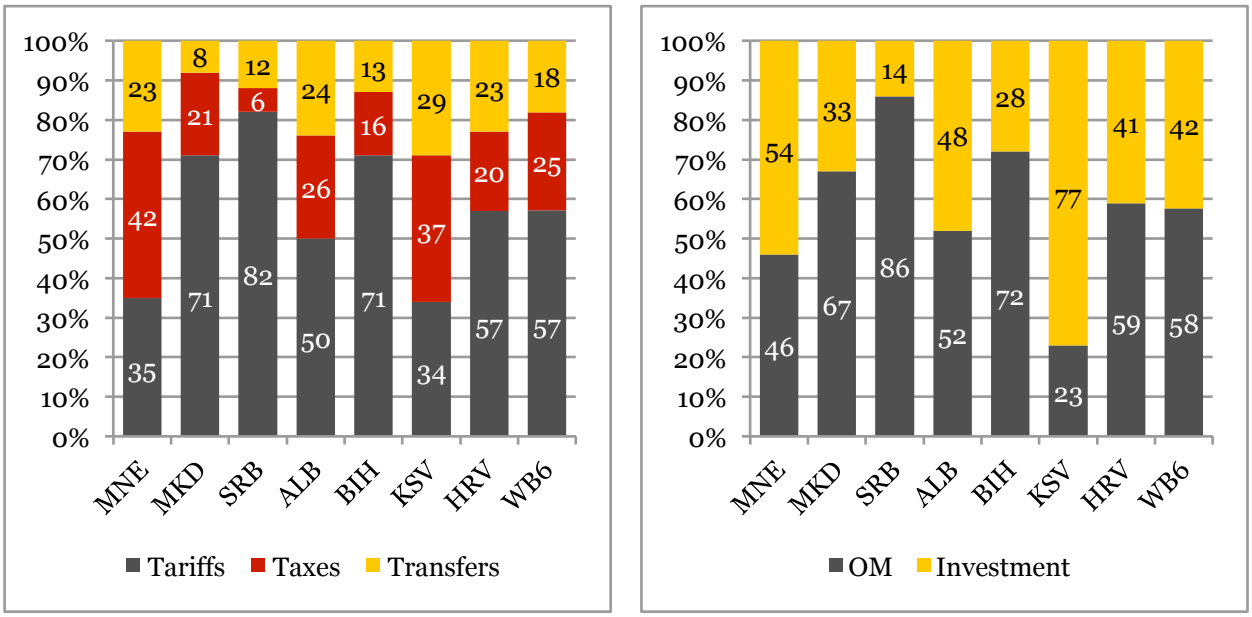
Table 8. Quality of water and sewerage services

	MNE	MKD	SRB	ALB	BIH	KSV	HRV	WB6	WB6+HRV
Residential water consumption [liters/capita/day]	237	158	203	95	168	93	113	159	152
Water supply continuity [hours/day]	23.8	24	-	12	-	22	24	20	21
Drinking water quality [% of samples in full compliance]	86	95	73	98	79	98	85	88	88
Sewer blockages [number/km/year]	-	5.5	-	15	-	5	-	9	9
Customer satisfaction [% of population satisfied with services)	69	66	51	58	76	60	82	63	66

Sources: Danube Water Program (2015 a-g)

As *Figure 58* shows, collected tariffs are generally insufficient to cover even operational and maintenance cost (except for Macedonia and Kosovo). Though considerable investment projects were realized in the last years, the current level of investment in the sector is insufficient given the state of infrastructure utilities.

Figure 58. Overall utility sector expenditures and financing



Sources: Danube Water Program (2015 a-g)

To reach EU standards and directive requirements investment needs in the water sector foreseen by strategic plans are high at the twenty year horizon and require a considerable increase in the current annual investment levels (cf. *Table 9* and *Table 10*). The total investment needs in water sector are up to *16 EUR bn* in the Western Balkans (*20 EUR bn* in Western Balkans and Croatia). In annual terms, *0.7 EUR bn* (*1.1 EUR bn*) are needed which corresponds to *0.9% of GDP*.

Table 9. Investment needs in water sector

	MNE	MKD	SRB	ALB	BIH	KSV	HRV	WB6	WB6+HRV
Total investment needs to achieve fixed targets [€ Mn]	**640**	**over 500**	**5 000**	**5 092**	**3 660**	**1 090**	**3 750**	**15 982**	**19 732**
Time horizon	2013 -2029	-	20 years	2012 -2040	20 years	20 years	by 2023		
Water Supply	-	-	2 000	1 041	1 391	350	850		
Rehabilitation	-	-	-	531	-	143			
Extension	-	-	-	353	-	128			
New	-	-	-	158	-	93			
Sewerage			3 000	4 050	2 269	740	2 900		
Rehabilitation				287		220			
Extension				1 916		300			
New				1 848		220			

Sources: compiled from Danube Water Program (2015 a-g)

Table 10. Current and needed annual investment in water sector

	MNE	MKD	SRB	ALB	BIH	KSV	HRV	WB6	WB6+HRV
Current average annual investment [€/capita/year]	42	10	4	15	7	17	33	95	128
Current average annual investment [Mn €/year]	**26**	**21**	**29**	**43**	**27**	**31**	**140**	**177**	**316**
Estimated investment needed to achieve targets [€/capita/year]	54	20	32	63	40	29	93	238	331
Estimated investment needed to achieve targets [Mn €/year]	**34**	**42**	**228**	**182**	**153**	**53**	**394**	**691**	**1 085**
of which, share of wastewater management [%]	69	70	72	80	62	69	73	70	71
waste treatment investment needs [Mn €/year]	23	29	164	146	95	36	288	494	781
Financing gap [€/capita/year]	12	10	28	48	33	12	60	143	203
Financing gap [€Mn/year]	**7**	**21**	**200**	**139**	**126**	**22**	**254**	**515**	**769**

Sources: compiled from Danube Water Program (2015 a-g)

Climate change and natural disasters

As the 2014 floods have once more demonstrated, amongst other economic and social challenges, the Western Balkans should also face climate change and its consequences for economic activity and the welfare of the population. The cost of these floods in terms of output loss and damages was estimated to be 4.7% of GDP in Serbia (*EUR 1.5 bn*) and 15% of GDP in Bosnia and Herzegovina (*EUR 2.1 bn*). In Bosnia and Herzegovina, the damages to the road infrastructure only were estimated at 257 EUR mn [Mastilovic (2014)].

The Balkan region is getting warmer, is receiving less precipitations and this trend is estimated to continue [Zoï Environment Framework (2012)]. As the region is getting dryer, draught episodes in summer are about to become more frequent with the associated risks for agriculture and energy. At the same time, the risk of intense floods is also increasing due to rising temperatures and disruptions in the precipitation regime. Besides, Albania, Bosnia and Herzegovina, Croatia and Montenegro are also facing potential hazards related to a rising sea level. According to World Bank data, Albania has the highest vulnerability index to the climate change and also the highest sensitivity (impact on economic activity and welfare) because of the high agriculture share.

These dangers imply the realisation of a complex of measures to prevent, minimize or avoid the impact of such events. This also implies the necessity for investment in infrastructure for natural disasters prevention, comprising the construction or modernization of irrigation systems, of flood protection and drainage systems, the instauration of warning systems etc. Though these investments are not yet a priority for the governments as too many other gaps persist in infrastructure, the situation might change soon with the multiplication of climate change crises.

At this stage, available estimates of investment needs do not cover all the domains of environmental protection. However, there is no doubt that globally for the environmental sector investment needs are large given the backwardness in terms of waste and water management. Data show that, on average in the EU, public authorities spend around *0.75% of GDP* per year for environmental protection (while industry spends some 0.4% of GDP and specialized producers - 1.2% of GDP[41]). The EU energy and climate package foresees that up to 2050, EU would need to invest an additional €270 billion (or on average *1.5% of its GDP annually*) over the next 4 decades. The bill will be proportionally higher for the Western Balkans given the above mentioned infrastructure gaps.

Thus, for example, Serbia foresees an investment cost of *10.6 EUR bn* for its environmental approximation strategy (5.6 EUR bn for water sector, 2.8 EUR bn for waste and 1.3 EUR bn for industrial pollution) at the horizon of 2030 (or *1.7% of GDP per year*). The Macedonian National Strategy for Environment Approximation estimated the investment needs at *2.3 EUR bn* over period from 2015 to 2023, which corresponds to the average annual investment of more than *3 % of GDP*. Thus, investment needs in the environmental sector of the Western Balkans can be estimated as at least *1.5% of GDP*.

[41] Data source: Eurostat

1.2.4. Social Sector

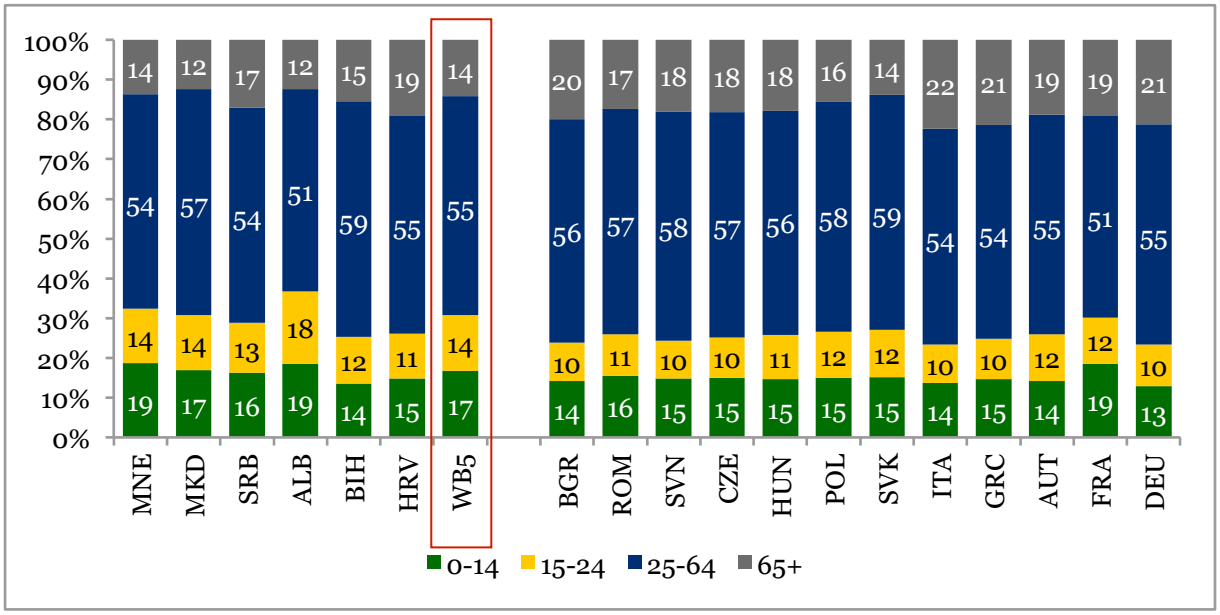
The social sector is different in one main aspect from the other infrastructure sectors considered before. Investing in the social sphere means to invest in human capital so important for economic development and social welfare. But investment in human capital can be understood broadly as involving physical capital investment (as the construction of schools, hospitals and their equipment) as well as current expenditures in the wages of teachers, who "create" and develop human capital, the capacity and the skills of the young to become successful in their future working activities (i.e. investment in human resource capacities). In this section, we use this broad definition of investment in the social sector.

This particularity of the social sector makes difficult to estimate the needs, as they are often qualitative and not quantitative. That is also the reason why strategic planning and targets achievement in this sector is a particularly hard work. However, pointing the deficiencies of the social services and making cross country comparison can be insightful.

Education

The education system is the foundation of any society, on which the job market, the entrepreneurial activity, but also criminal and poverty levels depend, and so much more. It is all the more important in the societies characterized by a high share of young people in the demographic structure. And this is the case in the Western Balkans, where the share of the young people aging from 0 to 24 years old is on average 31% of the total population. In Albania this share attains some 37% of the population, which should be involved in some way in the education process and enter the job market afterwards (cf. *Figure 59*).

Figure 59. Population by age group, 2015

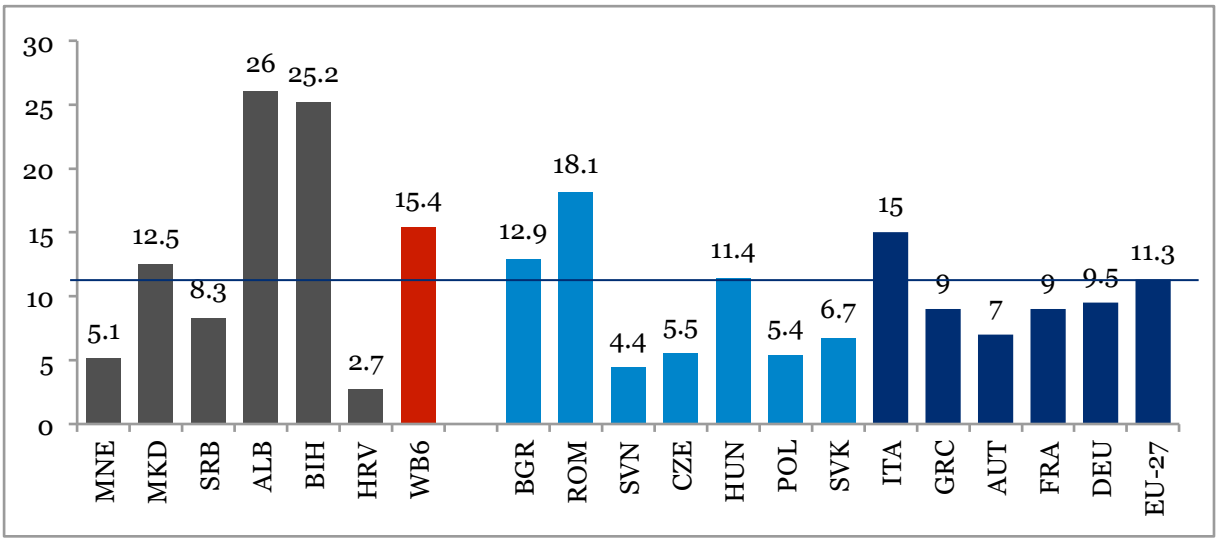


Source: United Nations, Department of Economic and Social Affairs, Population Division (2015).

At the same time, according to the last available data, the percentage of the early leavers from education and training is high (15.4% to compare with 11.3% in the EU27). The indicator is however highly variable in the countries of the region. While

in Montenegro, Serbia and Croatia it is well below EU average, in Albania and Bosnia and Herzegovina, early leavers from education represent more than 25% of the age group.

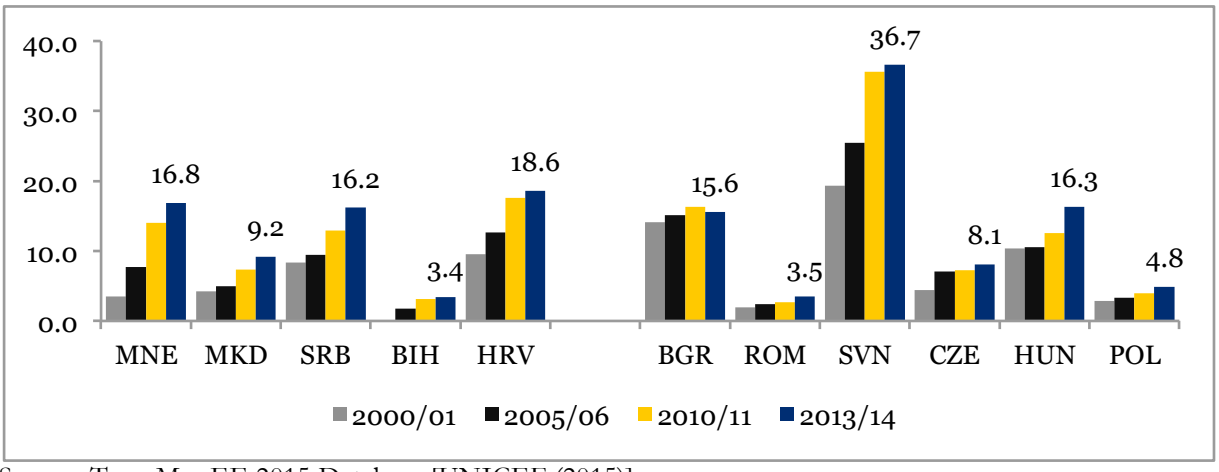
Figure 60. Early leavers from education and training (%), 2014



Source: Eurostat

Overall good enrolment ratios hide some important deficiencies. Current preschool coverage is very low though increasing during the last years, especially in early childhood care (children aged from 0 to 2 years old). This explains in part high unemployment rates among women. Only 16% of children up to 2 years old are involved in childhood care institutions in Serbia and Montenegro. The situation is much worse in other countries of the Western Balkans with only 3% covered in Bosnia and Herzegovina.

Figure 61. Children in early childhood care (gross enrolment ratio, % of children aged 0-2)

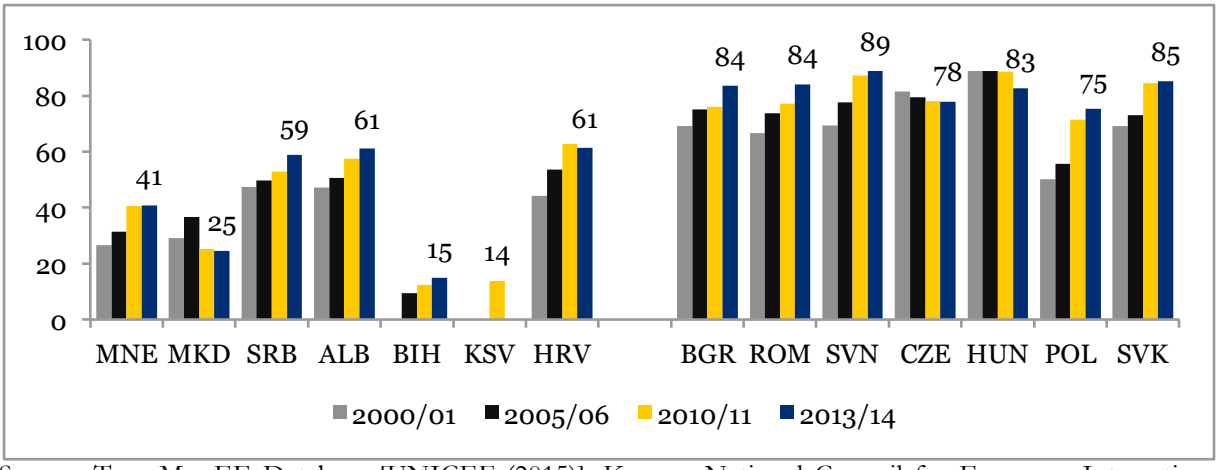


Source: TransMonEE 2015 Database [UNICEF (2015)]

Pre-primary enrolment ratios are also far from satisfactory; only about 60% of children are covered in Croatia, Serbia and Albania while the situation is critical in Bosnia and Herzegovina and Kosovo (cf. *Figure 62*). The importance of preschool enrolment for child development is well established in psychological and economic literature:

"Society or the individual can invest in education at different points in the individual's life: early childhood, primary or secondary school, university education, on-the-job training, etc. Investments in education at different points in the life cycle may give very different rates of return or private/social benefits to education. Since much of cognitive functioning is well established by the time the child is age four or five, with the implication that the rate of return to investments in primary school is much lower, it means that investments in education at the preschool level may bring much higher long-term private and social benefits"[UNICEF (2012)]

Figure 62. Enrolment in pre-primary (ISCED 0) education (net enrolment ratio, % of population aged 3-5)



Source: TransMonEE Database [UNICEF (2015)], Kosovo National Council for European Integration (2013)

The countries of the region aware of this importance are making substantial efforts to improve coverage ratios. Thus, Serbia has fixed an objective to increase the share of children of 3-5.5 years old in preschool education (half-day program) to 100% [cf. Strategy for Education and Development in Serbia 2020].

According to UNICEF (2012), the existing preschool capacities are not sufficient to involve all the children from 3 to 5.5 years in preschool programs, and this, both from the point of view of the human resources and of the physical capacities. The network of preschool institutions is unevenly geographically distributed, Belgrade municipalities being better provided with new buildings built every year. But despite negative demographic trends, even in these municipalities the percentage of children not accepted due to the lack of capacities is still 7% though a considerable decrease of this indicator was observed lately. It is estimated that the unit cost of 3-4 hours enrolment is 500 EUR per year per child. The unit cost of the half-day program (6-8) hours is about 1000 EUR while the cost of full-day program (more than 8 hours) is about 1500 EUR per year [UNICEF (2012)]. The following table gives the estimated expenses per year to provide full coverage.

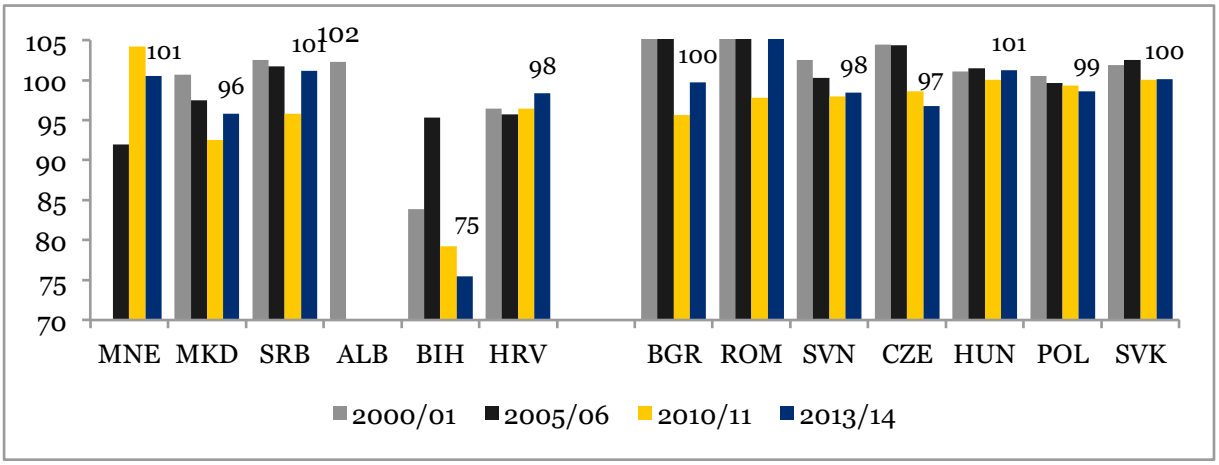
Table 11. Total cost of universal preschool education policy for children 3- 5.5 years old

Children 3-5.5 years out of preschool	Applied formula	Total expenditure per year
4 hours or less program	93 445 children*489 EUR	45.7 EUR mn
Half day (4-8 hours) program	93 445 children*979 EUR	91,5 EUR mn
Full day program (8 hours or more)	93 445 children*1 468 EUR	137 EUR mn
All children 3-5.5 years		
4 hours or less program	177 740 children*489 EUR	87 EUR mn
Half day (4-8 hours) program	177 740 children*979 EUR	174 EUR mn
Full day program (8 hours or more)	177 740 children*1 468 EUR	261 EUR mn

Source: Unicef (2012)

There are 11087 teachers (for children between the ages of 3 to 6.5) in Serbia. The enrolment of the leftovers would necessitate employing 3000 new teachers and construction of new or redistribution and refurbishment of existing buildings.

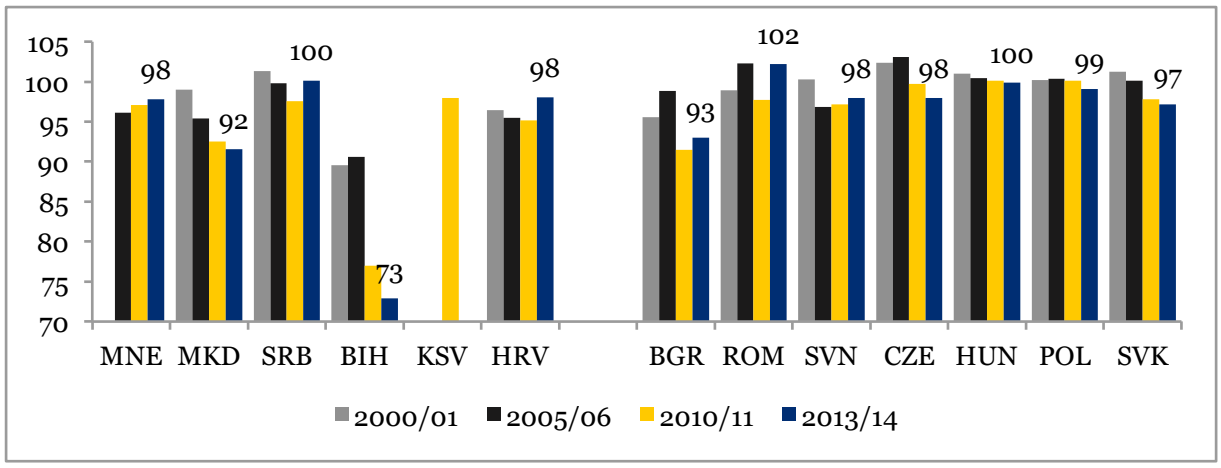
Figure 63. Primary education (ISCED 1) gross enrolment ratio (% of relevant population)



Source: TransMonEE 2015 Database [UNICEF (2015)], WDI

Primary education and basic education enrolment ratios are globally satisfactory with the alarming exception of Bosnia and Herzegovina (cf. *Figure 63* and *Figure 64*). The coverage has been progressively decreasing in the last decade to attain about 75% of relevant population. Such a high proportion of leftovers from the basic education means a high share of uneducated and unskilled workforce in the close future.

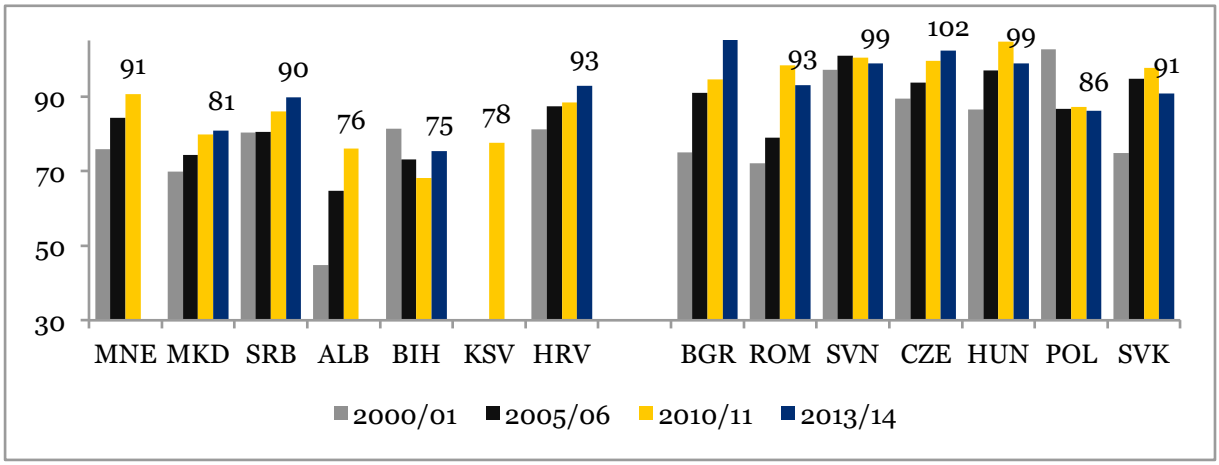
Figure 64. Basic education (ISCED 1 and 2) gross enrolment ratio (% of relevant population)



Note: no data available for Albania
Source: TransMonEE 2015 Database [UNICEF (2015)], Kosovo National Council for European Integration (2013)

The same disappointing situation can be observed in the upper secondary education in Albania, Bosnia and Herzegovina and Kosovo (cf. *Figure 65*). General programs are prevailing in these countries (about 60% of population aged from 15 to 18) while only a relatively small part of the young is engaged in professional upper-secondary education. The situation is different in Serbia, Macedonia and Montenegro where the overall enrolment ratio in the upper secondary education is much higher and only about 20% to 30% are concerned by general programs (indicating a larger share of professional upper-secondary programs)

Figure 65. Upper-secondary education (ISCED 3, all programmes) gross enrolment ratio (% of population aged 15-18)



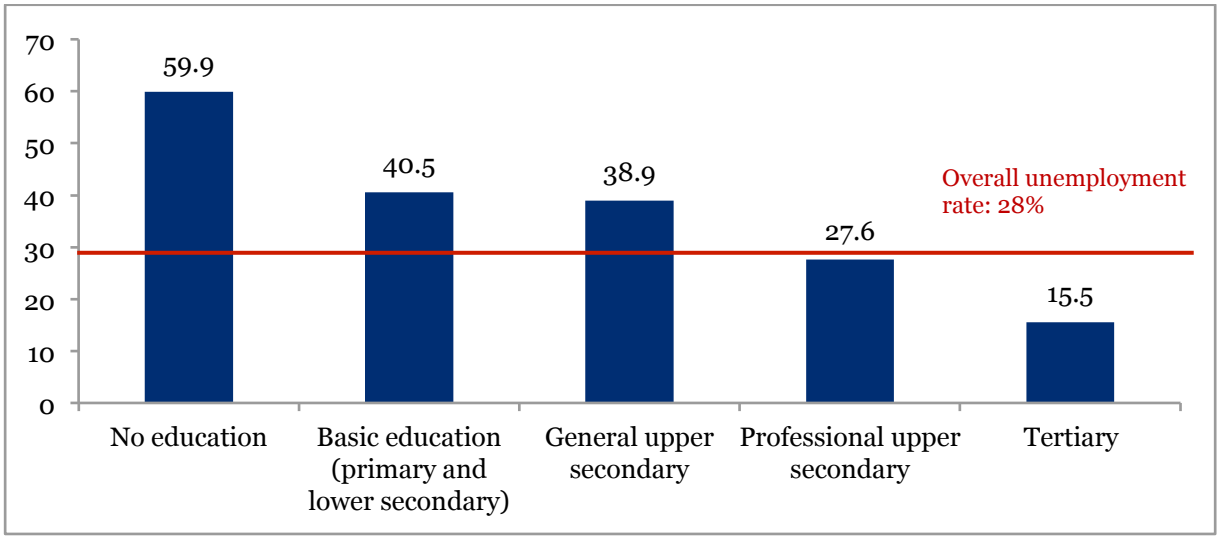
Source: TransMonEE 2015 Database [UNICEF (2015)], Kosovo National Council for European Integration (2013)

At the same time, the highest unemployment rates are observed in groups of population having either no education, only primary education or with general upper secondary education[42]. While the groups with professional upper secondary and

[42] As observed in Kosovo's report on education strategy

tertiary education have lower unemployment rates (cf. *Figure 66* for example of Kosovo). A similar picture can be observed also in other countries of the region. Thus, the development of successful and targeted vocational education and training (VET) might be the key of the unemployment puzzle of the Western Balkans. The development of VET is already one of strategic priorities for educational sectors of the Western Balkans as reflected by national strategies in education and FRAME Skills 2020 initiatives [ETF (2014)].

Figure 66. Unemployment rate by education type in Kosovo



Source: Government of Kosovo (2014)

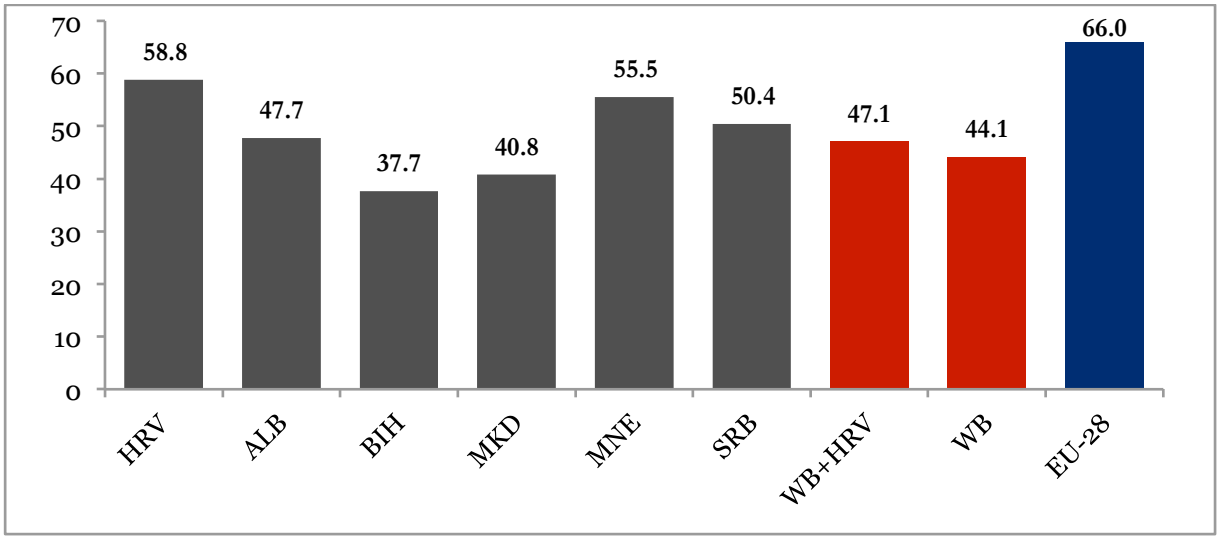
Serbian VET system is one the most developed in the region with 327 secondary vocational schools with around 250 three- and four-year programs in 12 sectors. The majority of students are enrolled in health care and economy and less in mechanical engineering, civil engineering, wood processing and agriculture. However, despite an apparently satisfactory VET schools network, the structure is less so, as it does not necessarily corresponds to the job market needs. Thus, while there is an important demand for such qualifications as bricklayers, welders, moulders the young people do not choose these programs.

This mismatch between skills demanded by enterprises and graduates is also reflected in different surveys, such as the World Bank Enterprise Survey, the EBRD Business Environment and Enterprise Performance Survey (BEEPS) and the OECD SME Policy Index. Thus, for example, in Albania more than half of surveyed firms (BEEPS) reported the lack of skilled labour as an impediment to their business. Albania National Employment Service surveys point out that enterprises struggle to find certain qualifications in the labour market, while most of the current qualified employees are over 55 years old and should be replaced in the close future. This problem also comes out from sectoral infrastructure experts interviews who underline the lack of qualified young engineers and technical specialists (for instance, in the energy sector), which would create an impediment for future development of these sectors.

Enrolment as well as attainment in tertiary education has been continuously improving during the past years (cf. *Figure 67, Figure 68*). The average WB level is however well below the EU-28 average though Croatia, Serbia and Montenegro

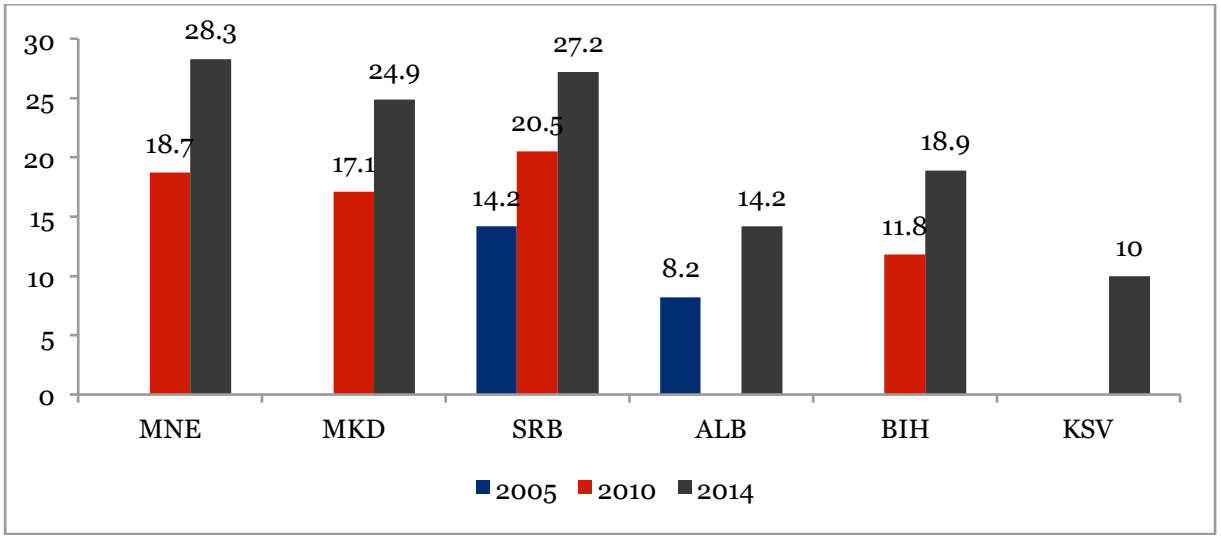
demonstrate magnitudes close to the EU level. Albania, Bosnia and Herzegovina and Kosovo are lagging behind their neighbours.

Figure 67. Tertiary education, gross enrolment ratio (% of relevant population)



Source: World Bank WDI

Figure 68. Educational attainment: percentage of 30-34 years old having completed tertiary or equivalent education



TransMonEE 2015 Database [UNICEF (2015)], Government of Kosovo (2014), ETF (2014) Albania.

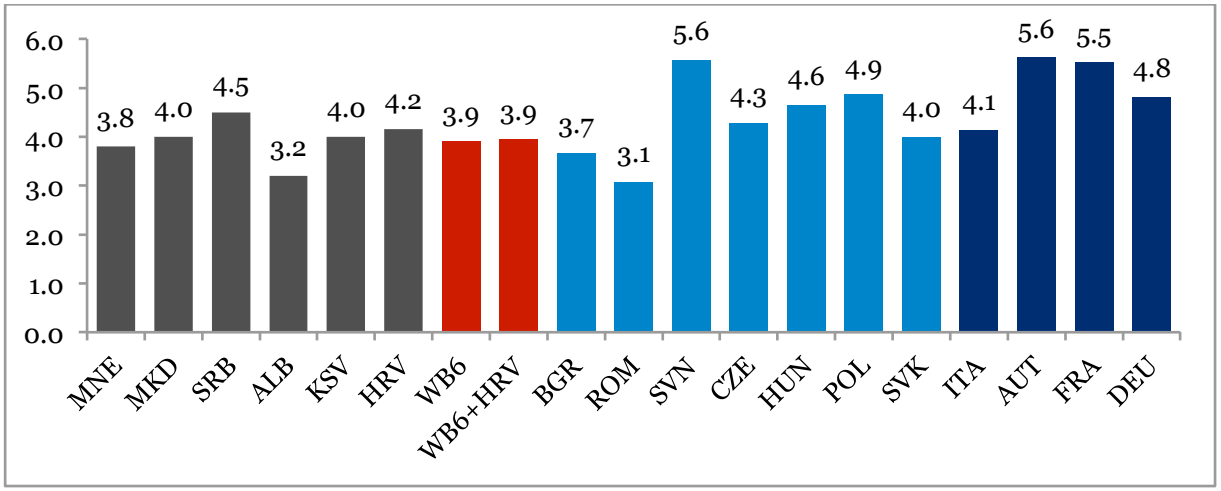
Transition, conflicts and fiscal constraints prevented capital investment in university buildings and equipment to grow in accordance with the growing number of students. Consequently, the pressure on existing physical infrastructure increased in all the countries of the region though somehow compensated by negative demographic trends in some of them. Thus, for example, at the University of Pristina, university buildings space per student is estimated to be 2.98 m² (the Faculty of Economy disposes 1 m² per student), which is low by all standards[43]. The same situation can be observed in Albania where the faculties, especially in social sciences, are overcrowded.

[43] Kosovo National Council for European Integration (2013)

> *"By the end of the 1980s, educational systems were in real need of investment and modernisation. Instead war, economic crisis and the social costs of transition resulted in destruction of considerable education infrastructure and a decade of chronic underinvestment, leading to lower standards, increased inequalities in terms of access, and some erosion of near universal access. In parts of the region, the curriculum became a site of ideological reform and the education of minorities and of vulnerable groups was not a priority* [European Commission (2009), p. 10].

Unfortunately, we do not dispose of overall estimates of physical infrastructure and human resources needs for the education sector. However, we can draw some conclusions by analysing global public expenditures on education.

Figure 69. Public spending on education (% of GDP), 2012



Sources: World Bank WDI, Eurostat

The average public spending on education (including capital and current expenditures) in the Western Balkans is about 3.9% of GDP. This is lower than in most of the developed and emerging European countries. Thus in France and Austria, public education expenditures are about 5.5% of GDP and the OECD average is 5.4% of GDP. Taking into account previous considerations on the degrading state of the education sector in some countries of the region and the very high unemployment rates, these magnitudes appear as by far insufficient. The situation is the worse in Albania with only 3% of GDP spent on education (since 1991 education expenditures were continually declining):

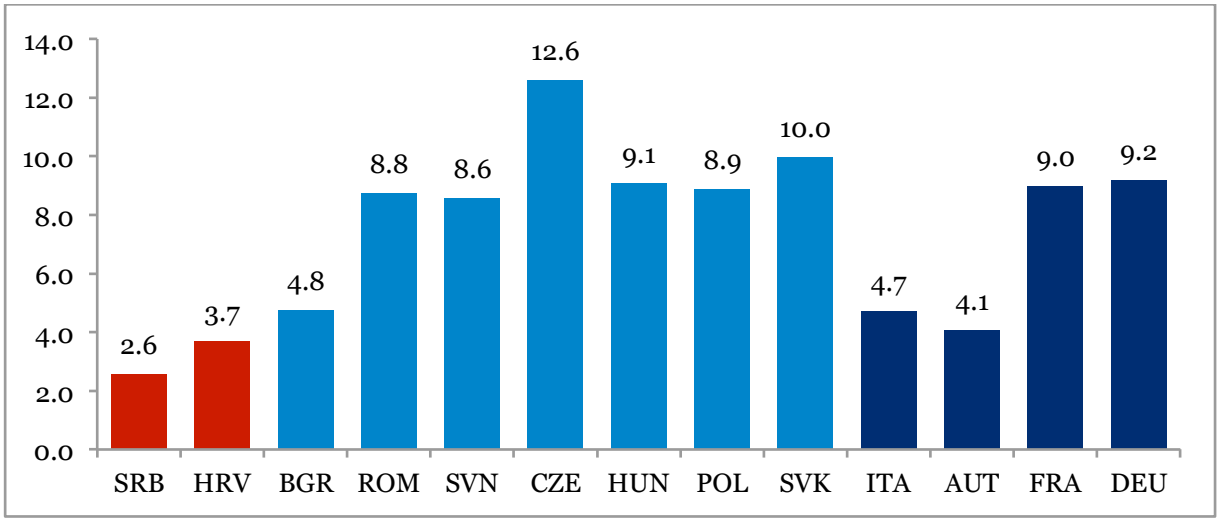
> *"In Albania the public investment share in education was 5% of GDP in 1991 as in the OECD countries – but it decreased in the successive years and had remained for the period 1998-2007 at this lower level (3%). Indeed, since the beginning of the transition process gross enrolment rates for secondary school declined dramatically… This suggests that education has not been a priority for the Albanian government during the transition" [Capolupo (2012)]*

Given Albania's poor situation, local education experts consider that education should become the priority number one for the following years well before other infrastructure sectors. This concerns specifically basic education as the foundation of all the system.

As for investment in physical capital, it was clearly insufficient and far below the EU level (cf. *Figure 70*). Only 2.6% of total spending in education was dedicated to physical infrastructure improvement in 2011 compared to 8.6% in Slovenia, 10% in Slovakia and 12.6% in the Czech Republic.

As for the current expenditures in teachers' wages, they are equally important. In fact, low income revenues in education turn the most talented and qualified young specialists from the education sector to better paid jobs. As a consequence, the teaching profession is aging, thus, for example, in Kosovo 41% of teachers are more than 50 years old.

Figure 70. Public capital spending on education (% of total spending on education), 2011



Source: calculated using World Bank WDI data

In the light of this, one can consider that it would be desirable to increase public investment in education (both in physical capital and human resources) to at least the European level. *6% of GDP* as targeted by the Serbian Strategy for Education Development 2020 seems a reasonable figure in this perspective. Applying this 6% target to all the countries of the region, the regional investment gap can be evaluated on average as *2.1% of GDP*. Considering current GDP level, it implies that education expenditures should attain *4.6 EUR bn* per year in WB6 (*7.3 EUR bn* for WB6 and Croatia). This implies an increase by around 1.5 EUR bn per year in the WB6 (the increase of 2.3 EUR bn is needed for the region comprising WB6 and Croatia). As for physical capital investment only, one can take as a target 10% of total expenses in education, i.e. 0.6% of GDP.

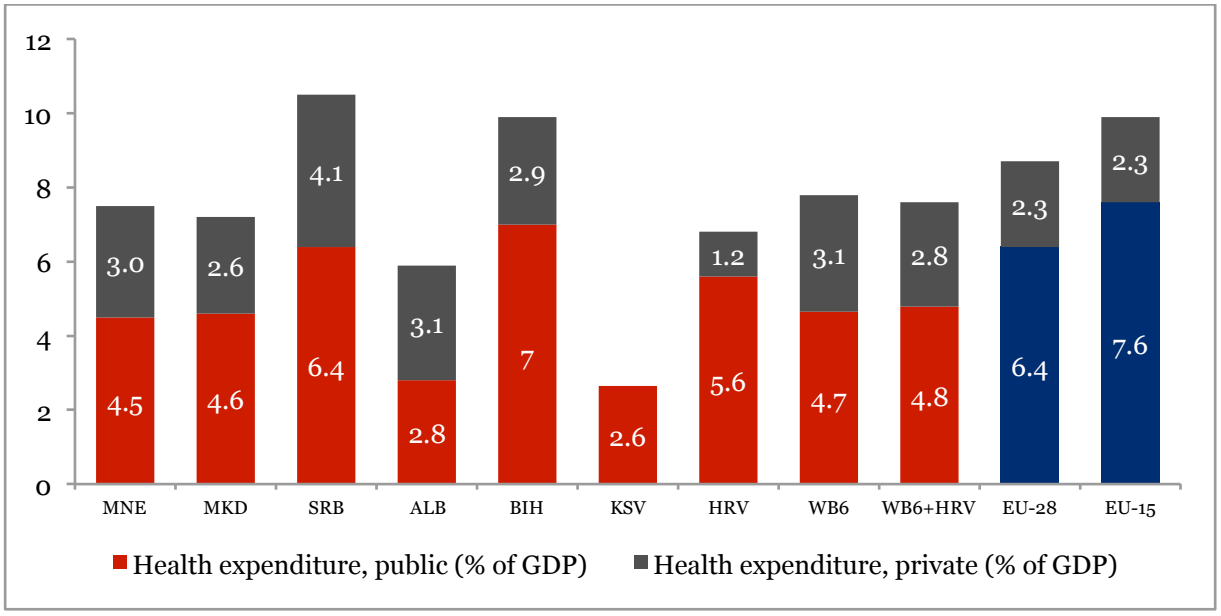
Health

Like education, health suffered from the lack of investment and maintenance during the transition period. The situation was extreme on the aftermath of the conflicts in the concerned regions. Kosovo's health infrastructure is considered as one of the less

developed in the Balkans[44]. Despite important capital investments, Kosovo's citizens still rely on health institutions abroad for specialized services.

Though overall expenditures on health in the Western Balkans are comparable to the EU level, private "out-of-pocket" expenses[45] represent a large part of it. As in the education sector, public expenditures on health are lower than in the European countries: 5.1% of GDP in WB6 compared to 6.4% of GDP in the EU28, 7.6% of GDP in the EU15 and 8.9% of GDP on average in the OECD countries.

Figure 71. Public and private spending on health (% of GDP), 2012



Sources: Eurostat

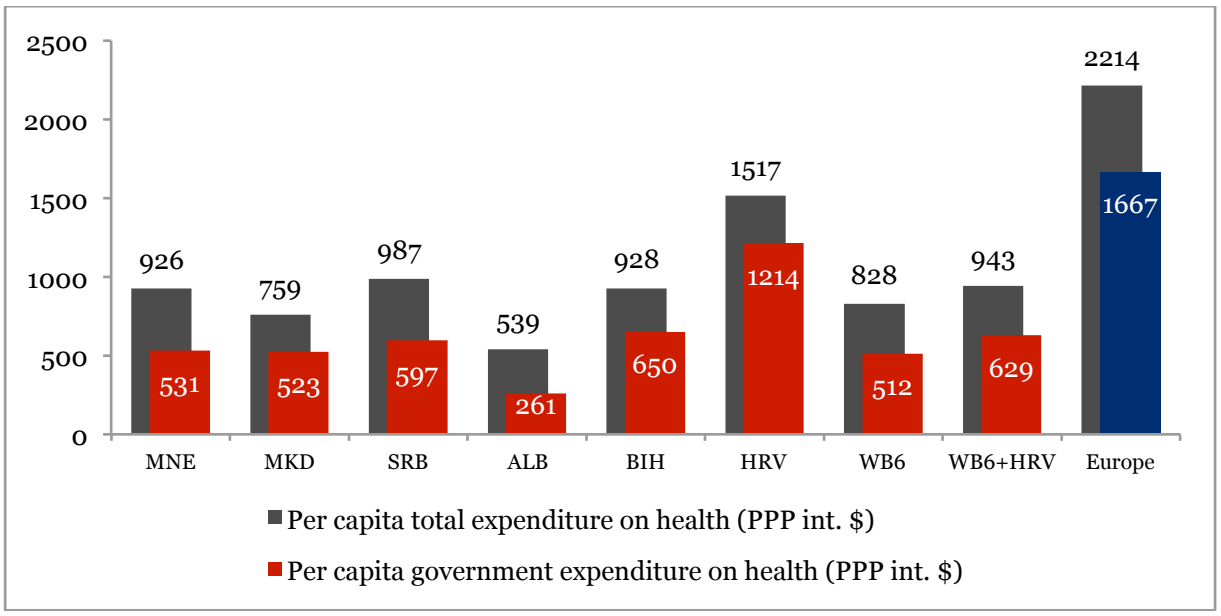
However, this is only a part of the story as GDP per capita is much lower in the Western Balkans. Thus, public health expenditures per capita are more than 3 times lower than in Europe (cf. *Figure 72*).

At the same time, the health sector is a typical example of market failure. Large scale healthcare projects, research, development and innovation dedicated to healthcare (such as new vaccines) as well as medical education and training often require large initial investment costs, which may not ensure a positive return on investment in a reasonable time period [EIB (2016)]. In such cases it is for public authorities to remedy market failures and to invest in long-term healthcare, which is particularly difficult in times of crisis under the constraint of fiscal pressure. However, considering the long-term positive externalities of the health sector, a particular effort should be done to preserve healthcare investment even in difficult times.

[44] Kosovo National Council for European Integration (2013)

[45] *Out-of-pocket expenditure* is any direct outlay by households, including gratuities and in-kind payments, to health practitioners and suppliers of pharmaceuticals, therapeutic appliances, and other goods and services whose primary intent is to contribute to the restoration or enhancement of the health status of individuals or population groups. It is a part of private health expenditure. Out-of-pocket payments for health can cause households to incur catastrophic expenditures, which in turn can push them into poverty. The need to pay out-of-pocket can also mean that households do not seek care when they need it [World Bank, WHO].

Figure 72. Health expenditure per capita (PPP $), 2013



Sources: World Health Organisation

The health sector is labor-intensive. Shortages of health professionals are common even in developed countries but in the Western Balkans the problem is aggravated by a massive brain-drain as the gap in salaries between the region and the EU is large and conditions of work and living are often more attractive in the EU. The number of physicians per capita is more than 1.5 times lower in the Western Balkans than in the EU (cf. last column of *Table 12*). It was estimated that Serbia lacks around 13 thousand medical workers.

The efficient allocation of existing labour also requires the availability of appropriate physical healthcare infrastructure and medical equipment to provide modern health services. When comparing the supply of healthcare facilities per capita in the Western Balkans and in the EU, the gap is obvious though the endowments vary considerably amongst the countries of the region (cf. *Table 12*). With the exception of Macedonia, all Western Balkan countries have between 1 and 2 hospitals per 100 000 population while the EU average is 3. The number of hospital beds is also lower (409 per 100 000 population on average in the WB6 against 527 in the EU28) and it is particularly low in Albania.

Table 12. *Medical facilities and number of physicians per capita, 2013*

	Hospitals per 100 000	Hospital beds per 100 000	Physicians per 100 000
MNE	1.8	396	215
MKD	3.2	443	280
SRB	1.4	565	310
ALB	1.5	289	128
BIH	1.0	350	188
HRV	1.6	586	303
WB5	**1.8**	**409**	**224**
WB5+HRV	1.8	438	237
BGR	4.7	682	398
ROM	2.5	627	248

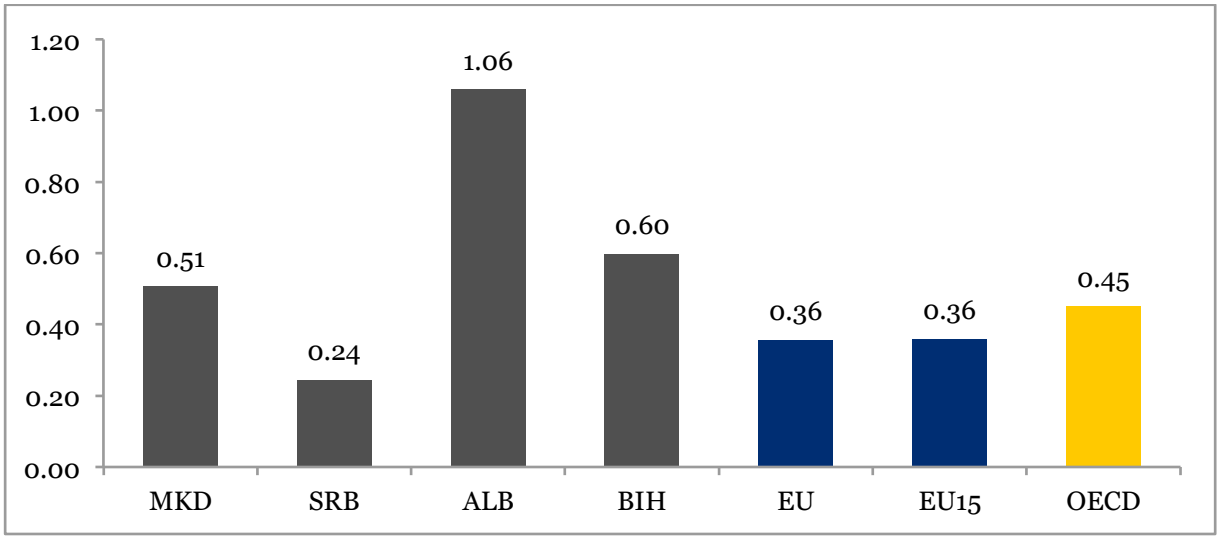
SVN	1.4	455	263
CZE	2.4	646	369
HUN	1.8	704	321
POL	2.8	650	221
SVK	2.5	580	300
FRA	5.3	648	319
DEU	4.0	828	405
EU28	**3.0**	**527**	**347**
EU15	**3.1**	**498**	**364**

Sources: WHO (2015) HFA-DB

The other concern is the spatial distribution of healthcare facilities that is not reflected in the density figures. The majority of hospital beds are in general concentrated in urban centers while rural areas are often poorly provided. Thus, for example, in Macedonia, which has a country average of 443 beds per 100 000 population, the bed capacity varies from 130 per 100 000 inh. in Kochani and 520 per 100 000 inh. in Shtip [Bredenkamp and Gragnolati (2008)].

To invest in health means also investing in medical education and fundamental and applied research, which are costly infrastructures with only long-term benefits. There is evidence of decades of underinvestment in medical education and training worldwide [EIB (2016)] which explains, at least in part, the health professional shortages. In addition for many years after transition in the Balkans investment in medical education and research was not kept in line with that for the whole education system.

Figure 73. Capital investment spending in health sector in % of GDP



Note: data for last available year: Macedonia, Serbia and Bosnia and Herzegovina - for 2012, Albania – 2010; EU – 2007, OECD – 2013.
Sources: WHO (2015) HFA-DB, OECD (2015)

Coming back to physical capital spending, the countries of the region have different patterns and due to the lack of data, the comparison is difficult. For the three countries with available data, the average health infrastructure investment was about 0.45% of GDP in 2012 (for Albania, the last available data is 2010). This is in line with

the OECD countries average (cf. *Figure 73*). Among OECD countries, Belgium spent more than 0.8% of GDP on capital investment, followed by France, Germany and the United States, which all spent more than 0.6% of their GDP [OECD (2015)].

While not forgetting about efficiency and productivity issues, in the light of the obvious underinvestment of the past, *0.45% - 0.6% of GDP* can be considered as reasonable target for physical infrastructure investment in the health sector.

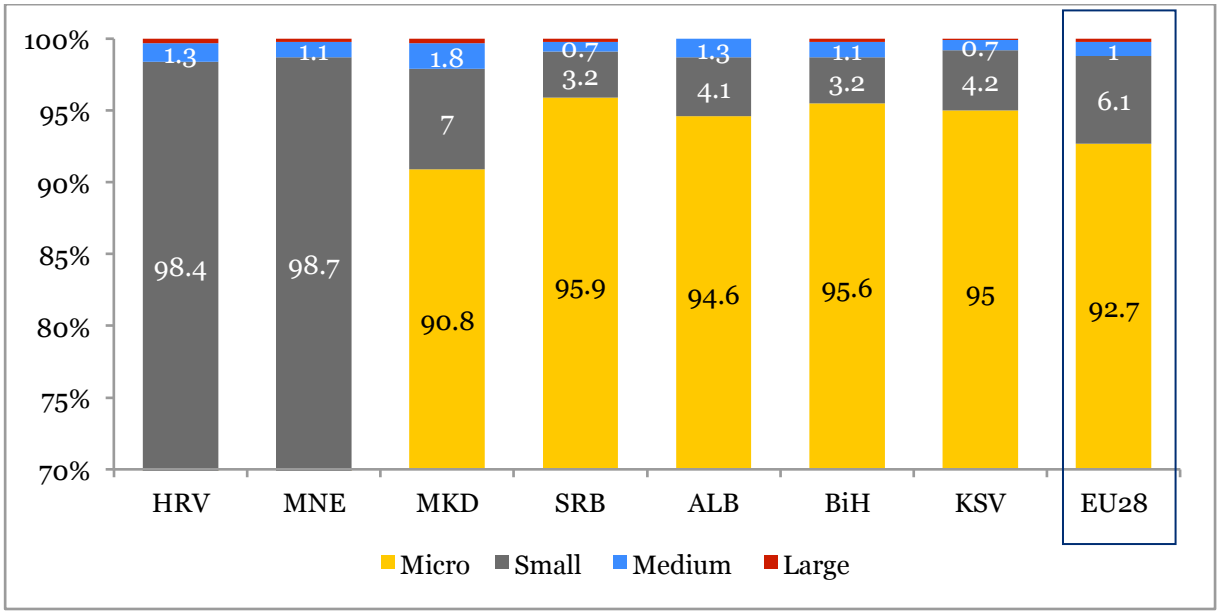
Despite the necessity to improve the efficiency of public health spending [Cf. Bredenkamp and Gragnolati (2008)], it is also important increasing the overall health expenditure in order to modernise health services and retain educated health professionals in the Western Balkans. Extending the *6.4%* target (actual Serbian and EU28 level for current and capital expenditures) to all the countries of the region, the regional investment gap can be evaluated on average at 1.7% of GDP. Considering the current GDP level, it implies that health expenditures should attain *5 EUR bn* per year in WB6 (*7.9 EUR bn* for WB6 and Croatia). This implies an increase by around *0.8 EUR bn* per year in the WB6 (the increase of *1.2 EUR bn* is needed for the region comprising WB6 and Croatia).

1.3. Private sector and SMEs

As in other transition countries, private sector has been progressively growing in the Western Balkans and now attains almost the European level. The process is still ongoing as large state-owned enterprises are being restructured and privatized.

The largest part of the private enterprises sector is represented by Small and Medium Enterprises. SMEs account for 99.6% of the total population of enterprises in the Western Balkans. This is very close to the average EU28 level of 99.8%. The largest share of the SMEs is made of micro-enterprises (with less than 10 employees), which account for about 94% of firms in the WB6. Small enterprises (employing between 10 and 50 workers) are over 4%, while medium enterprises (more than 50 and less than 250 employees) represent about 1% of the population. The number of large enterprises is unsurprisingly not more than 0.16%. When compared to the EU averages, the share of micro-enterprises is higher, while small and medium enterprises represent a lower part of the population of firms (cf. *Figure 74*). This might indicate that micro-enterprises encounter significant constraints to their growth.

Figure 74. Structure of enterprises by size (% of total number of enterprises), 2014



Note: For Croatia and Montenegro, small enterprises category includes micro-enterprises; for Albania all enterprises with more than 50 employees are considered as large.
Sources: BFC (2016), Statistical offices, EC (2015) Annual Report on European SMEs 2014 / 2015, CEPOR (2015) Small and Medium Enterprises report - Croatia 2014.

Nowadays the literature on the SMEs is abundant and underlines the important role played by SMEs in economic development. SMEs are often considered as the backbone of employment, as the main provider of the value added and the driving force of innovation. In the case of transitional economies, the SMEs should be supported and promoted for the following reasons [Szabo (2003)]:

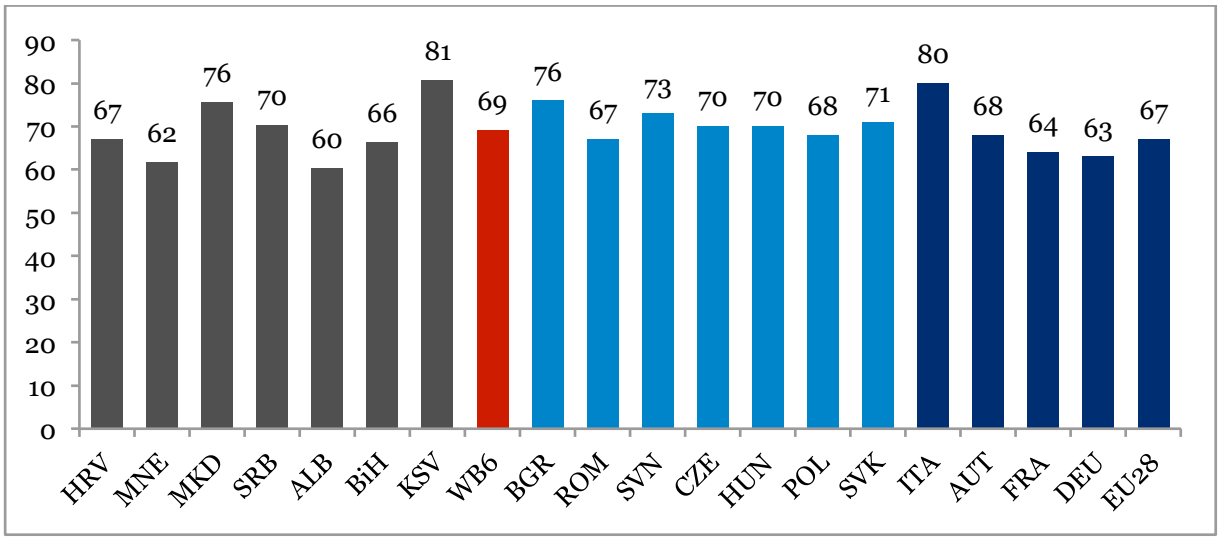
- SMEs stimulate the spread of private property and support entrepreneurial development;
- SMEs are the backbone of the market economy;
- SMEs are flexible and can adapt rapidly to the changing market; this flexibility assures their competiveness on the globalized markets;
- SMEs create jobs and thus contribute to poverty and unemployment alleviation, especially among disadvantaged population;
- SMEs contribute to the diversification of the economic activity and are important players in the trade sector, national and international;
- SMEs contribute significantly to local and regional development as well as to the development of the border areas and ease intercultural relations with neighbouring countries.

Evidence is also provided by the empirical literature that a higher share of SMEs employment in total employment is correlated with a higher GDP per capita, although it is difficult to establish the causality between the two [Ayyagari et al. (2003), Beck et al. (2005)].

As the following figures show, the share of the SMEs in the productive structure of the Western Balkans is almost the same as in other developed European countries thus creating the potential for further economic development.

SMEs generate jobs. The average contribution of the SMEs sector to employment in the Western Balkan countries is 69%, which is just over the EU-28 level of 67% (*Figure 75*). Kosovo has the highest share of SMEs in employment with 81% of employment created by SMEs in 2014. Macedonian SMEs provide more than 75% of employment. The lowest shares are those of Montenegro and Albania with 62% and 60% respectively but they are certainly underestimated as Albanian statistics does not provide the contribution of medium enterprises to employment (enterprises of more than 50 employees are counted in the same category as the large firms) and there is no recent available data for Montenegro.

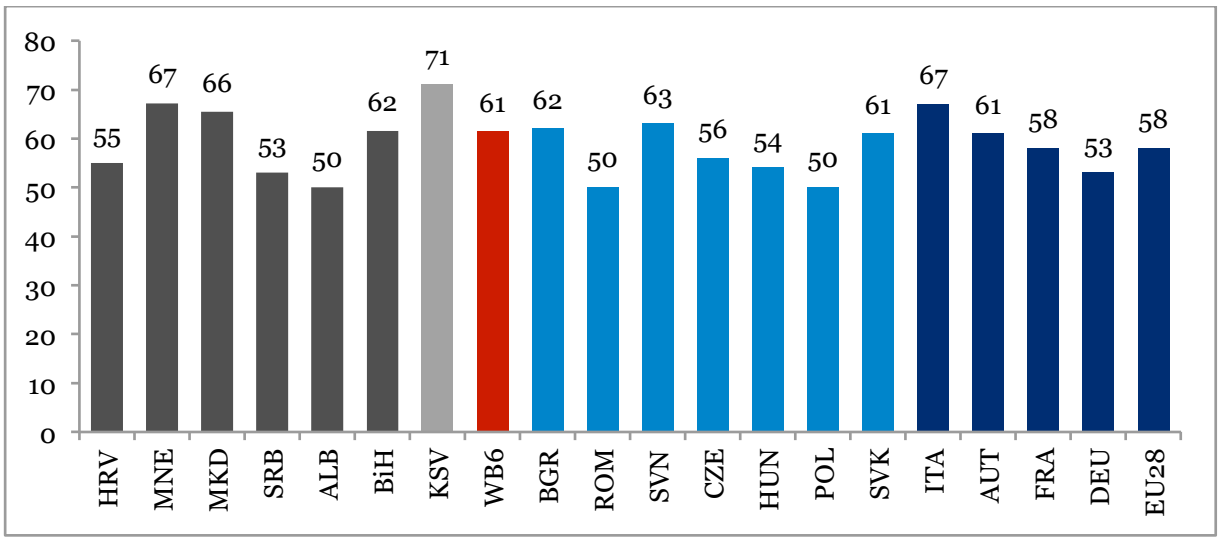
Figure 75. SMEs contribution to employment (% of total employment)



Note: for Albania the contribution is for micro- and small enterprises only (<50 employees); for Montenegro last available data is 2012.
Sources: BFC (2016); Statistical offices, EC (2015) Annual Report on European SMEs 2014 / 2015, CEPOR (2015) Small and Medium Enterprises report - Croatia 2014; Montenegro Ministry of Economy (2012).

SMEs produce around 61% of the value added of the Western Balkans, which is even higher than the EU average (cf. *Figure 76*). SMEs' contribution to the value added is generally lower than their contribution to employment because of their lower productivity that is normally below that of larger enterprises. In the EU, the SMEs value added share is 9 percent point lower than the employment share; in the Western Balkans this difference is 10 percentage points. This phenomenon is explained by the relatively higher labor intensity of economic activities typical of SMEs (retail trade, services, construction). This is the reason why SMEs growth is considered as an employment driver. Thus, for a large part, it is the SMEs sector that must fulfil the hard task of reducing unemployment. Fiscal austerity and on-going restructuring plans of the large state owned enterprises with massive layoffs will reinforce this need.

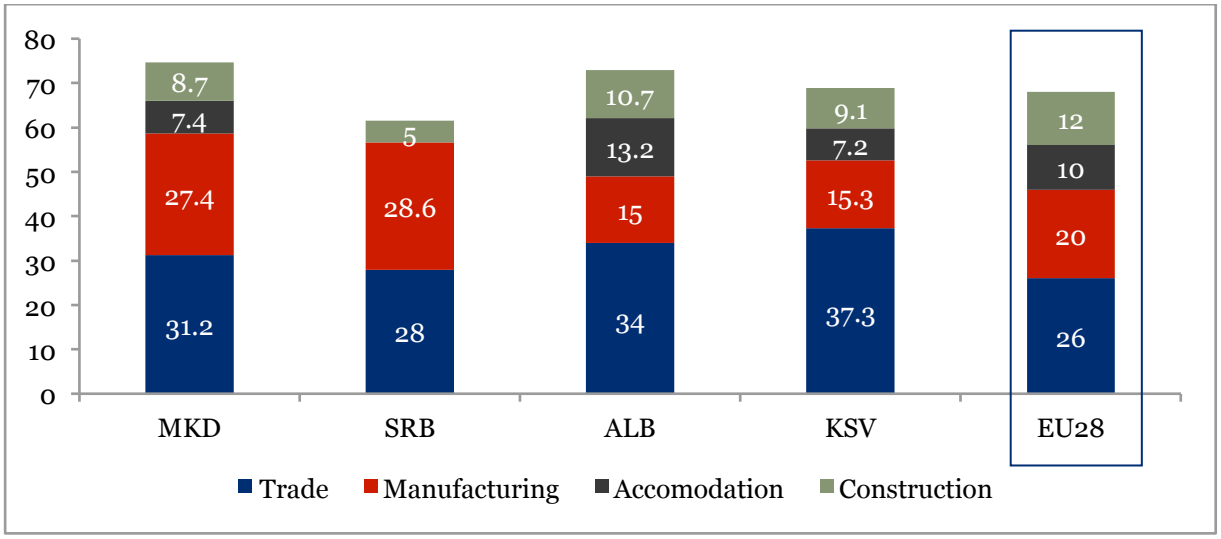
Figure 76. SMEs contribution to value added (% GVA)



Note: for Albania the contribution is for micro- and small enterprises only (<50 employees); no available data for Kosovo but it can be approximated as the difference between the employment share of SMEs in Kosovo and the average difference between employment and value added shares of SMEs in the WB.
Sources: BFC (2016); Statistical offices, EC (2015) Annual Report on European SMEs 2014 / 2015, CEPOR (2015) Small and Medium Enterprises report - Croatia 2014; Montenegro Ministry of Economy (2012).

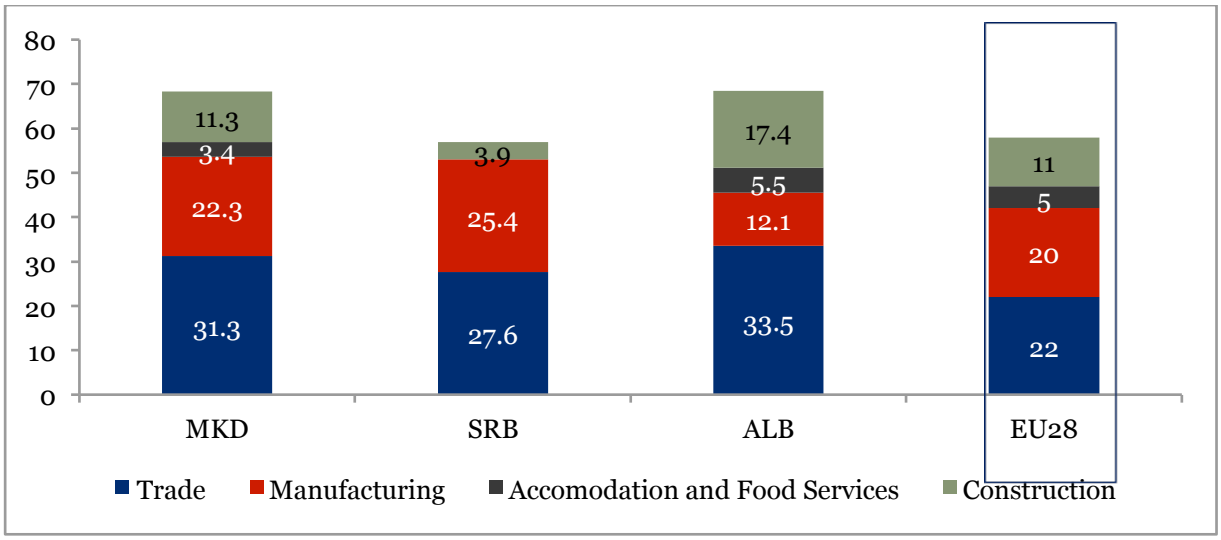
Regarding the structural breakdown by economic activity, the largest part of SMEs (from 30 to 50% of enterprises) belongs to the trade sector, which is also the largest employer and value added producer (cf. *Figure 77, Figure 78*). This also means that SMEs are highly sensitive to domestic consumption contraction. The manufacturing sector accounts for less SMEs than the trade sector but these produce a higher value added share in relative terms, which can be explained by the typically larger average size of SMEs in this sector. Comparing across the countries of the region and with the EU SMEs structure by activity, one can observe a very high proportion of SMEs in trade in Albania and Kosovo while the manufacturing sector is generally underrepresented in the Western Balkans with the exception of Macedonia and Serbia, where SMEs contribution both to employment and value added is higher than in the EU.

Figure 77. SMEs contribution to employment by principal sectors (% of total employment)



Sources: BFC (2016); Statistical offices, EC (2015) Annual Report on European SMEs 2014 / 2015

Figure 78. SMEs contribution to value added by principal sectors (% GVA)

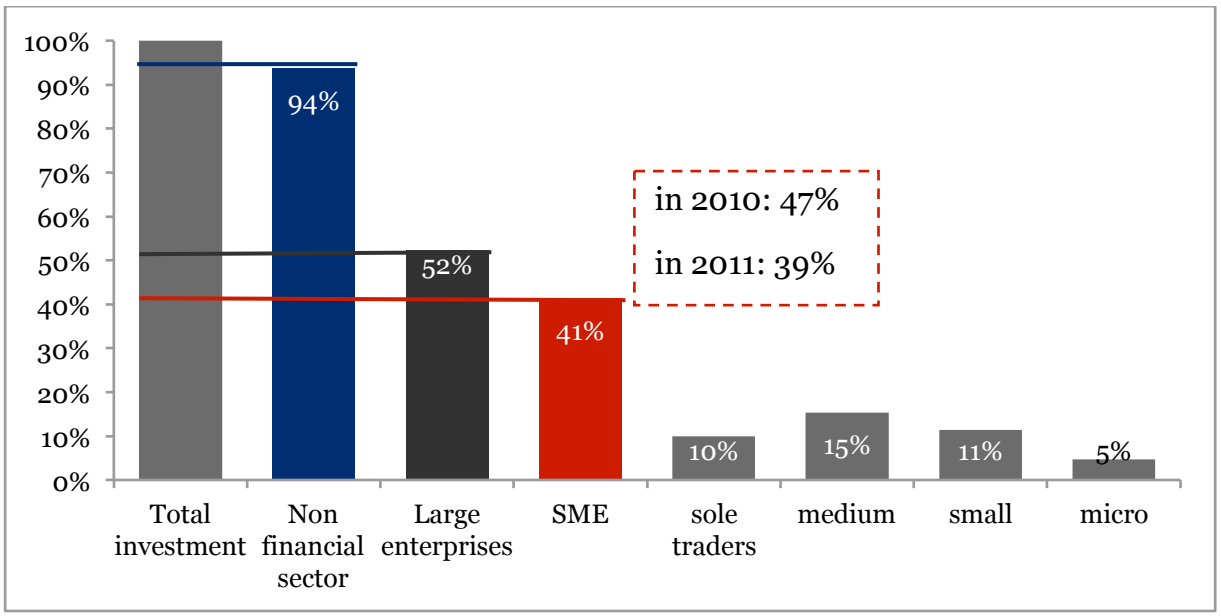


Sources: BFC (2016); Statistical offices, EC (2015) Annual Report on European SMEs 2014 / 2015

SMEs constitute the largest part of the private sector. Consequently, they account for an important share of private investments, although they are almost by definition less capital intensive. When it comes to the estimation of investment needs, little data is available for analysis. However, some estimates can be provided based on the past experience.

The following question is worthwhile being addressed: what is the share of investment by SMEs in total investment of a country? In Serbia in 2012 (last available data) the share of SMEs investment in the investment of the non-financial institutional sector was 44.1% [NARD (2013)]. Knowing that the share of the non financial sector in total investment was 94%, the part of SMEs investment in total investment would be 41%. This could be considered as close to a lower bound.

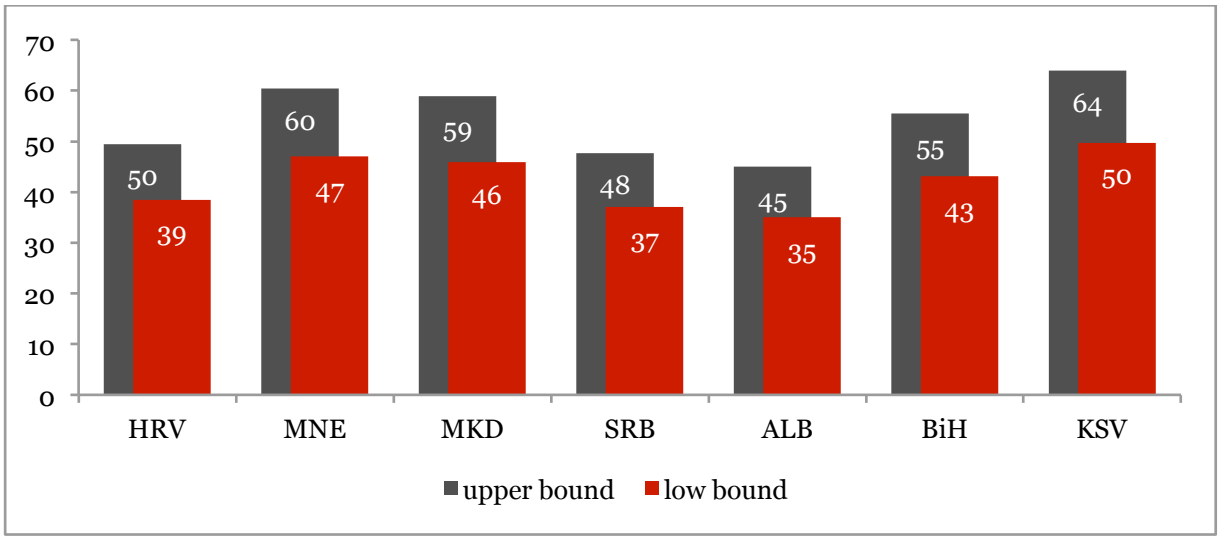
Figure 79. Investment structure by enterprises size in Serbia, 2011



Sources: Serbian National Agency for Regional Development (2012, 2013)

In 2011, under the effect of the crisis, SMEs reduced their investment more than the large enterprises (in 2010, the share of SMEs in total investment was 47% while in 2011 it fell to only 39%). While comparing this figures with the share of the value added produced by SMEs in total GVA (53%), we observe that it corresponds to around 70-90%. As we do not dispose of similar data on the SMEs share in total investment for other countries, we estimate them from published figures on the SMEs share in value added, applying the same proportions.

Figure 80. SMEs investment (% of total investment), estimates



Sources: own calculations

Given the current level of investment, SMEs may be estimated to account for *6.8 EUR bn* for WB6 and *9.9 EUR bn* for WB6 and Croatia (lower bound). This corresponds to 10% of the GDP of the region (the upper bound is 13% of GDP).

Thus, for programming purposes, future investment needs for the SME sector could be projected (under assumption of relatively stable share in the value added in the close future) as a function of the scenario selected for investment growth. Taking for example the "steady growth" scenario developed in Chapter 2, SMEs annual investment needs at the horizon of 2020 could be projected to be at least *9.7 EUR bn* for WB6 and *13.8 EUR bn* for WB6 and Croatia (lower bound) or *12.5 EUR bn* and *17.7 EUR bn* (upper bound).

Conclusion

The main messages from this chapter should now be summarized.

The Western Balkans suffered deeply from the crisis and the pace of recovery in the region is slow. Private investment is still fragile. Together with the current account imbalance, unemployment remains the main problem. In 2015, the average unemployment rate in the region was around 23% or 13 points higher than in EU15. Low household incomes and high unemployment provide an incentive for migration towards developed European countries. In this perspective, any improvement in the local labour market conditions in the region may delay the so-called economic migration and possibly slow down also the migration of asylum seekers.

The infrastructure gaps between the Western Balkans and the European Union countries are large. Typically, infrastructure suffered from *poor maintenance during the transition period* and investment is necessary for its rehabilitation. Besides, the network is much less developed than in the peers and its extension requires a substantial investment effort.

The transport infrastructure network is two to three times less developed than in the EU. The rail network is especially in a particularly poor shape as it received less investment compared to the road network in the past.

The energy production potential is not entirely realised. Though energy consumption and dependency on imports are lower than in Europe, the necessary development of industry and the likely developments in urbanisation require to increase capacity. On average electricity prices are twice as low as in the EU, thus electricity production appears to be competitive in the European market and providing a potential for export and a cheap input for the domestic industry.

The environmental sector offers various opportunities, but environmental vulnerabilities should be taken into account. *The infrastructure gap in this sector is wide* and may produce adverse effects on other infrastructure sectors and on growth.

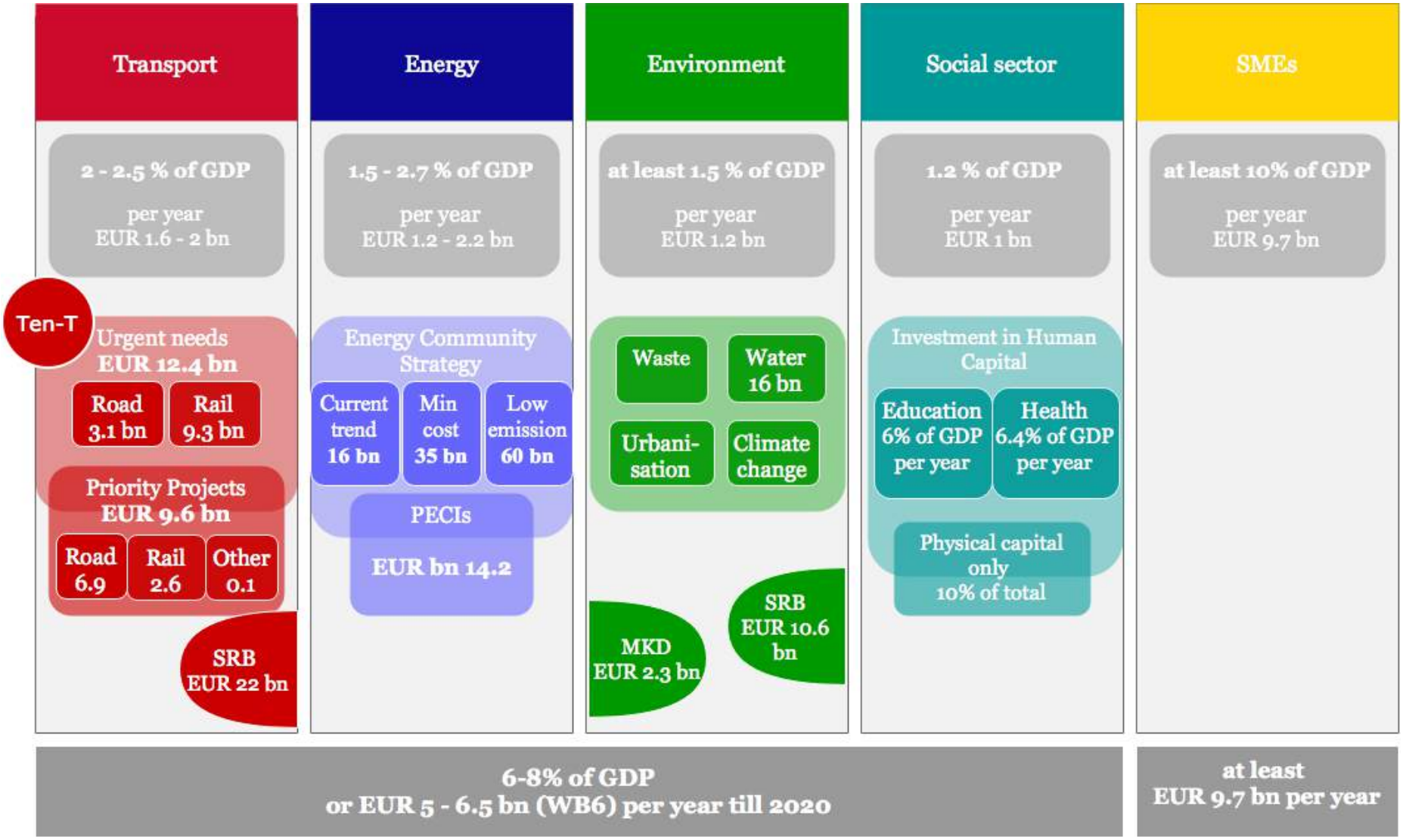
The social sector, and especially education, was not amongst governments priorities during transition. The consequences in terms of *enrollment ratios are alarming* in some countries of the region (Albania, Kosovo and Bosnia and Herzegovina). Education and health expenditures are much lower comparing to the European level. Taking into account high unemployment rates, the social sector should not be neglected (especially when a particular focus is given to the connectivity agenda in the regional budgets) and should remain a priority for the national budgets.

The SMEs sector represents the largest portion of the private productive sector. Its role for employment is crucial, while the financial and administrative constraints that it faces are generally harder. It is crucial to support SMEs investments as a

condition for the recovery of employment in the region. It is the largest policy relevant sector in terms of annual investment needs. Basic infrastructure investment implying construction of new capacity would also have spillover effects on SMEs (and, thus, employment) as they are largely present in the construction sector.

Future investment needs estimates by infrastructure sector are summarized in the following chart (*Figure 81*). Estimates in euros are given for the WB6 region (without Croatia) assuming a time horizon until 2020 and based on the "steady" growth scenario developed in Chapter 2. These estimates are largely normative, being expressed also as a % of GDP. If another scenario is considered more relevant, they can be easily adapted.

Figure 81. Infrastructure investment needs estimates till 2020, WB 6



II. Convergence, Investment, Debt, Employment: all pieces of the same puzzle

The Western Balkans are facing important challenges. Completion of economic and institutional transition through structural reforms, adoption of the EU acquis, catching up process to higher per capita income levels, reduction of unemployment, poverty and inequalities, infrastructure modernization and future successful integration into the European Union are going to be a real test for the region given current circumstances and global instabilities, including migration. Addressing all these issues at once is hardly possible without sustained economic development.

The solution of the Western Balkans puzzle must be found putting together many elements, the core one being investment. The latter can be considered as the principal source of endogenous growth required to achieve development goals in a reasonably close future. No substantial development and convergence could be achieved in the region without a substantial investment effort, both private and public. It is highly important not to lose momentum now, at a time when it is hoped that the EU economy is starting to recover from the crisis started in 2007-8, to avoid the vicious circle of low investment, low growth, growing debt levels, widening trade deficit and high inequality and unemployment rates which would inevitably generate social and regional tensions in an accession region located at the borders of the EU.

The *objective* of this chapter is fourfold. First, it aims at estimating the existing income gap between Western Balkan countries and the EU average level and at quantifying the growth rate needed to diminish this gap in the medium-long term perspective.

Second, it attempts to estimate total (private and public) investment needs in monetary terms, in order to achieve a relatively high economic growth essential to respond to the challenges the Western Balkans are facing. For this purpose, we propose a simple model of the "investment-production-growth" relationship in the tradition of Harrod to estimate and justify the substantial magnitude of the investment needs in the six (plus one) countries studied. Different scenarios are presented for the medium term, of which one is selected as central. Since these reference growth scenarios are derived macro-economically, by definition they do not take into account the effects of structural change in the composition of the productive structure. However, the latter are slow and, as a first approximation, they can be neglected in building-up medium-term projections.

Third, it addresses the financing issue by evaluating the debt variation that such investment would generate. The construction of a post-Keynesian model of the "stock-flow" type is proposed for simulating a consistent financing program to cover these needs (through public and private debt), taking into account limited possibilities offered by local savings (very weak today in the area), and controlling for

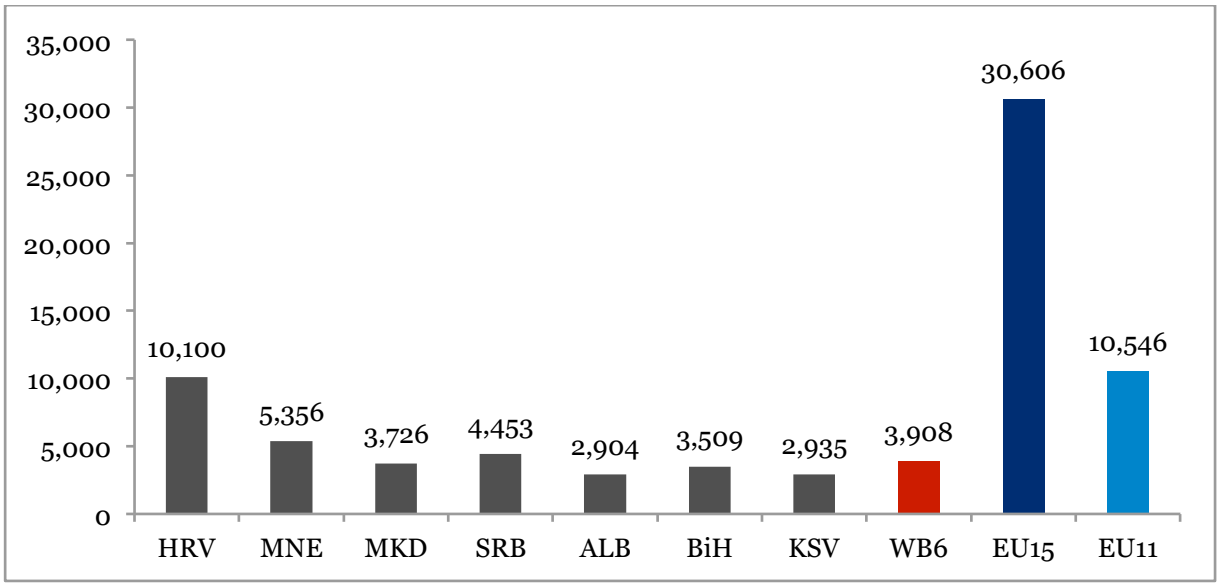
various types of foreign capital inflows in order to estimate the balance that must come from new bank credits.

Finally, it explores the implications of various growth scenarios in terms of employment, probably the most important challenge for the Western Balkans.

2.1. Convergence to EU-level living standards – still a long journey

The gap in living standards between Western Balkans and European Union countries is strikingly high. In 2013, average GDP per capita of WB6 in nominal terms did not attain 4000 EUR and thus represented only 13% of the EU-15 and 37% of the EU-11 GDP per capita level[46] (see *Figure 82*).

Figure 82. GDP per capita (EUR) in 2013: WB versus EU15 and EU11 averages

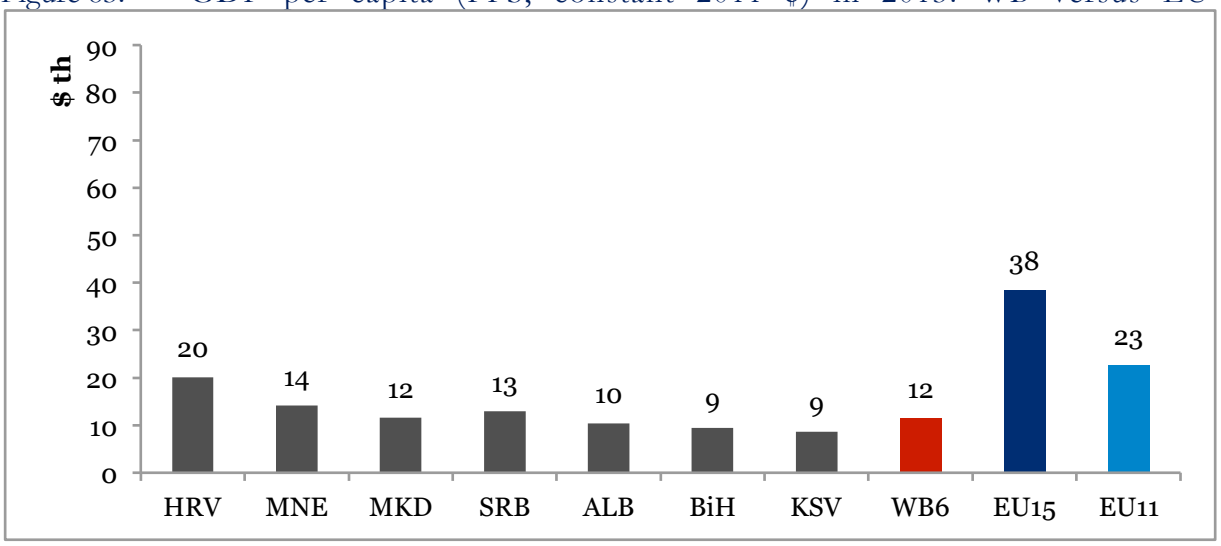


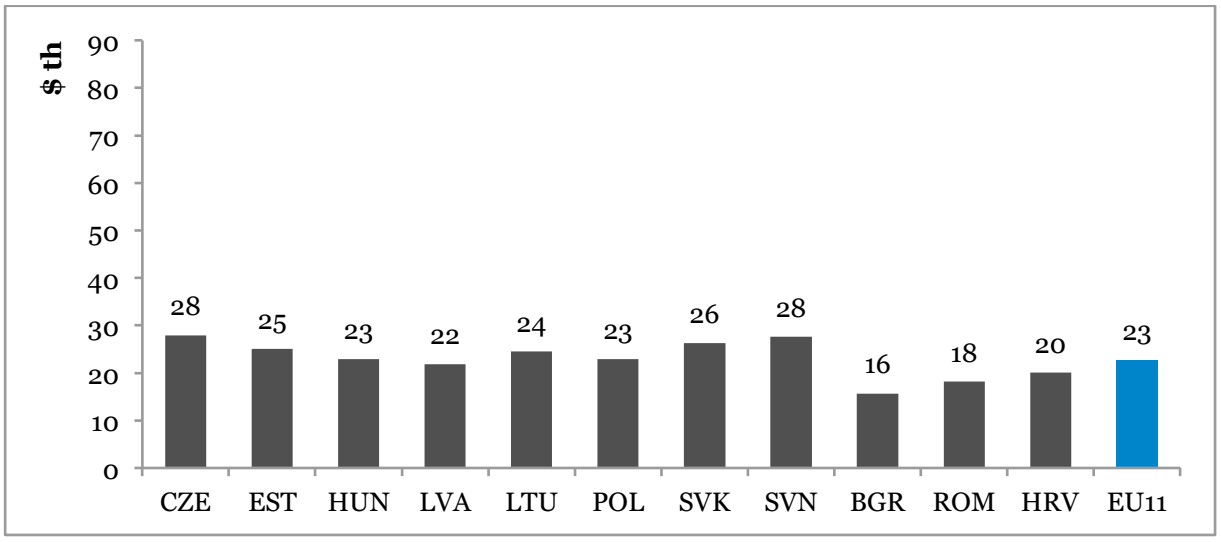
Source: Eurostat
Note: WB6, EU15 and EU11 are GDP weighted averages.

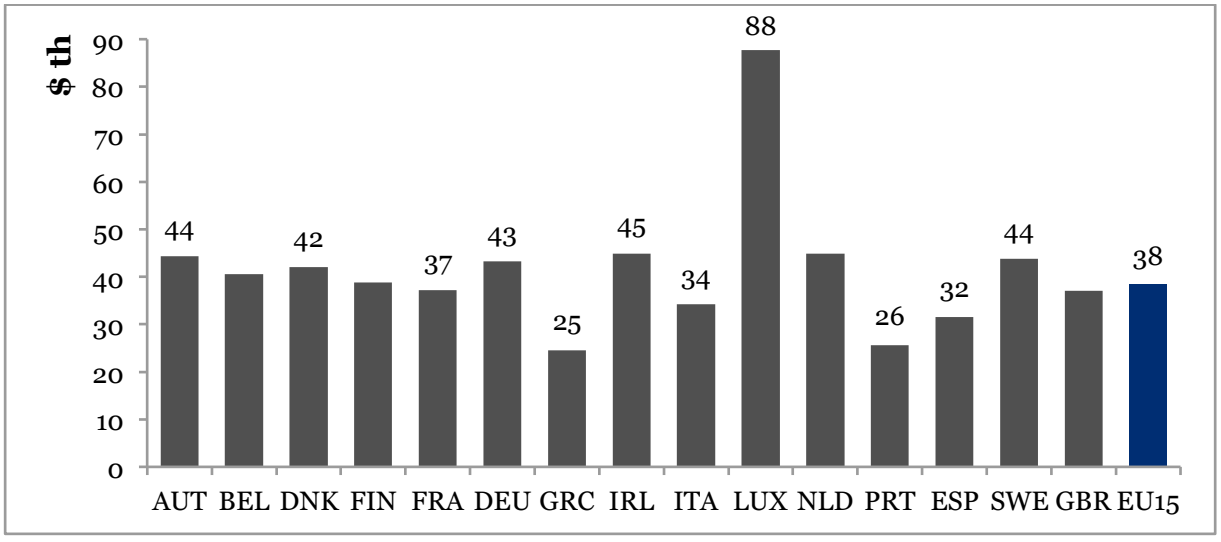
Even in constant Purchasing Parity Standards (PPS) terms this divide remains wide (*Figure 83*). While Croatia's income level is approaching that of the New Member States that joined EU in 2004 (as well as that of Greece and Portugal) and exceeded the level of Bulgaria and Romania, Western Balkan countries are lagging far behind despite a considerable progress achieved in the early 2000s.

[46] The group of EU15 countries comprises: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom; EU11 refers to the 10 European Union (EU) member states—Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, the Slovak Republic, and Slovenia—and the latest member State - Croatia

Figure 83. GDP per capita (PPS, constant 2011 $) in 2013: WB versus EU



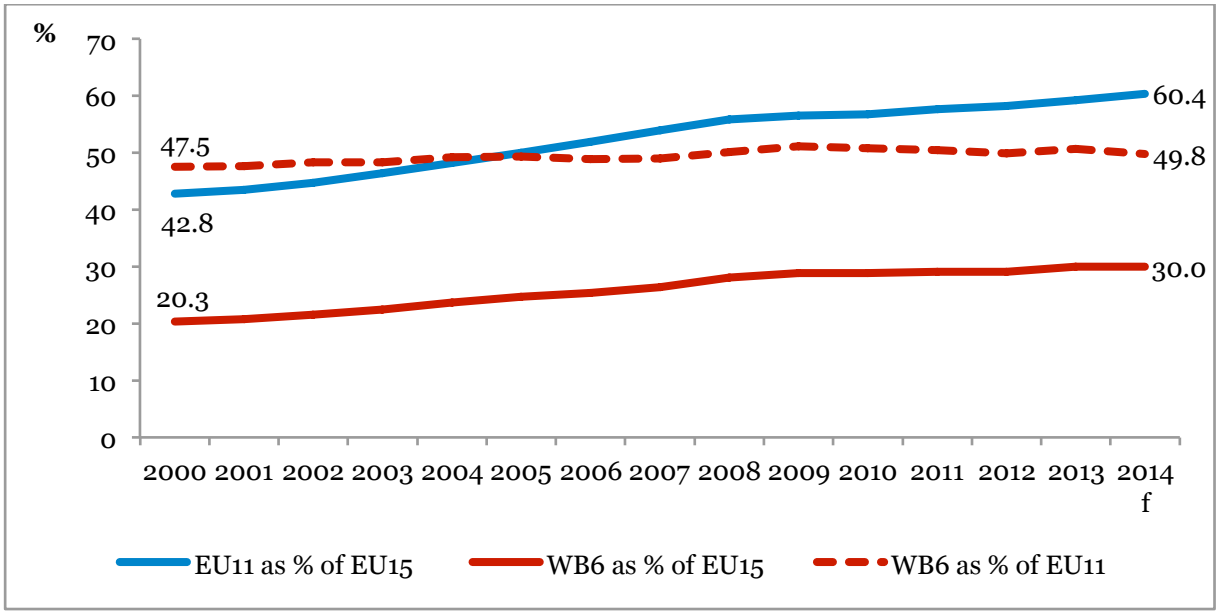




Source: World Development Indicators
Note: WB6, EU15 and EU11 are GDP weighted averages.

The favorable environment prevailing after 2000 and before the crisis helped to narrow the gap. The average GDP per capita in PPS terms[47] in the six Western Balkan countries grew from 20% of the EU-15 average in 2001 to about 30% in 2014. However, the progress is less obvious comparing to the income level of the new member states (EU11) as the latter grew faster during the same period to attain about 60% of the EU15 average (cf. *Figure 84*). Therefore, for the Western Balkans to reach EU living standards, sustained growth is needed.

Figure 84. WB6 GDP per capita (PPS) as percentage of EU15 average and EU11 average



Source: World Development Indicators
Note: WB6, EU15 and EU11 are GDP weighted averages.

Thus the question could be formulated in the following way:

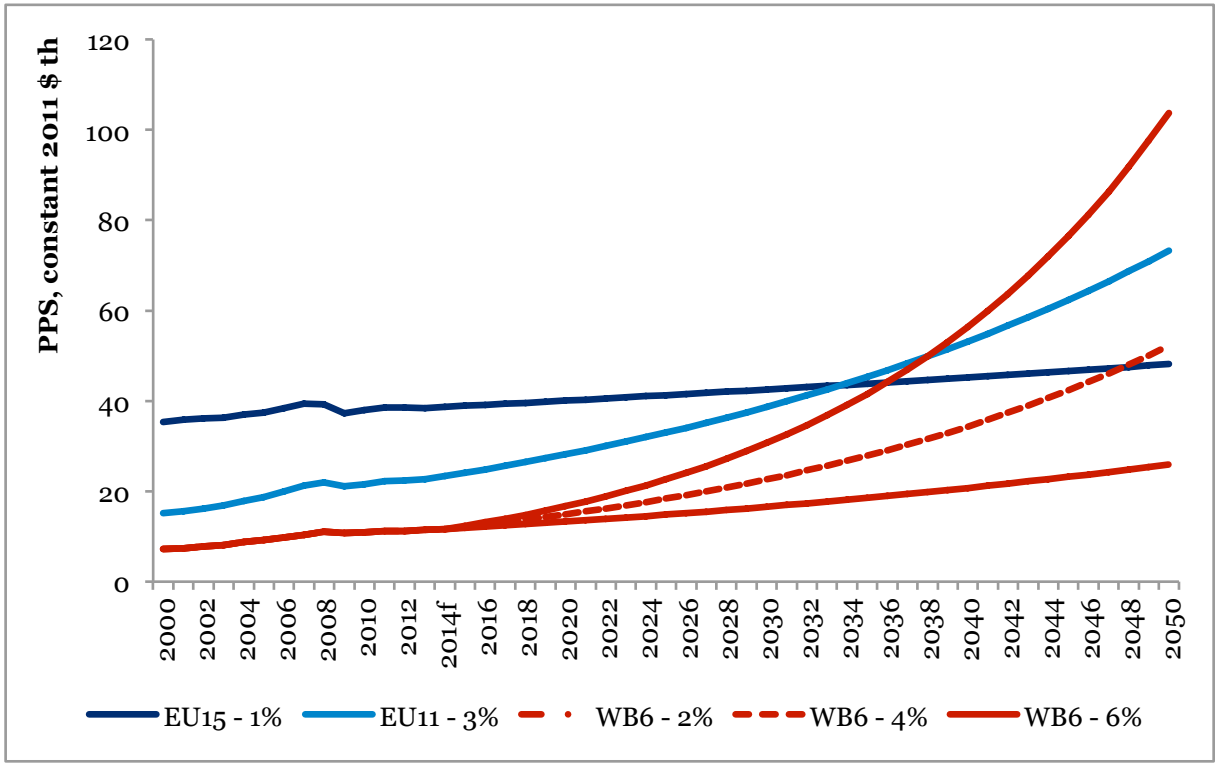
> *How fast Western Balkan countries should be growing to catch up the EU level in the following years?*

To fix the ideas, let's consider a hypothetical case where EU-15 real income will grow at the pace of 1% per year and EU-11 will grow at 3%. Let's assume also that population will be growing at the observed average 2001-2013 growth rates[48]. Under these assumptions, at least 20 years will be needed for the Western Balkans to catch up EU-15 per capita income level even if their real growth rate is as high as 6% per year (i.e. with a 5% growth differential). When considering a lower but still relatively high growth rate of 4% per annum, fourteen more years would be needed. Finally, one can note that the modest 2% growth rate at which the region is nowadays

[47] Purchasing Power Standards (PPS).
[48] During this period, Western Balkans unregistered negative population growth as well as EU-11 (-0.27 and -0.6248 respectively) while EU-15 population grew at the average paste of 0.44% per year.

growing would imply a very uncertain and distant convergence perspective, making successful integration of the region to the EU very doubtful at least[49] (*Figure 85*).

Figure 85. Income convergence scenarios



Source: own calculations based on WDI data

Unfortunately, as discussed in Chapter 1, the supply conditions required to support a fast rate of growth in the region are not met. Already heavily affected by the recession associated with transition and the civil wars during the 90s, which left a heavy political, social and economic heritage, the region was hardly hit by the global economic crisis after 2008. In 2009 economic activity shrank by 6.95% in Croatia, by 5.7% in Montenegro, by 3.5% in Serbia, by 2.83% in Bosnia and Herzegovina and by 0.92% in Macedonia; only Albania and Kosovo experienced a positive real growth rate. The second wave of the crisis in 2012 pulled down the feeble recovery of the 2010-2011 and the average real growth rate in the six Western Balkans countries attained -0.6% and -2.2% in Croatia [World Bank (2012), (2014a,b), Eurostat].

Since then, the smaller countries of the region returned to growth, while the largest economies, Croatia, Serbia and Bosnia and Herzegovina, were all hardly hit by the massive floods in May 2014 and experienced once more negative or sluggish growth last year (according to forecast data, GDP contracted by 2% in Serbia and stagnated around 0.4% in Bosnia and Herzegovina, Croatia's real growth rate is estimated to be -0.7%[50] in 2014). The negative impact of floods is estimated to be 4.7% of GDP in

[49] A similar exercise was conducted by the World Bank [see World Bank (2014a), pp. 37-38; and recent presentation World Bank (2014c)] using 2%, 4,5% and 6% scenarios for the Western Balkans and assuming 1% growth rate for the EU and 3.5% for the EU-11. Slight differences between World Bank's projections and ours a du to the differences in the assumptions and data (we used 2011 constant prices rather than 2005).

[50] For Croatia, DG ECFIN autumn 2014 forecast; for Serbia and Bosnia and Herzegovina, World Bank estimations as of January 2015 [World Bank (2015)].

Serbia and 15% of GDP in Bosnia and Herzegovina in terms of output loss and damages [World Bank (2015)].

Many prospective research studies agree that after-crisis income convergence could hardly be expected as high as prior to the crisis taking into account the global slowdown and structural imbalances revealed by the crisis [Gligorov et al. (2012), Adarov et al. (2015), World Bank (2014)]. As pointed by Bartlett and Uvalic (2013):

> *"most observers doubt that the period of rapid growth that took place before the onset of the crisis will return; consequently, without adequate policy interventions, the SEE (South East Europe) countries in general[51] risk to face a protracted period of slow growth, leading to widening social problems and deepening social exclusion of significant proportions of their populations"*

One cannot but agree with this statement if a "do nothing" scenario prevails. This gloomy perspective could be even more darkened by political and social tensions related to current immigration issue and the difficult geo-political situation developing in an already unstable region. Thus, the question is *how can the high risk of this pessimistic scenario materializing be avoided or, at least, mitigated?*

In the short and medium term, the growth performances of the Western Balkans will depend on the recovery of domestic consumption and the improvement of external demand for exports, coming mainly from the European trade partners. The latter was the main driver of the recovery of the region in 2013 and 2014. Unfortunately, this external demand is uncertain and is conditional upon recovery in the Euro zone. Domestic consumption is constrained by the region's high unemployment rates and ongoing fiscal consolidation policies. Besides, high import propensities generate leakages from the macroeconomic circuit of revenue.

When looking at a longer-term perspective (which is the object of this chapter), the main growth drivers are different. One could distinguish "proximate" (or immediate) and fundamental causes of growth. The "*proximate" sources of growth* are related to the accumulation of production factors (labour and capital) and to the variables that influence their productivity. The *fundamental sources of growth* are related to the country's capacity to accumulate factors of production and invest in the production of knowledge and human capital; they are captured by different geographic, socio-cultural and institutional characteristics [cf., for instance, Snowdon & Vane (2005)]. *Figure 86* provides a graphical illustration of the possible sources of growth and of their interactions.

One can notice that the fundamental sources of growth are only partly in the hands of policy-makers and more often imply deep structural evolution of formal (laws, contract enforcement, rules, property rights etc.) and informal institutions (traditions, customs, taboos, conventions etc.) which by definition are characterized by high inertia.

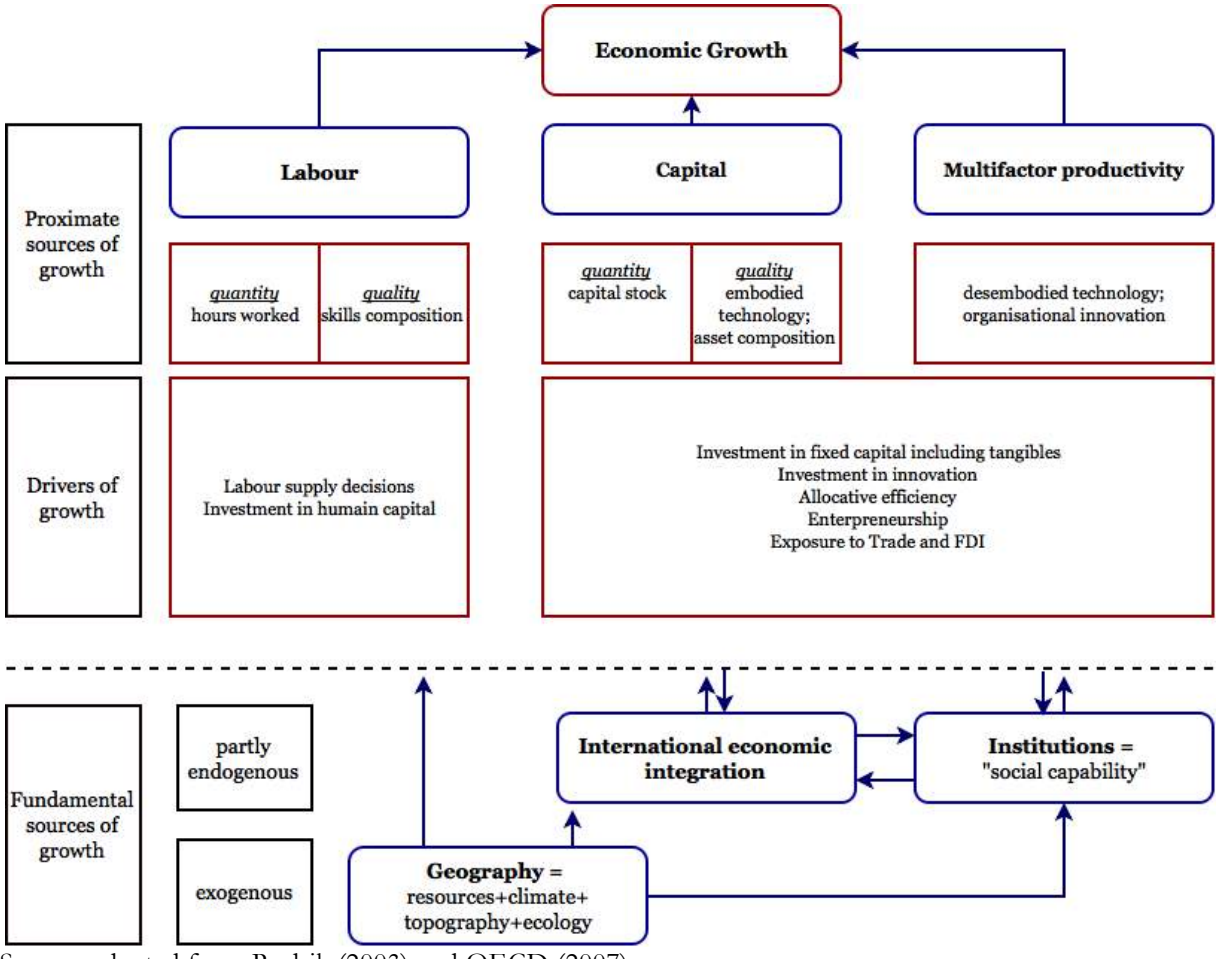
The institutional framework is crucial for entrepreneurial activity. Thus, for Baumol (1990) the entrepreneurs are naturally attracted by those activities that have the highest private return given the "rules of the game" prevailing in the moment they invest. There is no guarantee that such activities will always have the highest social

[51] Comprising also Romania and Bulgaria

rate of return and they could be "unproductive" and even "destructive" for the society (rent-seeking activities such as litigations and takeovers, environmentally unfriendly development, tax evasion but also crime activities such as drug and arms selling). Therefore the "rules of the game" are crucial and can change the allocation of entrepreneurial talent from unproductive to productive activities. In the Western Balkan countries, like in other transitional economies, such deep transformations, though necessary, are demanding in terms of effort and time and the process is not as smooth as it would be desirable, being complicated also by the high ethnic diversity prevailing in the region.

Thus, while it is important to continue improving business environment and institutional quality, investment in physical and human capital represents the immediate growth stimulating tools in the hands of policy makers. Investment is also a pre-condition for developing the export-led strategy recommended by international organizations.

Figure 86. Proximate and fundamental sources of growth



Source: adapted from Rodrik (2003) and OECD (2007)

Indeed, an export-led strategy for the region could only be viable if new products and export opportunities are created, as today the existing export basis is limited. The latter requires however substantial private investment in tradable sectors which in

turn is conditional upon the existence of suitable basic infrastructure, the availability of human capital and a positive climate for business.

2.2. Investment stimulus needed to achieve development goals

The estimation of the region's future investment needs at the macroeconomic level is an important analytical step. This theoretical exercise allows measuring the degree of the likely future investment gap suffered by Western Balkans placing the previous discussion, conducted at sectoral level in Chapter 1, into a broader perspective allowing to understand the importance of current investment decisions for future growth prospects. Finally, it prepares the ground for further analysis in terms of debt dynamics.

To estimate investment needs in the WB, we present first of all the macroeconomic methodology retained, which stresses the role of investment for economic growth [§2.2.1]. We look at a traditional analytical tool, based on the classical relation between the capital stock and the output of a country (average and marginal capital coefficients: *COR* and *ICOR*) in order to determine the rate of induced capital accumulation ($\Delta K/Y$) compatible with a desired GDP growth ($\Delta Y/Y$). Then, in a second step [§2.2.2], we examine the application of this methodology to the Western Balkans countries and estimate ICOR levels in the region. The values obtained are relatively low compared to other countries in the region or in the world. We argue that, especially in transition countries, one should distinguish between historically observed figures during a period marked by instability of the capital coefficients and normative ("normal") values of this coefficient sustaining economic and social development on a balanced growth path. We address this issue [§2.2.3] by making some assumptions on reasonable and empirically relevant levels of the capital coefficient and of some desirable growth rates for the countries of the region. This allows us to simulate the investment needs to achieve a true economic development of the area (i.e. allowing a substantial correction of the gap existing today between the performances of the WB and those of the EU countries).

2.2.1. ICOR methodology

Since the pioneering works of R. Harrod (1939) and E. Domar (1946), through the works of N.R. Kaldor (1954), R. Solow (1956), E. Phelps (1961) and, thirty years after, the birth of the endogenous growth theory [P. Romer (1986), R. Lucas (1988), R. Barro (1988), Bencivenga & Smith (1991)], until its most recent developments (theories of “pro-poor” growth and “inclusive” growth) and the “alternative” growth theories (Setterfield, 2010), productive investment has always been regarded as the essential engine of growth along with labor, which remains of course the principal factor for its implementation. Despite the increasing sophistication of these successive analytical constructions, the *capital coefficient* remains the basic tool used by the majority of IFIs (the World Bank[52] and IMF, UNDP, EBRD and, occasionally, also the EIB[53]) to examine the relation between growth and investment. Indeed the

[52] In spite of some criticisms, even inside the World Bank, cf. Easterly (1999)

[53] cf. the document “Review of the Western Balkans Investment Framework (WBIF)», Annex 4: Pipeline, prepared by EIB, EBRD, CEB, KfW, the EU Commission and a group of some 20 bilateral donors active in the WBIF.

COR derives from the simplest possible assumption concerning this relation, which is that of a linearity, or proportionality, between the two variables, as indicated by the two expressions below (1) that refer respectively to the average coefficient (Capital-*Output Ratio*) and the "marginal" one (*Incremental Capital-Output Ratio*).

$$COR = \frac{K}{Y}, \quad ICOR = \frac{\Delta K}{\Delta Y} \qquad (1)$$

where K is the stock of physical capital, Y is the national income and ΔK is net investment. Net investment is defined as gross investment (I) minus capital depreciation.

Of course "the endogenous growth models stress a multitude of inputs besides physical capital, such as human capital, intermediate 'new goods', organizational capital, etc.", but these models have more limited practical applications, as, to be estimated, they usually require the availability of large databases over a long period of time (at least thirty years), which, for the WB countries, do not exist. The *capital coefficient* can thus give some useful insights to analyze global investment needs in the WB as it describes the transmission channel between the rate of capital accumulation and growth, according to the basic model of the standard theory of growth.

Conceptually, the *COR* and the *ICOR* summarize very different realities according to the period or geographical region to which they are applied, but from an empirical point of view, since the set of "stylized facts" stated by Kaldor and retained in many applied studies [cf. for example, Goldsmith (1952), Kuznets (1952), Clark(1957), Graziani (1961), Allais (1962), Helmstädter (1973), Nehru & Dhareswar (1993) and Madsen *et al* (2012)], the value of the *COR* seems to be a "structural invariant", in the medium term, in many countries. Kaldor's fourth stylized fact states that the capital-output ratio is stable. Yet if the *COR* is constant, then the *ICOR* is also constant as both coefficients are equal (which support the view of growth theory, old and new, that the steady state growth path, is an empirically relevant approximation)[54]. So, following the World Bank, *ICOR* is "... a useful tool for growth and investment scenarios comparing across countries"[55].

The basic relationship linking the rate of accumulation of productive capital ($\Delta K/Y$), to the *ICOR* (or *COR*) and the regular (stable) growth rate of the economy ($\Delta Y/Y$) is as follows:

$$\frac{\Delta K}{Y} = k \frac{\Delta Y}{Y} \qquad (2)$$

where k is COR or ICOR. We can justify this relationship in two (slightly) different ways:

(i) $$\frac{\Delta K}{Y} = \frac{\Delta K}{K} \frac{K}{Y}$$

[54] Idea agreed by Easterly (1999), op.cit., when he writes "the ICOR is constant in the steady state of the endogenous growth model, as in the Solow model".

[55] See, for instance, among many World Bank studies, World Bank, 1996b, *Zambia: Prospects for Sustainable Growth 1995-2005* (The World Bank: Washington DC)".

and, alongside of a " growth equilibrium steady state path", $\frac{\Delta K}{K}$ is equal to the GNP growth rate, $\frac{\Delta K}{K} = \frac{\Delta Y}{Y}$, etc. ... Then:

$$\frac{\Delta K}{Y} = \frac{\Delta Y}{Y}\frac{K}{Y} = COR\frac{\Delta Y}{Y} \qquad (3)$$

(ii) $\frac{\Delta K}{Y} = \frac{\Delta K}{\Delta Y}\frac{\Delta Y}{Y}$; where: $\frac{\Delta K}{\Delta Y} = ICOR$, then:

$$\frac{\Delta K}{Y} = ICOR\frac{\Delta Y}{Y} \qquad (4)$$

Expressions (3) and (4) are equivalent and all their variables are constant on a "steady state" equilibrium growth path, sometimes called also "proportional" or "uniform" growth path. Relation (4) indicates that, on this steady state, a reliable ICOR measure is needed to estimate the investment effort, measured by the net investment rate (*ΔK/Y),* needed to achieve a desirable growth rate of GDP (*ΔY/Y*).

2.2.2. ICOR in the Western Balkans and in the Rest of the World

For decades, applied economics studies have been dedicated to the measurement of the *COR* or of *ICOR*, and nowadays several databases provide estimates for the *ICOR*[56]. It is noteworthy that these show that the order of magnitude of the *COR* (and the *ICOR*) is usually higher in the developing countries than in the developed ones, as the latter make a more efficient use of their productive capital[57]. The values usually retained for the coefficients are those of 4, for the developing countries, and of 3 for the industrialized ones.

Vinski (1959) provided a direct estimation of all physical assets in former Yugoslavia in 1953 and calculated the corresponding *COR*. The last was estimated at 7.6. For reproducible tangible assets only (i.e. omitting land and net foreign assets) the ratio was put at 5.8. Excluding consumers' durables and non-durables and standing timber, it equaled 4.5.

Unfortunately, no such proper capital accounting exercise is available for the post break-up period. Physical capital stock and *COR/ICOR* estimation is a tricky exercise when only very short data series are available. To our knowledge only few attempts to estimate *ICOR* for the WB region were realized after the break-up of ex-Yugoslavia.

---

[56] cf. for instance the USAID Country Compass (2012), or ECFIN's AMECO database, which gives the inverse of the ICOR ratio, which is called the marginal efficiency of investment (MEI).

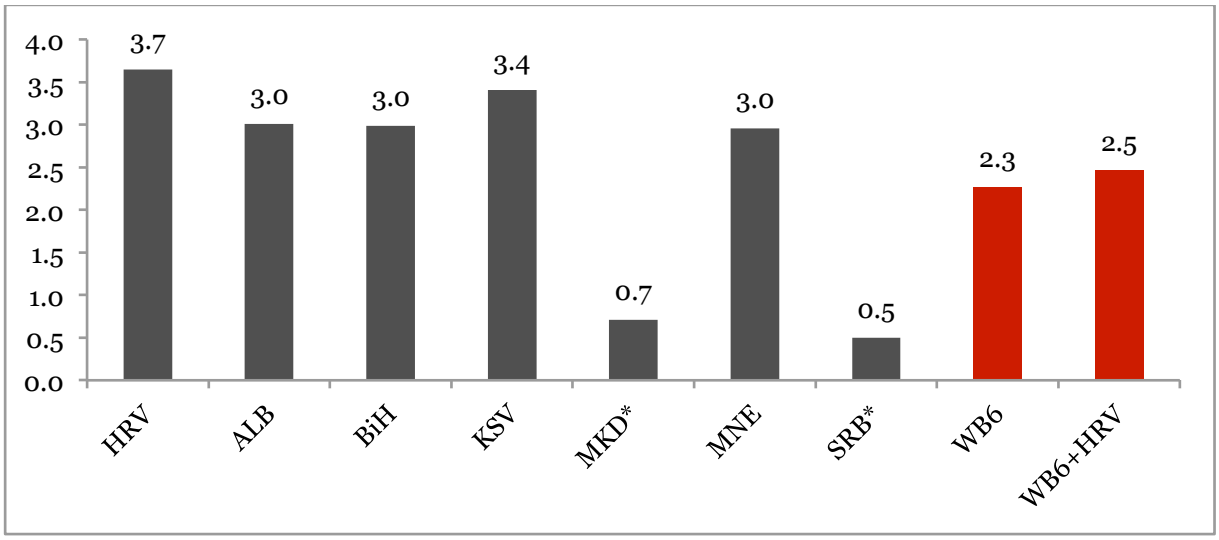
[57] Incidentally this also means that the return on capital is lower in underdeveloped areas despite the fact that capital is scarcer. Indeed, the inverse of the *COR* is also the social rate of return of investment in a single good economy on its steady state, see for instance Graziani (1965, p.77) and the ample translation of this book in French in the 1967 article by the same author, pp. 169-170. It follows that capital movements can hardly be equilibrating, as they should be expected to go from underdeveloped to developed areas seeking higher returns, a phenomenon that can be complicated under variable exchange rates, as in this case, in addition to having a higher return on domestic uses of capital, the advanced area will tend to have its exchange rate appreciating.

Antiochou (2011) calculates *ICOR* measures using mean real growth rates observed in five WB countries (Croatia, Albania, Bosnia and Herzegovina, FYROM and Serbia) during the period from 1998 to 2009 and net fixed capital investment series (defined as the difference between gross fixed capital formation and consumption of fixed capital).

Gabrisch (2014) compares average *ICOR* measures for the period 2002-2013 in the WB6 and Croatia with five New EU Member States (NMS5: Czech Republic, Hungary, Poland, Slovak Republic and Slovenia). Despite some disparities in estimations, certainly due to different data sources and time periods, both studies find surprisingly low *ICOR* values in the WB region, especially in some countries (negative value for Macedonia in Gabrish (2014) and very small value 0.7 in Serbia [Antiochou (2011)]). Gabrish (2014) finds that the *ICOR*s in the WB tend to be significantly lower than in NMS5.

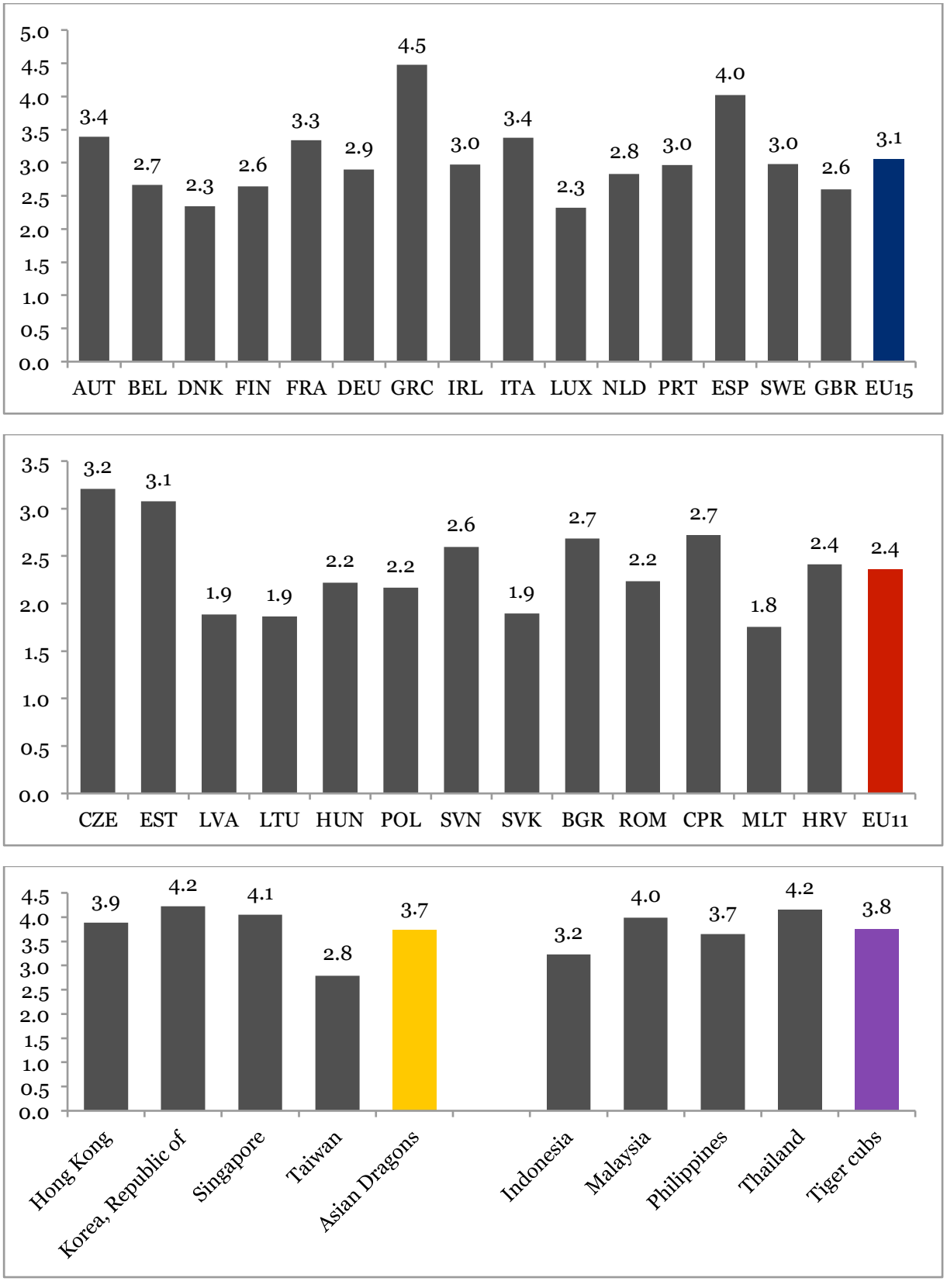
Our own direct estimation presents similar results (*Figure 87*). The 2001-2012 period was used as the reference period to calculate mean growth rates and average net-investment and a one-year lag was used as it is suggested by the literature. Some comments should be made on these figures. In fact, as the theory suggests once capital is aggregated into a single good, *ICOR* and *COR* are equal, which would imply that in Serbia and Macedonia one unit of output is produced with less than one unit of physical capital and thus that the stock of capital is used more efficiently than in the United States or in Germany. This is rather unlikely and it is known that in most developed countries the capital coefficient varies between 2.5 and 4 (in EU-15, it is estimated to be 3.1 in 2014)[cf. *Figure 88*], while in the developing and emerging economies it is much higher (for example, in fast growing Vietnam it attained 6.6 in 2007). Consequently, investment needs based on such low *ICOR* would risk being underestimated. This is all the more true that, in the case of the WB, the investment effort concerns not only new investment but also maintenance and replacement of obsolete capital, still partly inherited from the socialist era.

Figure 87. ICOR estimates for WB countries



(*) No specific adjustment was attempted for this atypical case, contrary to Antiochou (2011)
Source: own calculations based on data from the WDI database (World Bank)

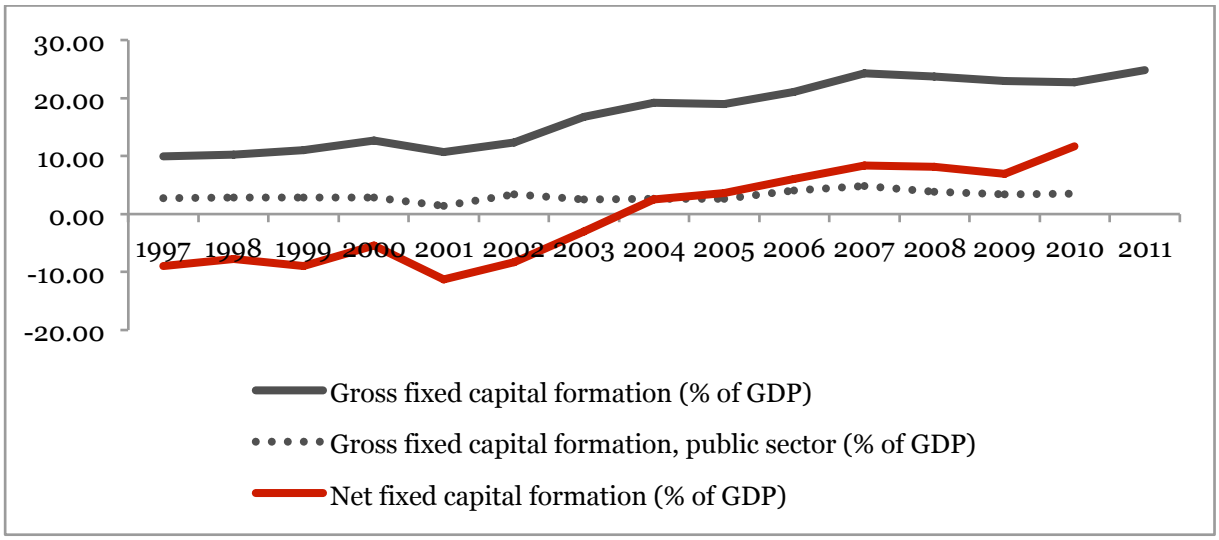
Figure 88. COR in Europe and fast growing Asian countries



Sources: AMECO database, Penn World Tables 8.0 [Feenstra et al. (2013)]

These very low observed values of the capital coefficient in some countries of the region are due to extraordinary high levels of capital consumption reported by the WDI database, which include the accelerated scrapping of old productive capacity installed in socialist times and damaged by the war. The fixed capital consumption data for Serbia and Macedonia and other WB countries should thus be used with prudence. *Figure 89* illustrates this very particular situation in Serbia where till 2004 gross investment was not sufficient to cover the "imputed" consumption of fixed capital due to the deterioration of the existing capital stock and therefore net capital formation was negative.

Figure 89. Investment dynamic in Serbia, 1997 - 2011



Source: own calculations based on data from the WDI database (World Bank)

While admitting the possibility of accelerated obsolescence of capital due to destructions in some of the WB during the war[58], we think that it is not reasonable to project future investment needs based on the *ICOR* figures calculated from historical net investment data. One can make an assumption that most of the capital deterioration was accounted during 1990s and 2000s and that progressively capital consumption rates and capital-output ratios will converge to those observed in other emerging countries. Rebuilding capital stock, both public and private, will need much effort in the medium term. That is the reason why it could be more sensible to project

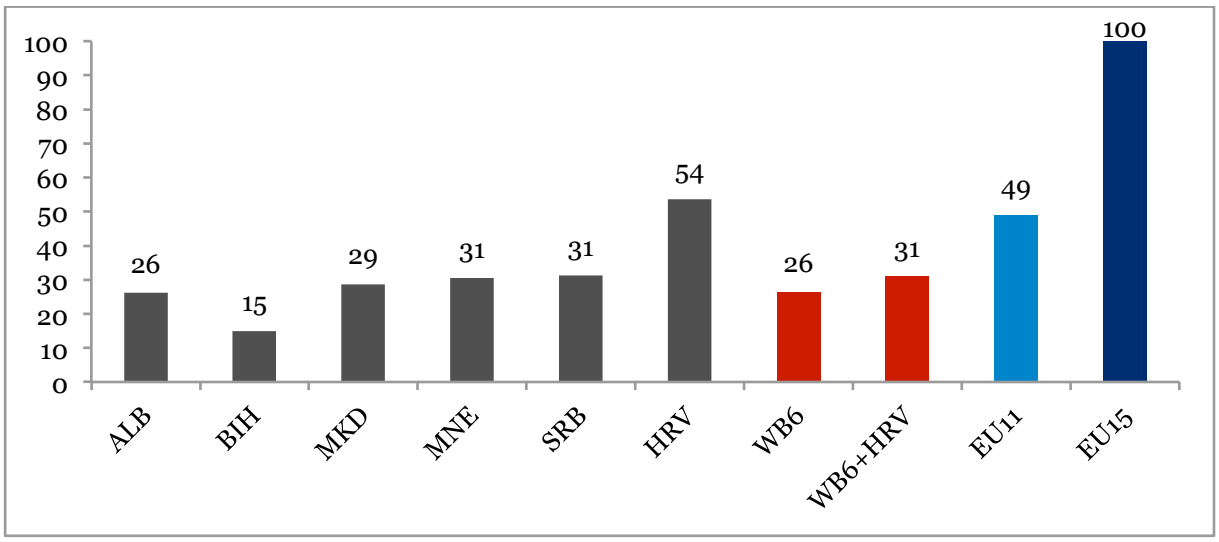
[58] To a large extent the separation in total gross fixed capital formation between what is "net investment" and "capital consumption" is arbitrary, due to the well-known difficulties in measuring the stock of capital in monetary terms, evidenced in the capital controversies between the two Cambridge (UK and MA) that started in the early 1960s and were more or less put aside in the middle of the seventies. This is because the net increase in the capital stock is equal to the difference between its end of period and its beginning of period monetary value and this depends in turn on the difference in value terms between additions and disposals, which are not homogenous, even when they refer to the same capital goods. Therefore, their respective price cannot be assumed to result from an equalisation of the rates of return between old and new capital goods (Graziani, 1965, Hicks 1965) and hence their value is difficult to estimate. Indeed, as per ESA2010: "gross fixed capital formation (P.51) consists of resident producers' acquisitions, less disposals, of fixed assets during a given period [...]", whereas "consumption of fixed capital (P.51c) is the decline in value of fixed assets owned, as a result of normal wear and tear and obsolescence [...] The stock of fixed assets is valued at the purchasers' prices of the current period." (Eurostat, 2013, p. 73 and p. 76). In the transition economies, where the scrapping of old capital is by definition accelerated and where a tendency exists to give a value of zero to the inherited capital stock, even if it is still productive, even assuming that gross capital formation is measured correctly, there can be an overestimation of capital consumption with respect to net investment. The important economic policy consequences of the debate on the capital controversies of the 50s and 60s where never seriously taken into consideration and its results (which were that the Cambridge UK side was right), where removed or forgotten. See for instance Pasinetti (2000) or Petri (2004 and 2011). An interesting (advanced level) debate between the "two sides of the Atlantic", that took place close to the end of the controversies is offered by Mirrlees and Stern (1973).

gross fixed capital formation in the region based on "normative" (or theoretically predicted) values of the *ICOR,* rather than on those estimated based on historical data observed during the past decade.

This argument is supported by recent physical capital stock estimates data provided by Penn World Tables 8.0 [Feenstra et al. (2013)]. According to these estimates, it appears that physical capital stock per capita in the WB6 is less than 30% of the average EU15 level (in 2011, 28 800 $PPS_{\$}$ in WB6 versus 109 380 $PPS_{\$}$ in EU15).

It means that the existing capital stock might be not high enough to employ the entire labor force (the unemployment ratio is dramatically high in the region). This leaves plenty of room for investment in the region to catch-up the productive capacity level of the developed countries of the EU.

Figure 90. Physical capital stock per capita in 2011 (% of average EU-15 level)



Source: calculations based on Penn World Tables 8.0 [Feenstra et al. (2013)]

2.2.3. Growth scenarios and relevant investment needs

We thus ask the question: *"what level of gross investment, both private and public, should be undertaken in the region if one has an ambition to put the WB countries into a path of growth and development bringing to real convergence to the European Union?"*.

The world economic crisis broke relatively high growth rates observed in the post-Balkan war period in the region and generated a "double-deep recession"[59]. If we suppose that the countries of the region should recover, at least, their pre-crisis mean growth rates, and assuming the normative ICOR of 4, we can estimate the gross investment needs in the region from a medium-long term perspective.

Different growth scenarios have been considered but here the results are presented only for four growth scenarios. The first three of them illustrate the investment needs corresponding to three convergence scenarios of the section 1 above (assuming

[59] Cf. World Bank (2012), South East Europe Regular Economic Report, No.3, December 2012.

uniform growth rate of respectively, 2%, 4% and 6% in all WB6 countries). The fourth scenario, "steady", is based on the standard growth theory assuming that a country's (constant) steady state growth rate in the long run (say ***g***) is determined by the sum of the growth rate of its labor force (economically active population, say ***n***) and the growth rate of labor productivity (say ***p***).

"Do nothing" or low-growth scenario

Let's consider for the beginning a low-growth scenario which might become the plague of the region on the aftermath of the crisis. This 2% growth rate scenario implies, as it was underlined earlier, the perspective of a very distant and uncertain convergence to the EU income level.

As discussed, an important empirical question to be addressed for this estimation is that of the economic depreciation rate to be used for calculating capital consumption. We suggest taking normative values of the depreciation rate rather than historically observed ones, because high depreciation rates observed for the past should decrease in the near future. Thus, for our first simulations, we take a value of 10% of GDP, which is still a high depreciation level (it appears to be the mean during the past decade for Albania, BiH and Montenegro).

Table 13 presents the investment needs estimated by year and by country for the case of 2% growth rate assuming the normative ICOR value of 4. The values here are given in constant 2014 prices (they are higher in nominal terms). Thus, the low-growth scenario implies an average annual investment level of order of *EUR 14 bn* for the WB6 region and of *EUR 23 bn* when Croatia is included.

One can note that this average investment level almost equals the currently observed level for 2014. Thus, it could be also considered as a "do-nothing" scenario as implying no changes in the investment effort.

Table 13. *Investment needs projection for the "low-growth" (2%) scenario (EUR mn)*

TIME/GEO	HRV	MNE	MKD	SRB	ALB	BiH	KSV	WB6	WB6+HRV
2014 observed	8 004	643	2 117	6 155	2 583	2 265	1 279	**15 041**	**23 045**
2015	7 908	579	1 459	5 658	1 602	2 475	1 006	12 779	20 688
2016	8 066	591	1 488	5 771	1 634	2 525	1 027	13 035	21 101
2017	8 228	603	1 517	5 887	1 666	2 575	1 047	13 296	21 523
2018	8 392	615	1 548	6 005	1 700	2 627	1 068	13 562	21 954
2019	8 560	627	1 579	6 125	1 734	2 679	1 089	13 833	22 393
2020	8 731	640	1 610	6 247	1 768	2 733	1 111	14 110	22 841
2021	8 906	652	1 643	6 372	1 804	2 788	1 133	14 392	23 298
2022	9 084	665	1 675	6 500	1 840	2 843	1 156	14 680	23 764
2023	9 266	679	1 709	6 630	1 877	2 900	1 179	14 973	24 239
2024	9 451	692	1 743	6 762	1 914	2 958	1 203	15 273	24 724
2025	9 640	706	1 778	6 897	1 952	3 017	1 227	15 578	25 218
till 2020 average	8 396	615	1 548	6 007	1 700	2 628	1 069	13 567	21 963
10-year average	8 832	647	1 629	6 320	1 789	2 765	1 124	**14 273**	**23 106**

Source: own calculations based on Eurostat, DG ECFIN and WDI data
Note: 2014 is the last available data forecast; 2015-2025 are projected values; "10-year average" is 2016-2025 average.

This result also provides confidence as for our working hypothesis that for planning purposes the normative value of 4 for COR should be used. We note that the value of 3 would imply *EUR 12.7 bn* and *EUR 20.5 bn* for the WB6 region without and with Croatia respectively[60].

Medium-growth scenario

A medium-growth scenario of 4% per annum, corresponding to the convergence perspective of more than 30 years, would require an increase in investment by more than 1.5 times comparing to the current level. This corresponds on average to EUR *23.5 bn* per annum for the WB6 region and *EUR 38 bn* for the WB6 and Croatia (as previously, the values are given in 2014 constant prices) [cf. *Table 14*].

Table 14. Investment needs projection for the "medium-growth" (4%) scenario (EUR mn)

TIME/GEO	HRV	MNE	MKD	SRB	ALB	BiH	KSV	WB6	WB6+HRV
2014 observed	8 004	643	2 117	6 155	2 583	2 265	1 279	**15 041**	**23 045**
2015	11 647	853	2 148	8 333	2 359	3 646	1 482	18 821	30 468
2016	12 113	887	2 234	8 667	2 453	3 791	1 542	19 574	31 687
2017	12 597	923	2 323	9 013	2 551	3 943	1 603	20 357	32 954
2018	13 101	960	2 416	9 374	2 653	4 101	1 667	21 171	34 273
2019	13 625	998	2 513	9 749	2 760	4 265	1 734	22 018	35 643
2020	14 170	1 038	2 614	10 139	2 870	4 435	1 803	22 899	37 069
2021	14 737	1 079	2 718	10 544	2 985	4 613	1 876	23 815	38 552
2022	15 327	1 123	2 827	10 966	3 104	4 797	1 951	24 767	40 094
2023	15 940	1 168	2 940	11 405	3 228	4 989	2 029	25 758	41 698
2024	16 577	1 214	3 057	11 861	3 357	5 189	2 110	26 788	43 366
2025	17 240	1 263	3 180	12 335	3 492	5 396	2 194	27 860	45 100
till 2020 average	13 121	961	2 420	9 388	2 657	4 107	1 670	21 204	34 325
10-year average	14 543	1 065	2 682	10 405	2 945	4 552	1 851	**23 501**	**38 044**

Source: own calculations based on Eurostat, DG ECFIN and WDI data
Note: 2014 is the last available data forecast; 2015-2025 are projected values; "10-year average" is 2016-2025 average.

High-growth scenario

To achieve rapid catching-up and convergence to the EU income level, a higher growth scenario should be targeted. Even growing at 6% per annum with a differential of 5% comparing to the EU-15 growth rate, the WB would need more than 20 years to catch up. This scenario implies a huge investment effort: the current level of investment should be multiplied by nearly 2.4. Thus, average annual gross investment needed is of *EUR 35 bn* for the WB6 region and of *EUR 57 bn* for the Western Balkan region comprising Croatia [cf. *Table 15*].

[60] Since the COR/ICOR relations are linear, a reduction of the ICOR by 25% from 4 to 3, implies a decrease in the net investment ratio by 25% from 8% to 6%, which, given the assumptions retained for depreciation, corresponds to a decrease in the absolute value of gross investment by some EUR 2.6 bn (EUR 1.6 bn for the WB6 only) or 11%.

Table 15. Investment needs projection for the "high-growth" (6%) scenario (EUR mn)

TIME/GEO	HRV	MNE	MKD	SRB	ALB	BiH	KSV	WB6	WB6+HRV
2014 observed	8 004	643	2 117	6 155	2 583	2 265	1 279	**15 041**	**23 045**
2015	15 524	1 137	2 863	11 107	3 144	4 859	1 976	25 086	40 609
2016	16 455	1 205	3 035	11 773	3 333	5 151	2 094	26 591	43 046
2017	17 442	1 278	3 217	12 480	3 533	5 460	2 220	28 186	45 628
2018	18 489	1 354	3 410	13 228	3 744	5 787	2 353	29 877	48 366
2019	19 598	1 435	3 615	14 022	3 969	6 134	2 494	31 670	51 268
2020	20 774	1 522	3 831	14 864	4 207	6 502	2 644	33 570	54 344
2021	22 020	1 613	4 061	15 755	4 460	6 893	2 803	35 585	57 605
2022	23 342	1 710	4 305	16 701	4 727	7 306	2 971	37 720	61 061
2023	24 742	1 812	4 563	17 703	5 011	7 745	3 149	39 983	64 725
2024	26 227	1 921	4 837	18 765	5 312	8 209	3 338	42 382	68 608
2025	27 800	2 036	5 127	19 891	5 630	8 702	3 538	44 925	72 725
till 2020 average	18 552	1 359	3 422	13 273	3 757	5 807	2 361	29 979	48 531
10-year average	21 689	1 589	4 000	15 518	4 393	6 789	2 760	**35 049**	**56 738**

Source: own calculations based on Eurostat, DG ECFIN and WDI data
Note: 2014 is the last available data forecast; 2015-2025 are projected values; "10-year average" is 2016-2025 average.

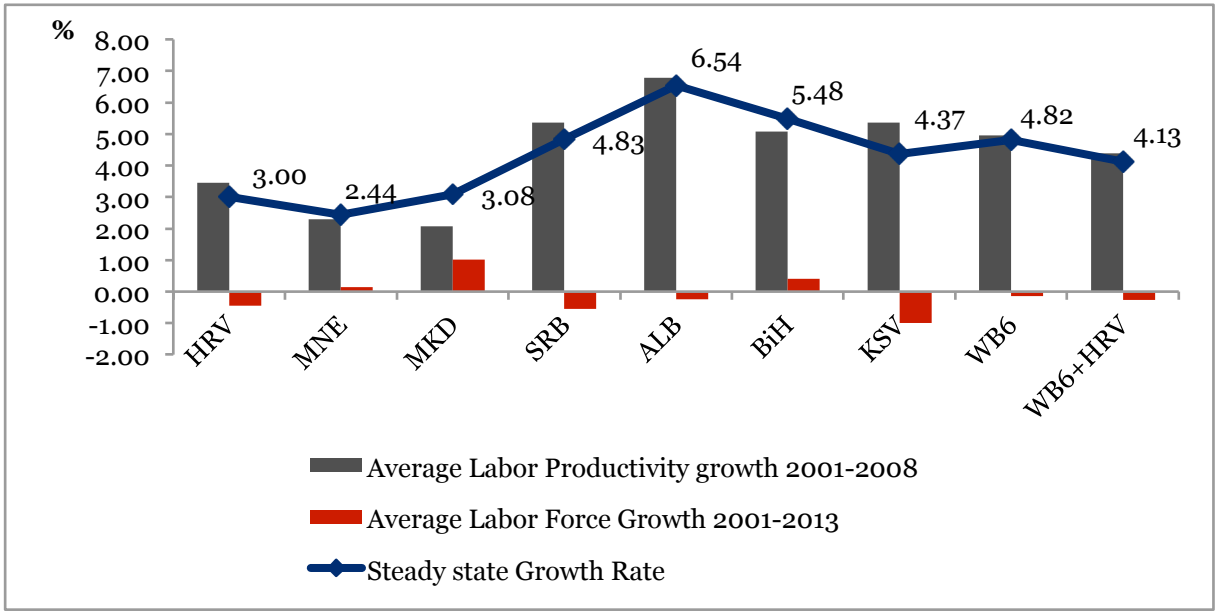
Central or "steady" growth scenario

Finally, our central growth scenario is calculated by aggregating individual growth rates for each country of the region based on standard economic theory. The simulation assumes that a country's (constant) steady state growth rate in the long run (say ***g***) is determined by the sum of the growth rate of its labour force (economically active population, say ***n***) and the growth rate of labour productivity (say ***p***).

$$g = n + p \qquad (5)$$

Recently, most of the WB countries are characterized by very low, and even negative, rates of active population growth. That means that the main source of growth comes from labour productivity, which, in fact, was growing fast during the past decade, before the crisis (cf. *Figure 91*). Thus, we calculate "theoretical" steady state growth rates based on mean labour force growth rates over the last years and mean labour productivity growth rates observed over the pre-crisis period (2001-2008).

Figure 91. Labour productivity and labour force growth



Source: calculations based on ILO KLM 2 data

This scenario implies high growth rates for some countries of the region (Albania, Bosnia and Herzegovina, Kosovo and Serbia) and more moderate ones for the others (Croatia, Montenegro, FYR of Macedonia).

Table 16. Investment needs projection for the "steady-growth" scenario (EUR mn)

TIME/GEO	HRV	MNE	MKD	SRB	ALB	BiH	KSV	WB6	WB6+HRV
2014 observed	8 004	643	2 117	6 155	2 583	2 265	1 279	**15 041**	**23 045**
2015	9 767	638	1 829	9 471	3 362	4 540	1 572	21 412	31 179
2016	10 060	654	1 886	9 929	3 582	4 789	1 640	22 479	32 539
2017	10 362	670	1 944	10 408	3 816	5 051	1 712	23 601	33 964
2018	10 673	686	2 004	10 911	4 065	5 328	1 787	24 782	35 455
2019	10 994	703	2 066	11 438	4 331	5 620	1 865	26 023	37 017
2020	11 324	720	2 129	11 990	4 615	5 928	1 946	27 329	38 653
2021	11 664	738	2 195	12 569	4 917	6 253	2 031	28 703	40 368
2022	12 015	756	2 263	13 176	5 238	6 596	2 120	30 149	42 164
2023	12 375	774	2 333	13 813	5 581	6 957	2 213	31 671	44 046
2024	12 747	793	2 404	14 480	5 946	7 339	2 309	33 272	46 019
2025	13 130	812	2 479	15 179	6 335	7 741	2 410	34 956	48 086
till 2020 average	10 530	679	1 976	10 691	3 962	5 209	1 754	24 271	34 801
10-year average	11 535	731	2 170	12 389	4 843	6 160	2 003	**28 297**	**39 831**

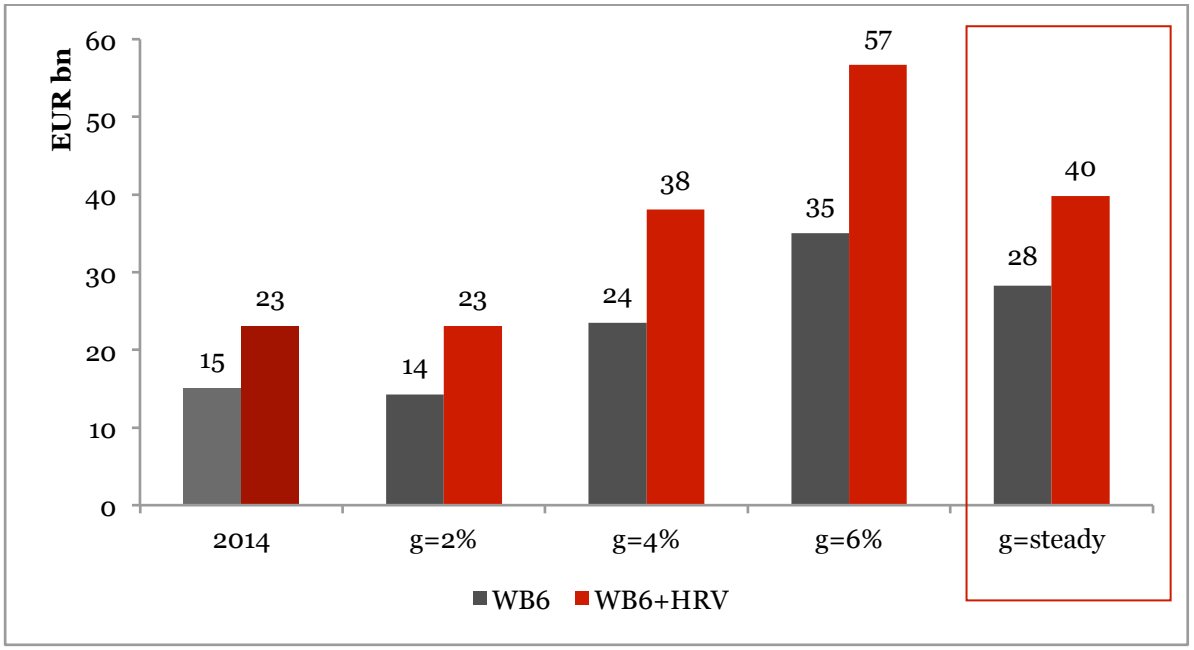
Source: own calculations based on Eurostat, DG ECFIN and WDI data
Note: 2014 is the last available data forecast; 2015-2025 are projected values; "10-year average" is 2016-2025 average.

The projections (*Table 16*) show that average annual gross investment needs for the WB region (with Croatia) would be of *EUR 28 billion* (*EUR 40 billion* if Croatia is

included) in the central or "steady" scenario[61]. It means that current investment levels should be multiplied by almost *1.9* in the WB6 region. We retain these figures as a desirable "central" value to achieve fast growth in the area.

Figure 92 highlights the gap between the current investment level and the one desired to achieve the target "steady rate". As a matter of fact, our voluntarist scenario is unlikely to be realized in the short term, but it is relevant as a medium-term target. As discussed, the current investment level implies modest economic growth, not exceeding 2% per annum, with no perspective of income convergence. In our central scenario, the average growth rate is more than 4%. For the Western Balkans to have a chance to converge, the investment effort should thus be almost doubled (as in our central "steady" scenario), or even almost tripled in order to accelerate the catching-up process (high-growth scenario), which raises the question of how this investment effort can be financed, to be addressed in the next section.

Figure 92. Investment: current level and future needs



Source: own calculations

[61] The amounts given here are in constant 2014 prices. When considering current prices and assuming constant inflation rate trend, this is equivalent to EUR 45 bn and EUR 32 bn respectively.

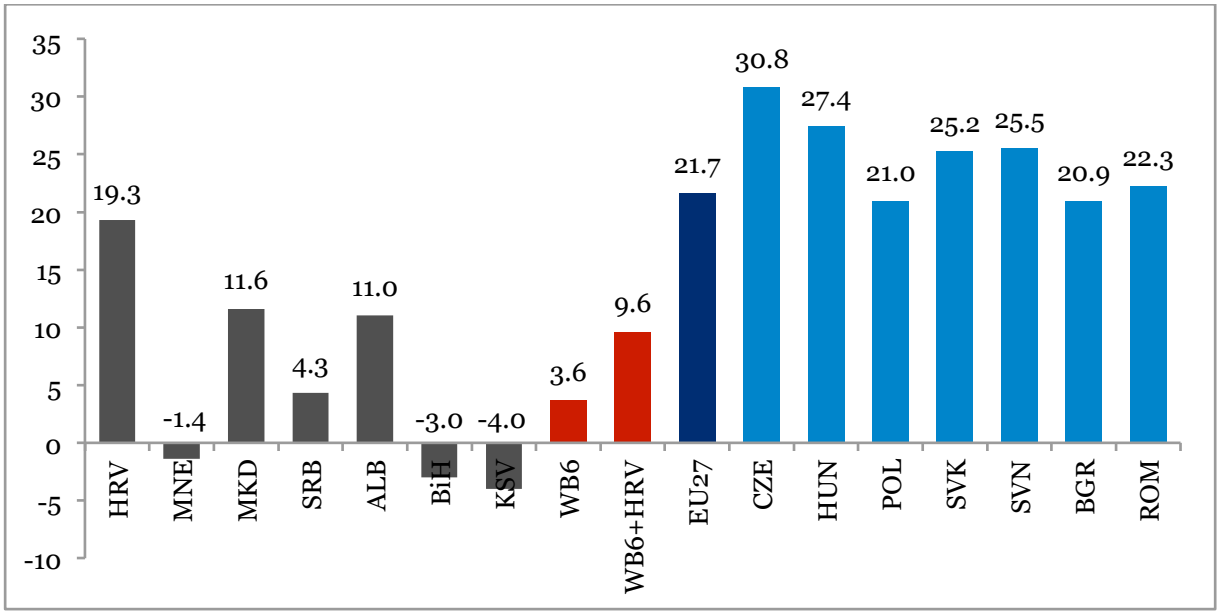
2.3. Consequences for debt

The next logical step in this forward-looking and voluntarist exercise is the evaluation of the possible consequences of the increased investment in terms of debt and particularly public debt. During the crisis, debt accumulation and particularly public debt became a growing concern for all the countries of the region, though in different degrees. *No doubt supporting increasing investment will signify also increasing debt. But by how much?* This question is the central issue of this section.

2.3.1. Current debt stock levels

Given a low level of domestic savings in the WB6 compared to the European peers (*Figure 93*) and the underdeveloped banking systems carrying the burden of non-performing loans, it is logical to expect that a large part of the increasing debt would be covered by external sources and the support of the international financial institutions is and would remain essential in the following years.

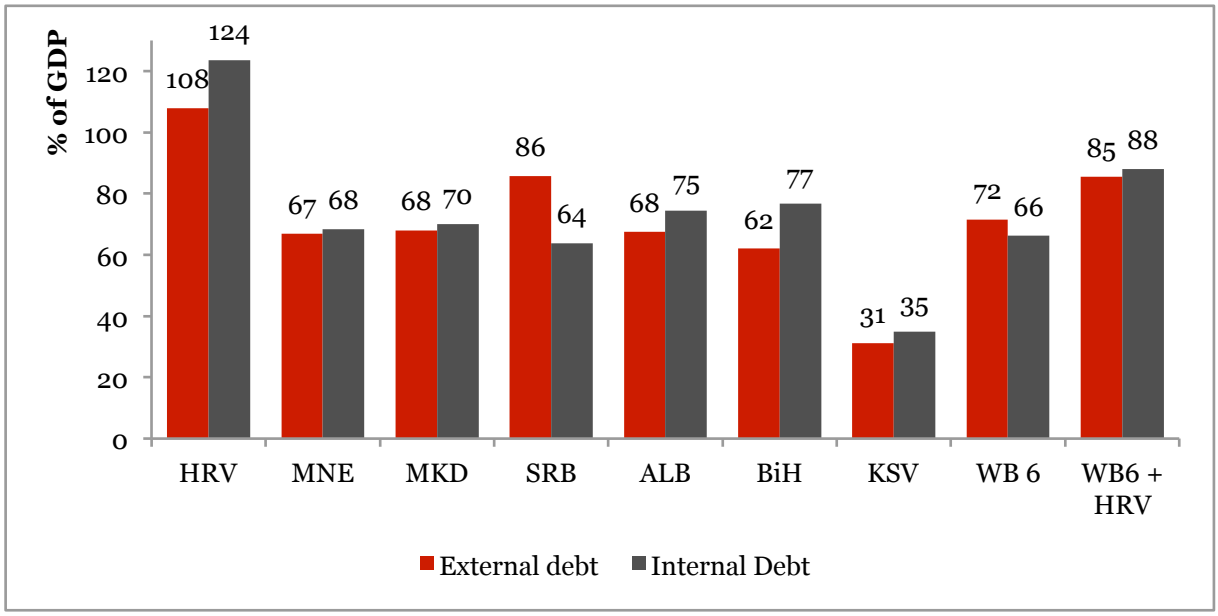
Figure 93. Gross domestic savings, 2013, % of GDP



Source: WDI
Note: WB6 and WB6+HRV are GDP weighted averages

As shown by *Figure 94*, almost half of the current debt stock comes from external financial sources (the latter are more important than the domestic ones in Serbia).

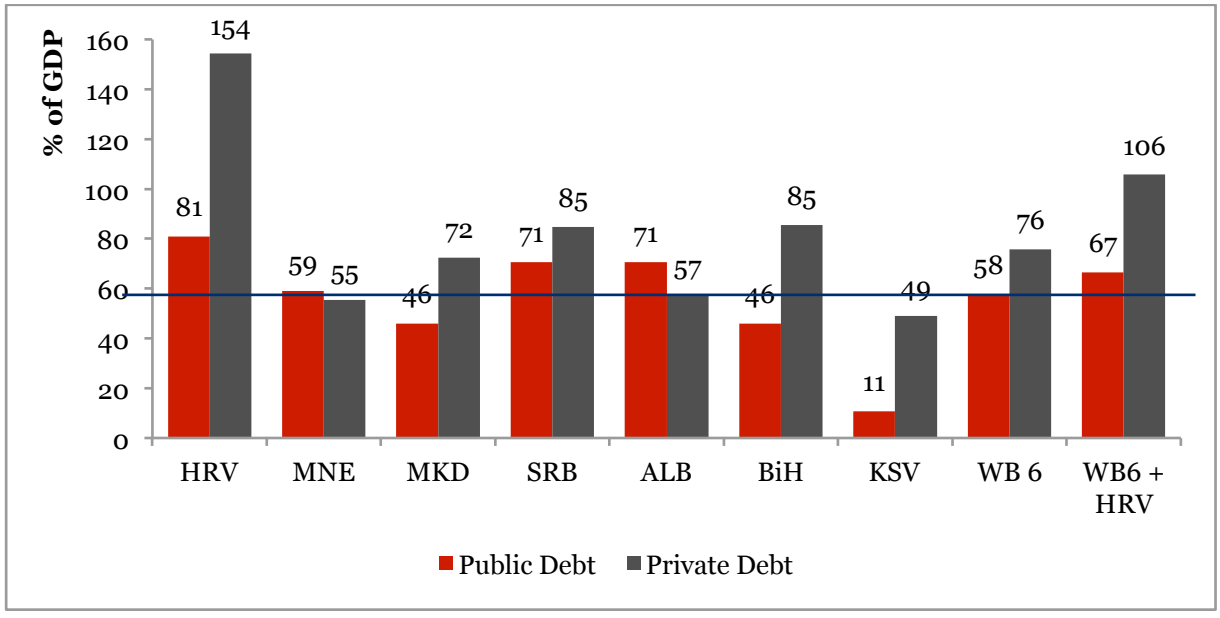
Figure 94. External and internal debt stock, 2014



Sources: calculations based on Eurostat, WDI (World Bank), wiiw Annual database, JEDH (BIS, IMF, World Bank).
Note: WB6 and WB6+HRV are GDP weighted averages; 2013 data is used where 2014 forecast was unavailable

In the beginning of 2015, the gross public debt stock of the three countries of the region exceed the highly symbolic level of 60% of GDP: in Serbia and Albania it attained 71% of GDP while in Croatia provisional data indicates that it stays at 81% of GDP (*Figure 95*).

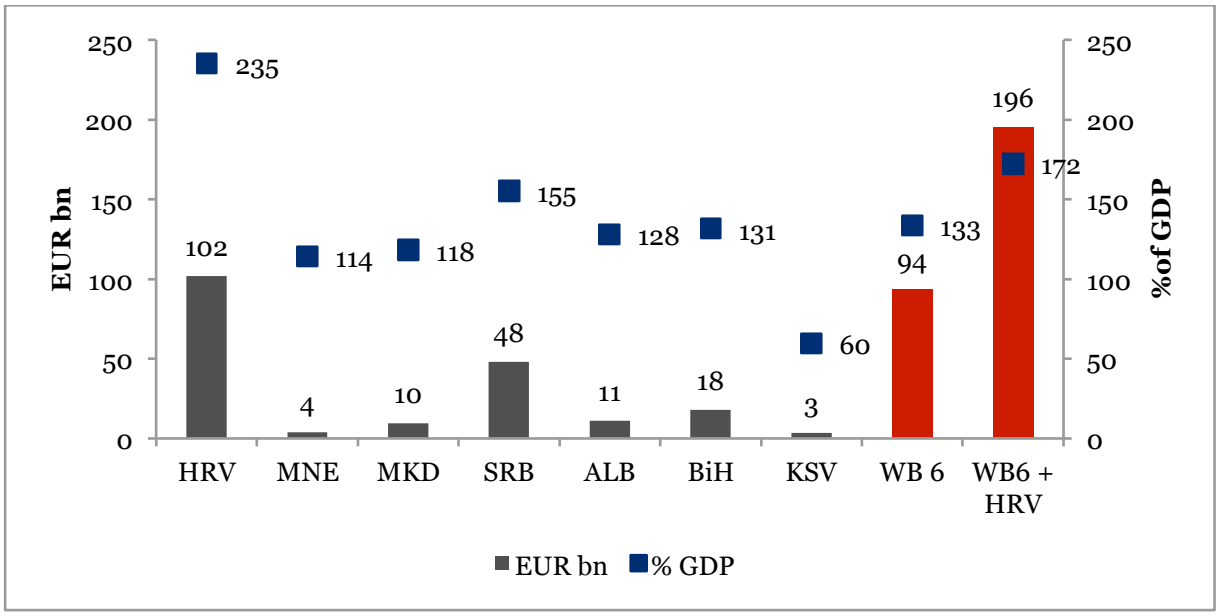
Figure 95. Public and private debt, 2014



Sources: calculations based on Eurostat, WDI (World Bank), wiiw Annual database, JEDH (BIS, IMF, World Bank).
Note: WB6 and WB6+HRV are GDP weighted averages; 2013 data is used where 2014 forecast was unavailable

The total debt stock of the WB6 region, both private and public, attained some *94 EUR bn* in 2014 which almost equals the debt stock of Croatia (*102 EUR bn*), bringing the total to *196 EUR bn* for the whole region (WB6+Croatia) (*Figure 96*).

Figure 96. Total debt stock in EUR bn (left hand scale) and % of GDP (right hand scale), 2014

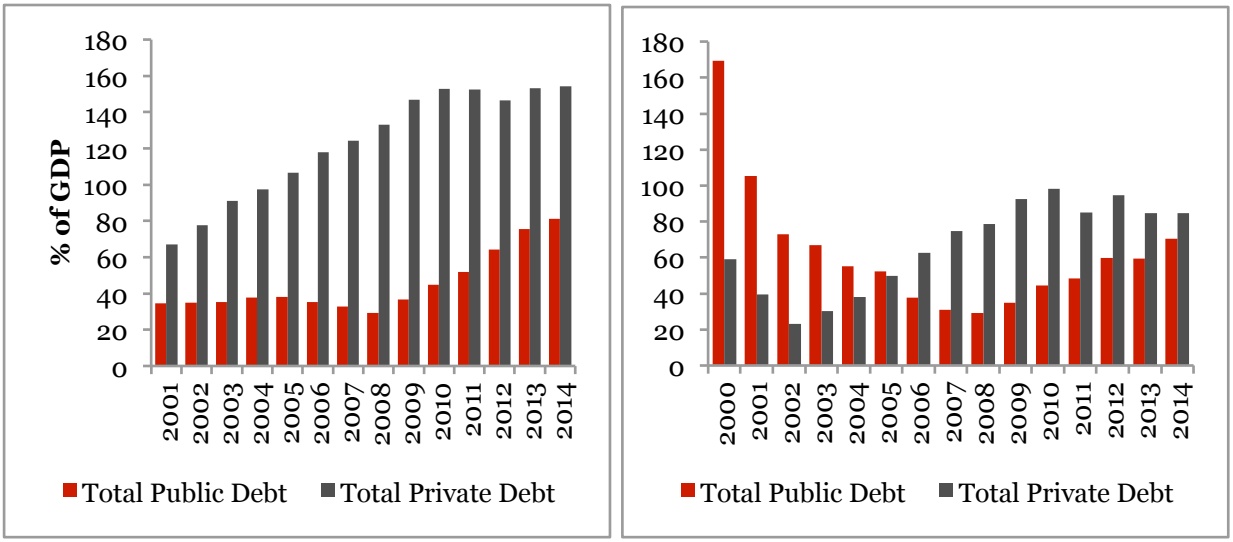


Sources: calculations based on Eurostat, WDI (World Bank), wiiw Annual database, JEDH (BIS, IMF, World Bank).

However it is important to note that despite the substantial increase in public debt during the crisis, a large portion of the current total debt stock[62] is explained by the acceleration of the private sector debt before the crisis, as shown by the examples of Serbia and Croatia (*Figure 97*).

[62] Total debt stock estimates slightly vary depending on if they were calculated as a sum of external and internal debt or as a sum of public and private debt. These discrepancies are due to the fact that no centralized data is available for this region and different proxies from numerous sources were used.

Figure 97. Private and public debt evolution in Croatia (left) and Serbia (right)



Sources: calculations based on Eurostat, WDI (World Bank), wiiw Annual database, JEDH (BIS, IMF, World Bank).

In what follows we attempt to model the impact of investment increase proposed in the first section on the debt stock. To do this, it is essential to coordinate real aggregates with financial flows in a consistent framework. Standard macroeconomic theories, by accepting since Patinkin (1956) the implicit hypothesis of a financial market in equilibrium, fail to address the financial side of the economy. Recently post-Keynesians critical of neoclassical synthesis developed stock-flow consistent modeling[63], a rich and useful analytical tool linking together the real and financial sides of the economy.

These models enable the analysis of the dynamic evolution of a country in the short and the medium term by taking into account all the stock and flow consistency conditions. In terms of theory they are rather agnostic: they can be interpreted in a quasi-general equilibrium perspective, in a neostructuralist perspective or even in terms of post-Keynesian or monetary circuit approaches. They thus correspond rather well to our objective, which is to present an empirical analysis aiming at independent and pluralist policy advice, for which we need to model debt dynamics rather precisely. Unfortunately, facing a major problem of reliable data availability for the Western Balkans[64], we are limited in our modeling possibilities and are forced to consider a simple model rather than a "state-of-art" and more sophisticated one. The model is briefly presented in the next paragraph before passing to the empirical simulation.

[63] On the genesis and the interest of stock-flow consistent modeling, cf. Godley and Lavoie (2007)
[64] Detailed financial balance sheet data for the Western Balkans is not available

2.3.2. Simple modeling of investment-financing relationship for the Western Balkans[65]

2.3.2.1. Stock/Flow consistent models: the framework

Stock-flow consistent models treat an economy as a set of institutional sectors interacting with each another. The choice of the sectors is important and dictated by the object of the study. For open economies, it is usual to retain the sectors of households; the production firms; the banking sector (the Central bank can be considered separately); the government and the rest of the world. Limited by data concerns and taking into account our objectives, in this study we consolidated the households and the firms' sectors[66] and thus retained four sectors: Private sector (noted ***p***), Public Sector (General government, noted ***g***), Banking sector (noted ***b***) and the Rest of the World (noted ***w***), as the Western Balkans represent small open economies largely interacting with foreign trade partners and particularly with the EU countries, in both the real and in the financial spheres.

Real and financial interactions between these four sectors are recorded in a simplified form in the transaction flows matrix (*Table 17*). In this matrix positive values stand for sources (or receipts) in terms of national accounts and negative values present uses (or expenditures). Likewise, on the financial side, positive values indicate an incoming flow of money (sale of a financial asset) and negative values an outgoing flow of money (acquisition of a financial asset). In this accounting framework, a source for one sector is necessarily a use for another, according to the principle of quadruple entry retained in national accounts. Thus all lines in the transaction matrix must balance to zero and each sector's budget constraint appears as the sum of the columns of the matrix, which provides an easy way to check for complete stock-flow consistency.

In this simplified framework, we assume that banks and the rest of the world grant loans to the private and to the public sector (via treasury bills purchasing). We make also an implicit assumption that the private sector (households and firms) does not purchase government bills. It is a simplifying assumption that is rather close to the Western Balkans reality: the large majority (around 70%) of government debt instruments is held by the banking sector.

Contrary to a common practice, we make an assumption that physical capital accumulation occurs not only in the private sector but also in the public sector through public investment in infrastructure. We thus make a distinction between government consumption expenditure and fixed capital formation. The share of public capital investment in total investment varies from 10% in Croatia to 40% in Kosovo, the average ratio for the whole region being a split of total investment between 25% of public investment and 75% of private investment.

---

[65] The models presented in this section and in chapter 3 were presented and discussed at international conferences taking place in Irkoutsk (2014), Coimbra (2015) and Bilbao (2015) as well as at EIB in Luxembourg (2014). The authors are grateful for the comments and suggestions received, in particular from Malcolm Sawyer in Bilbao, Marie Adele Duarte in Coimbra and Luca Gattini in Luxembourg. The authors remain responsible for any remaining error.

[66] Combining households and firms in the private sector was used for example by Papadimitriou et al (2013).

Table 17. Simplified transactions flow matrix

	Private sector	Public sector	Banking sector	Foreign sector (World)	Σ
Supply (domestic and foreign)	+ Y			+ IM	Y+IM
Demand (domestic and foreign)	$-C_p - I_p$	$-C_g - I_g$		− X	$-C - I - X$
Consumption	$-C_p$	$-C_g$			$-C = -(C_p + C_g)$
Investment	$-I_p$	$-I_g$			$-I = -(I_g + I_p)$
Exports				− X	− X
Taxes	− T	+ T			o
Interests	$-r\,L_p^{b,w}{}_{(t-1)}$	$-r\,L_g^{b,w}{}_{(t-1)}$	$+r\,L_{p,g}^{b}{}_{(t-1)}$	$+r\,L_{p,g}^{w}{}_{(t-1)}$	o
Financing Capacity or Need	$Y - C_p - I_p - T$ $-r\,L_p^{b,w}{}_{(t-1)}$	$-C_g - I_g + T$ $-r\,L_g^{b,w}{}_{(t-1)}$	$+r\,L_{p,g}^{b}{}_{(t-1)}$	IM − X $+r\,L_{p,g}^{w}{}_{(t-1)}$	$Y+IM-C-I-X=o$
Change in Reserves			− ΔR	+ ΔR	o
Change in Cash and Deposits	$-\Delta M^d$		$+\Delta M^s$		o
Change in Debt creating Flows (Loans, Bills etc.)	$+\Delta L_p^b + \Delta L_p^w$	$+\Delta L_g^b + \Delta L_g^w$	$-\Delta L_p^b - \Delta L_g^b$	$-\Delta L_p^w - \Delta L_g^w$	o
Change in Non-Debt foreign flows (Remittances, FDI, shares, etc.)	$+\Delta\Phi^w$			$-\Delta\Phi^w$	o
Σ	$-\Delta M^d + \Delta L_p^b + \Delta L_p^w + \Delta\Phi^w$	$\Delta L_g^b + \Delta L_g^w$	$-\Delta R + \Delta M^s - \Delta L_p^b - \Delta L_g^b$	$\Delta R - \Delta L_p^w - \Delta L_g^w - \Delta\Phi^w$	o
Σ (FC/FN+changes in financial balances)	o	o	o	o	o

N.B : The notations are those commonly used in macroeconomic models and detailed in *Table 18*; we note however that R designs foreign exchange reserves in local currency, $\Delta\Phi^w$ stands for financial flows from/to the Rest of the World not affecting debt (mostly income and current transfers but also FDIs and shares); ΔL_j^i represent borrowing from one sector to another; thus, for example, ΔL_p^b, is the borrowing of the private sector (*p*) from the banking system (*b*) affecting the stock of the private debt L_p.

Being limited by data availability for financial balances, we are constrained to distinguish public and private, external and internal indebtedness without entering into further details for the financial instruments. Interest payments on existing debt lagged one period are taken into account in the financial transactions of the current period. However, only one single rate of interest for the whole economy is used (long-term government treasury bill rate, different from country to country) which is supposed to reflect country risk effects.

Non-debt financial flows such as remittances, social transfers and FDI flows are taken into account as they are important in some of the countries of the region and help to moderate debt increase.

2.3.2.2. The model

Table 18 defines the set of variables and structural parameters as used in the relations describing interactions between the sectors.

Table 18. *Definition of the variables of the model*

Endogenous variables (28 variables)		Exogenous variables and parameters (18 variables)	
T	taxes	t	tax rate
C_p	private final consumption	c_p	private sector propensity to consume disposable income
C_g	public final consumption	c_g	public sector propensity to consume disposable income
I	gross investment	v	inverse of velocity of money
I_p	gross private sector investment	α	private investment as a share of total investment
I_g	gross public sector investment	β_1	share of public sector investment with external sources of finance
ΔY	change in National income	β_2	share of private sector investment with external sources of finance
Y	national income	$Y_{(t-1)}$	national income at the end of the previous period
ΔK_p	net private investment	r	interest rate
ΔK_g	net public investment	k	ICOR
IM	imports	FCC	fixed capital consumption
ΔM^d	change in demand of money	ΔK	net investment
ΔM^s	change in offer of money	X	exports
ΔR	change in reserves	Φ^w	non-debt financial foreign flows
$L_p{}^{b+w}$	private sector debt	$L_g{}^{b+w}{}_{(t-1)}$	public sector debt at the end of the previous period
$L_g{}^{b+w}$	public sector debt	$L_p{}^{b+w}{}_{(t-1)}$	private sector debt at the end of the previous period
$\Delta L_p{}^{b+w}$	change in private sector debt	EDG_o	external public debt at time o
$\Delta L_g{}^{b+w}$	change in public sector debt	EDP_o	external private debt at time o
$\Delta L_p{}^{w}$	change in private sector debt vis-à-vis the Rest of the World		
$\Delta L_g{}^{w}$	change in public sector debt vis-à-vis the Rest of the World		
$\Delta L_p{}^{b}$	change in private sector debt vis-à-vis banking sector		
$\Delta L_g{}^{b}$	change in public sector debt vis-à-vis banking sector		

$L_{p+g}{}^{b}{}_{(t-1)}$	Domestic debt at the end of the previous period
$L_{p+g}{}^{w}{}_{(t-1)}$	Foreign debt at the end of the previous period
$L_{p}{}^{w}{}_{(t-1)}$	private sector debt vis-à-vis the Rest of the World at the end of the previous period
$L_{g}{}^{w}{}_{(t-1)}$	public sector debt vis-à-vis the Rest of the World at the end of the previous period
$L_{p}{}^{b}{}_{(t-1)}$	private sector debt vis-à-vis banking sector at the end of the previous period
$L_{g}{}^{b}{}_{(t-1)}$	public sector debt vis-à-vis banking sector *at the end of the previous period*

The transactions flow matrix (*Table 3*) puts in evidence the interactions between the four institutional sectors. The model corresponding to this matrix is described by the following relations:

Behavioral relations

$$T = tY \quad (1)$$

$$C_p = c_p(Y - T) \quad (2)$$

$$C_g = c_g T \quad (3)$$

$$\Delta M^d = v\Delta Y \quad (4)$$

By definition the following identities hold:

$$I_p = \alpha \cdot I \quad (5)$$

$$I_g = (1-\alpha) \cdot I \quad (6)$$

$$I = \Delta K + FCC \quad (7)$$

$$\Delta K_p = \alpha \cdot \Delta K \quad (8)$$

$$\Delta K_g = (1-\alpha) \cdot \Delta K \quad (9)$$

Growth dynamic

$$\Delta Y = \frac{\Delta K}{k} \quad (10)$$

$$Y = Y_{(t-1)} + \Delta Y \quad (11)$$

Budget constraints at sectoral level

$$Y - C_p - I_p - T - r \cdot L^{b+w}_{p(t-1)} = \Delta M^d - \Delta L^b_p - \Delta L^w_p - \Delta \Phi^w \quad (12)$$

$$T - C_g - I_g - r \cdot L^{b+w}_{g(t-1)} = -\Delta L^b_g - \Delta L^w_g \quad (13)$$

$$r \cdot L^b_{p+g(t-1)} = \Delta R + \Delta L^b_p + \Delta L^b_g - \Delta M^s \quad (14)$$

$$IM - X + r \cdot L^w_{p+g(t-1)} = -\Delta R + \Delta L^w_p + \Delta L^w_g + \Delta \Phi^w \quad (15)$$

National income accounting identity:

$$Y + IM = C_p + C_g + I_p + I_g + X \quad (16)$$

Debt dynamic is described by following identities:

$$L_g = L^{b+w}_{g\ (t-1)} + \Delta L^{b+w}_g \quad (17)$$

$$L_p = L^{b+w}_{p\ (t-1)} + \Delta L^{b+w}_p \quad (18)$$

$$\Delta L^{b+w}_g = \Delta L^b_g + \Delta L^w_g \quad (19)$$

$$\Delta L^{b+w}_p = \Delta L^b_p + \Delta L^w_p \quad (20)$$

$$\Delta L^w_g = \beta_1 \cdot I_g \quad (21)$$

$$\Delta L^w_p = \beta_2 \cdot I_p \quad (22)$$

$$L^w_{g\,(t-1)} = EDG_o \quad (23)$$

$$L^w_{p\,(t-1)} = EDP_0 \quad (24)$$

$$L^b_{g\,(t-1)} = L^{b+w}_{g\ (t-1)} - L^w_{g\,(t-1)} \quad (25)$$

$$L^b_{p\,(t-1)} = L^{b+w}_{p\ (t-1)} - L^w_{p\,(t-1)} \quad (26)$$

$$L^b_{p+g\,(t-1)} = L^b_{g\,(t-1)} + L^b_{p\,(t-1)} \quad (27)$$

$$L^w_{p+g\,(t-1)} = L^w_{g\,(t-1)} + L^w_{p\,(t-1)} \quad (28)$$

2.3.2.3. Solution of the model

The model has 28 endogenous variables, 28 equations and 18 exogenous variables. It can be solved expressing the endogenous variables as a function only of the exogenous and lagged endogenous variables (reduced form). The solutions for the variables of interest are given below.

Public debt

Assuming that public and private sector fixed capital depreciate at the same rate, the following dynamic expression is obtained as a reduced form for the evolution of public debt (combining domestic and external debt)[67]:

$$L^{b+w}_g = (1+r) \cdot L^{b+w}_{g(t-1)} + (1-\alpha) \cdot FCC + \left(1 - \alpha + \frac{t(c_g - 1)}{k}\right) \cdot \Delta K + t(c_g - 1) \cdot Y_{(t-1)} \quad (29)$$

This expression can be simplified by defining:

[67] Where the subscript *g* stands for the Government as the debtor, and the superscript *b+w* stands for the domestic banks and the foreign sector respectively as the creditors.

$\lambda = \left(1 - \alpha + \frac{t(c_g - 1)}{k}\right)$ and $\mu = t(c_g - 1)$, which gives:

$$L_g^{b+w} = (1+r)\cdot L_{g(t-1)}^{b+w} + (1-\alpha)\cdot FCC + \lambda\cdot\Delta K + \mu\cdot Y_{(t-1)} \quad (30)$$

where, being combinations of the structural parameters of the model, λ and μ can be assumed to be constant in the short and medium term. One can notice that the multiplier λ exerts a positive effect on public debt (the more the part of the total investment financed by public authorities *(1-α)* is large, the more this effect would be important). However, debt increase should be less than proportional to the additional net investment thanks to the growth dynamics. On the other hand, c_g being generally lower than one, the multiplier μ contributes to decrease current debt level thanks to the stimulation growth exerts on government revenues. Besides, an important role in determining debt dynamic is played by the cost of servicing previously accumulated debt.

Private debt[68]

$$L_p^{b+w} = (1+r)\cdot L_{p(t-1)}^{b+w} + \alpha\cdot FCC - \Delta\Phi^w + \left(\alpha + \frac{v + (t-1)(1-c_p)}{k}\right)\cdot\Delta K + (t-1)(1-c_p)\cdot Y_{(t-1)} \quad (31)$$

Again, by defining:

$\sigma = \left(\alpha + \frac{v + (t-1)(1-c_p)}{k}\right)$ and: $\omega = (t-1)(1-c_p)$, one can simplify to:

$$L_p^{b+w} = (1+r)\cdot L_{p(t-1)}^{b+w} + \alpha\cdot FCC - \Delta\Phi^w + \sigma\cdot\Delta K + \omega\cdot Y_{(t-1)} \quad (32)$$

One should note that σ and ω could be seen as constant in the short and medium term. The multiplier σ has a positive effect on private debt (the more the part of the private sector investment (α) and propensity to consume (c_p) is large, the more this effect would be important). Non-debt financial inflows such as remittances and FDI affect favorably the private debt stock by decreasing it. They are important in some countries of the region such as Montenegro and Albania.

External and internal debt

To model external debt dynamics, we assume that a constant part of the new public investment (β_1) and a part of private investment (β_2) are financed from external sources. Thus, external public debt variation and external private debt variation are given by following expressions:

$$\Delta L_g^w = (1-\alpha)\beta_1\cdot(FCC + \Delta K) \quad (33)$$
$$\Delta L_p^w = \alpha\beta_2\cdot(FCC + \Delta K) \quad (34)$$

[68] The subscript *p* stands for the Private Sector as debtor, and the superscript *b+w* stands for the domestic banks and the foreign sector respectively as the creditors.

The change in domestic debt, public and private, is thus given by the following expressions:

$$\Delta L_g^b = r \cdot L_{g(t-1)}^{b+w} + (1-\alpha)(1-\beta_1) \cdot FCC + \left((1-\alpha)(1-\beta_1) + \frac{t(c_g - 1)}{k} \right) \cdot \Delta K + \quad (35)$$

$$\Delta L_p^b = r \cdot L_{p(t-1)}^{b+w} + \alpha(1-\beta_2) \cdot FCC - \Delta\Phi^w + \left(\alpha(1-\beta_2) + \frac{v + (t-1)(1-c_p)}{k} \right) \cdot \Delta K + \quad (36)$$

$$+ t(c_g - 1) \cdot Y_{(t-1)}$$

$$+ (t-1)(1-c_p) \cdot Y_{(t-1)}$$

2.3.2.4. Empirical simulation of the debt variation generated by an investment stimulus in the Western Balkans

As a first step, the structural parameters of the model were quantified. Then, in a second step, the calibrated model was subjected to the 'central' investment shock suggested by section 2 in order to determine financial needs corresponding to this scenario.

Structural parameters estimation

The parameters of the model were estimated based on available macroeconomic data from different sources. Some assumptions were also made when imposed by data limitations or theoretical considerations. Consistently with the previous section, we assume, for instance, that the *ICOR* equals 4.

Table 19. Main WB indicators

	HRV	MNE	MKD	SRB	ALB	BiH	KSV
Final consumption expenditure: household and NPISH[69] (% of GDP)	61.5	79.3	74.9	77.9	80.7	86.0	88.9
Final consumption expenditure: General government (% of GDP)	19.4	24.2	18.5	19.6	10.5	21.6	19.3
Tax revenue (% of GDP)	19.8	25.2	22.0	22.7	22.0	20.9	22.3
Imports of goods and services (% of GDP)	45.5	71.2	67.7	52.9	52.1	56.4	52.1
Money supply: M2 (% of GDP)	67.4	53.6	42.7	38.5	77.1	51.9	38.7
GFCF of private sector/ GFCF total	87.8	73.7	67.2	83.4	77.4	71.2	66.2

Source: Eurostat

Table 20. WB structural parameters[70]

	HRV	MNE	MKD	SRB	ALB	BiH	KSV
t	0.198	0.252	0.220	0.227	0.220	0.209	0.223
c_p	0.766	1.061	0.960	1.008	1.034	1.087	1.144
c_g	0.980	0.959	0.842	0.863	0.479	1.030	0.864

[69] Non-Profit Institutions Serving Households

[70] Structural parameters such as t, c_p, c_g, m were quantified based on average dynamic over the last decade; β_1 and β_2 were estimated as a share of external debt in public and private debt respectively in 2014; r is approximated by the last available government treasury bill rate.

v	0.674	0.536	0.427	0.385	0.771	0.519	0.387
m	0.455	0.712	0.677	0.529	0.521	0.564	0.521
k	4.000	4.000	4.000	4.000	4.000	4.000	4.000
FCC	0.100	0.100	0.100	0.100	0.100	0.100	0.100
α	0.878	0.737	0.672	0.834	0.774	0.712	0.662
β_1	0.375	0.682	0.548	0.558	0.477	0.633	0.394
β_2	0.503	0.562	0.319	0.485	0.356	0.274	0.287
r	0.040	0.050	0.050	0.040	0.060	0.070	0.070
λ	0.121	0.260	0.319	0.158	0.199	0.290	0.330
μ	-0.004	-0.010	-0.035	-0.031	-0.111	0.006	-0.030
σ	0.999	0.883	0.771	0.932	0.973	0.859	0.787
ω	-0.188	0.046	-0.031	0.006	0.027	0.069	0.112

Source: own calculations

Some comments should be made on these indicators. As it was largely stressed in the literature, in the previous years, growth in the WB was mainly sustained by high consumption. Such "growth model" was considered unsustainable by EU authorities and international financial institutions like World Bank [DG ECFIN (2010), World Bank (2014), different IMF country reports]. This is confirmed by our structural indicators: the propensity to consume disposable domestic income exceeds 1 in Montenegro, Serbia, Albania and Bosnia and Herzegovina and Kosovo leaving no room for domestically financed investment. It is obvious that in this case, the so much needed investment can only be financed by increasing debt, at least in the beginning, till structural adjustment takes place.

Main simulation results

Our simulation results confirm this guess. The proposed "central" investment stimulus scenario (*EUR 28 bn* and *EUR 40 bn* of gross investment on average per annum for WB6 and WB6+Croatia respectively) is consistent with *EUR 24 bn* and *EUR 29.5 bn* average total debt increase respectively (*Table 21*). This corresponds respectively to 86% and 74% of the initial investment stimulus, therefore the total debt accumulation is less than proportional to the investment effort and this is due to the growth dynamics created by the investment multiplier-accelerator process, which appears to be stronger in Croatia than in the WB6.

Table 21. *Total debt increase corresponding to central ("steady") scenario, EUR mn*

	HRV	MNE	MKD	SRB	ALB	BiH	KSV	WB 6	WB + HRV
2015	4 491	453	1 539	5 867	1 969	4 055	805	14 689	19 180
2016	4 674	473	1 648	6 360	2 225	4 554	908	16 168	20 842
2017	4 860	492	1 762	6 874	2 502	5 095	1 018	17 741	22 601
2018	5 051	511	1 882	7 418	2 805	5 684	1 136	19 434	24 485
2019	5 248	529	2 008	7 995	3 137	6 327	1 264	21 260	26 508
2020	5 451	548	2 142	8 610	3 501	7 031	1 403	23 236	28 688
2021	5 661	567	2 284	9 265	3 901	7 799	1 555	25 370	31 032
2022	5 879	586	2 433	9 962	4 339	8 638	1 721	27 680	33 558
2023	6 104	606	2 591	10 706	4 818	9 555	1 903	30 178	36 281
2024	6 336	625	2 758	11 498	5 343	10 555	2 100	32 879	39 216
2025	6 577	645	2 934	12 341	5 918	11 646	2 315	35 800	42 377
Average	**5 485**	**549**	**2 180**	**8 809**	**3 678**	**7 358**	**1 466**	**24 040**	**29 524**

Source: own calculations

This debt accumulation dynamic is driven by the countries with structural "over-consumption" levels mostly due to private debt accumulation which counts for two thirds of the total debt increase (Table 10). When looking into country details, one can observe that private debt dynamic could be potentially dangerous in Macedonia, Serbia, Albania and Bosnia and Herzegovina. In Montenegro, private debt shows only a slight tendency to increase despite its high propensity to consume, mainly due to the high FDI inflows, which are important regarding the size of the economy. Only in Croatia, private debt is stabilizing around 150% of GDP. (*Table 22* and *Figure 98*).

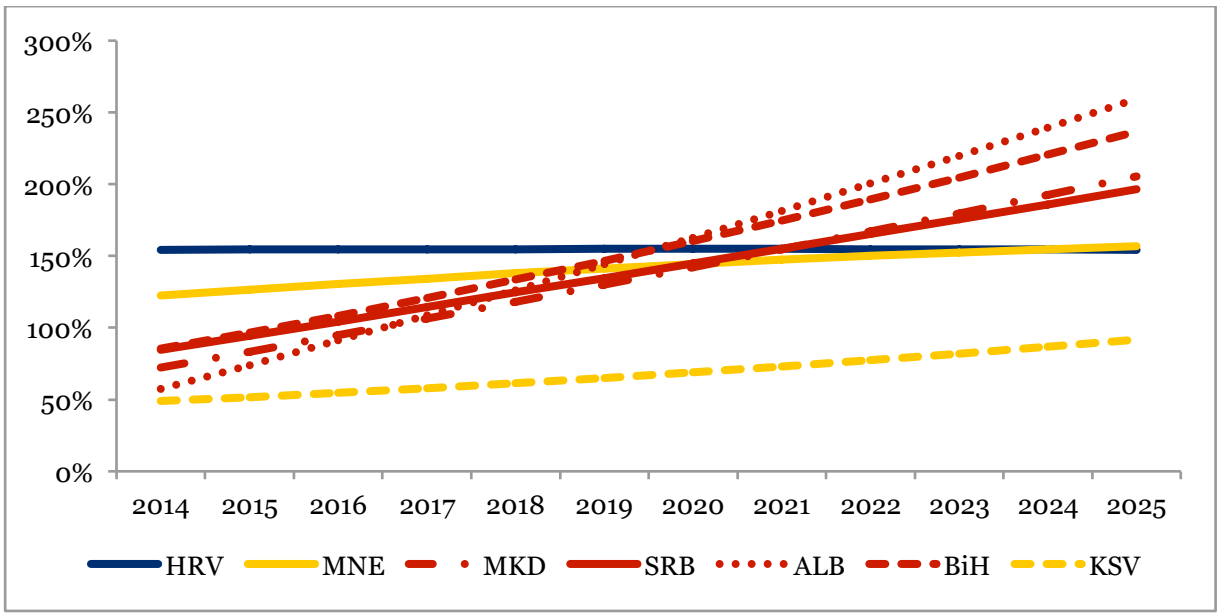
Table 22. *Private debt increase corresponding to central ("steady") scenario, EUR mn*

	HRV	MNE	MKD	SRB	ALB	BiH	KSV	WB 6	WB + HRV
2015	2 073	226	1 093	4 435	1 872	2 223	274	10 123	12 196
2016	2 129	231	1 171	4 844	2 139	2 518	310	11 213	13 342
2017	2 181	234	1 253	5 269	2 430	2 835	347	12 367	14 548
2018	2 233	237	1 339	5 719	2 749	3 180	384	13 607	15 840
2019	2 283	238	1 430	6 197	3 099	3 559	425	14 947	17 230
2020	2 333	239	1 525	6 707	3 484	3 973	469	16 398	18 731
2021	2 383	238	1 627	7 251	3 907	4 428	516	17 967	20 350
2022	2 433	237	1 733	7 832	4 371	4 925	568	19 667	22 100
2023	2 482	236	1 846	8 453	4 881	5 471	624	21 509	23 991
2024	2 531	233	1 965	9 115	5 439	6 068	685	23 505	26 036
2025	2 579	229	2 091	9 822	6 051	6 721	751	25 665	28 244
Average	**2 331**	**234**	**1 552**	**6 877**	**3 675**	**4 173**	**487**	**16 997**	**19 328**

Source: own calculations

It is important to underline, however, that these projections are based on constant structural parameters which are not sustainable in the long run as discussed previously. One should expect that a progressive adjustment would take place what would necessarily have impact on debt dynamics.

Figure 98. Private debt dynamic, % of GDP



Simulations based on our central scenario imply that public debt would be increasing on average by *EUR 7 bn* per year if annual investment stimulus averages *EUR 28 bn* (*Table 23*). However, comparing this scenario with the others considered in *Sections 2.1* and *2.2*, shows that the public debt increase response decreases in relative terms when higher target GDP growth rates are considered. It could be easily explained. Indeed, if the investment stimulus is sufficient, public debt increase is relatively modest due to the fact that growth is boosted, which increases fiscal revenues. This optimistic perspective is, for sure, depending on the capacity of governments to prioritize productive investments that would really generate growth.

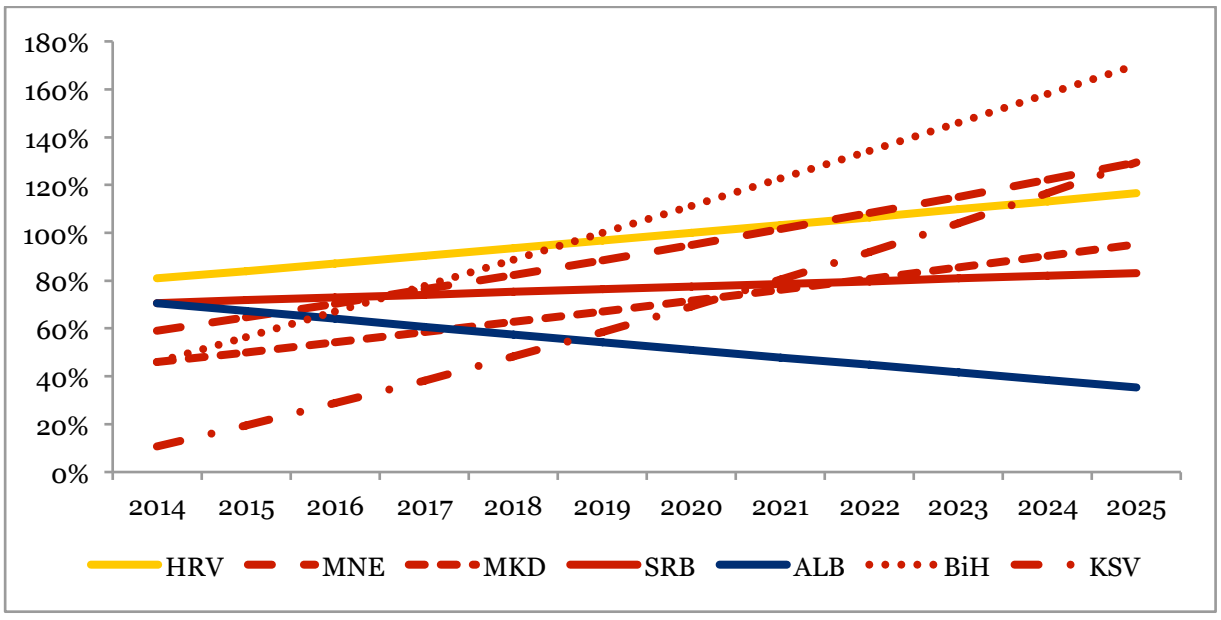
Table 23. *Public debt increase corresponding to central ("steady") scenario, EUR mn*

	HRV	MNE	MKD	SRB	ALB	BiH	KSV	WB 6	WB + HRV
2015	2 418	228	446	1 432	98	1 832	531	4 566	6 984
2016	2 545	242	476	1 516	86	2 037	598	4 955	7 500
2017	2 679	258	509	1 605	72	2 260	671	5 374	8 053
2018	2 818	274	543	1 699	56	2 504	751	5 826	8 645
2019	2 965	291	579	1 798	38	2 769	839	6 314	9 278
2020	3 118	309	617	1 903	17	3 058	935	6 838	9 956
2021	3 278	329	657	2 013	-6	3 372	1 039	7 404	10 682
2022	3 446	349	700	2 130	-33	3 713	1 154	8 013	11 459
2023	3 622	370	745	2 253	-62	4 084	1 279	8 669	12 290
2024	3 805	393	792	2 382	-96	4 488	1 415	9 375	13 180
2025	3 998	416	843	2 519	-133	4 926	1 564	10 135	14 132
Average	**3 154**	**314**	**628**	**1 932**	**3**	**3 186**	**980**	**7 043**	**10 196**

Source: own calculations

Depending on their particular structural parameters, countries are predicted to follow quite different patterns in terms of public debt as % of GDP (*Figure 99*). The extremely optimistic projection in Albania is explained by the currently very low government consumption expenditure, which will certainly rise with the progress of reforms and increasing living standards.

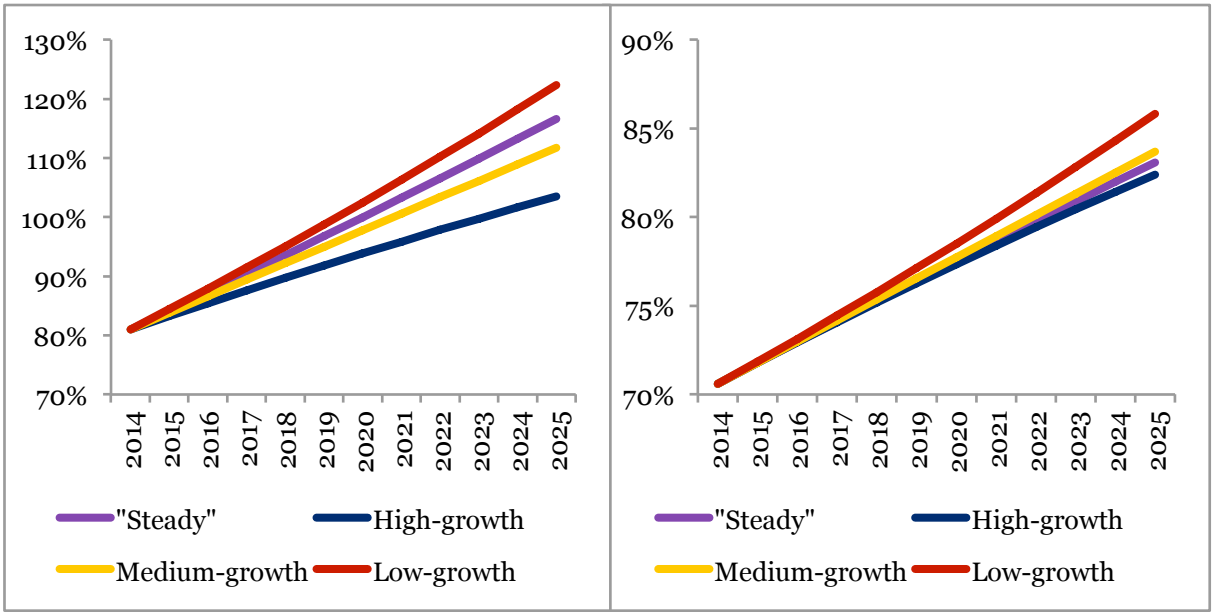
Figure 99. Public debt dynamic, % of GDP



Currently high interest rates in Bosnia and Herzegovina and Kosovo drive the public debt snowball effects, and this despite relatively high growth rates. In fact, the public debt dynamic could not be positive (i.e. decreasing) if at least the nominal GDP growth rate does not exceed the interest rate paid on accumulated debt[71]. With current sovereign interest rates around 7%, only double digit nominal growth rates could inverse the tendency of debt accumulation, if interest rates remain unchanged. In Croatia and Serbia, important fiscal consolidation efforts made by these countries in after-crisis years and relatively favourable interest rates should prevent from public debt explosion in the close future if growth dynamic is maintained.

As it is illustrated by *Figure 100*, low-growth rates arising from low investment levels, would have disastrous consequences for this country's public debt sustainability.

Figure 100. Different growth scenarios and debt levels in Croatia (on the left) and Serbia (on the right), % of GDP



Finally, *Table 24* and *Table 25* give the breakdown in terms of external and internal debt. External debt would count for *EUR 3.5 bn* of average public debt increase in WB6 (*EUR 4 bn* in WB6 and Croatia) and for *EUR 8.5 bn* (*EUR 13.5 bn* in WB6 and Croatia) of private debt increase provided that parameters β_1 and β_2 remains stable.

Table 24. *External private debt change, EUR mn*

	HRV	MNE	MKD	SRB	ALB	BiH	KSV	WB 6	WB + HRV
2015	4 310	265	409	3 836	927	887	299	6 623	10 932
2016	4 439	271	422	4 022	988	935	312	6 949	11 388
2017	4 572	278	435	4 216	1 052	987	325	7 293	11 865
2018	4 710	285	448	4 419	1 121	1 041	340	7 653	12 363
2019	4 851	291	462	4 633	1 195	1 098	354	8 033	12 884
2020	4 997	299	476	4 856	1 273	1 158	370	8 432	13 429
2021	5 147	306	491	5 091	1 356	1 221	386	8 851	13 998
2022	5 302	313	506	5 337	1 445	1 288	403	9 292	14 594

[71] This well-known result was obtained first in Domar 1944's seminal paper. For more recent elaborations see Pasinetti (2003) or Sardoni (2011).

2023	5 461	321	522	5 595	1 539	1 359	421	9 756	15 217
2024	5 625	329	538	5 865	1 640	1 433	439	10 243	15 868
2025	5 794	337	554	6 148	1 747	1 512	458	10 756	16 550
Average	**5 019**	**299**	**478**	**4 911**	**1 298**	**1 174**	**373**	**8 535**	**13 554**

Source: own calculations

Table 25. *External public debt change, EUR mn*

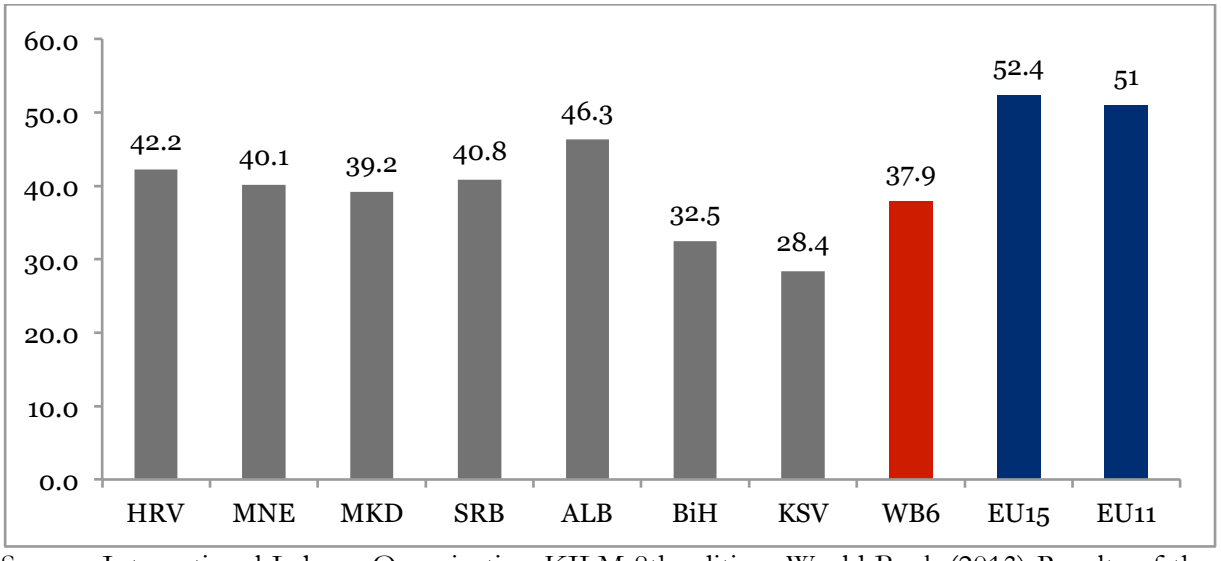
	HRV	MNE	MKD	SRB	ALB	BiH	KSV	WB 6	WB + HRV
2015	448	114	301	874	380	828	209	2 708	3 156
2016	462	117	310	916	405	874	218	2 841	3 303
2017	475	120	320	961	432	922	228	2 982	3 458
2018	490	123	330	1 007	460	972	238	3 130	3 620
2019	504	126	340	1 056	490	1 026	248	3 286	3 790
2020	520	129	350	1 107	522	1 082	259	3 449	3 969
2021	535	132	361	1 160	556	1 141	270	3 621	4 157
2022	551	136	372	1 216	593	1 204	282	3 803	4 354
2023	568	139	384	1 275	632	1 270	295	3 993	4 561
2024	585	142	396	1 336	673	1 339	308	4 194	4 779
2025	602	146	408	1 401	717	1 413	321	4 405	5 007
Average	**522**	**130**	**352**	**1 119**	**533**	**1 097**	**262**	**3 492**	**4 014**

Source: own calculations

2.4. Employment: the ultimate goal…

Section 1 of Chapter 1 provides a picture of the poor state of employment in the Western Balkan region. It could hardly be worse as, for all the parameters, Western Balkan countries hit the floor comparing to the EU new and old member-states. *Figure 101* reminds that, in 2013, average employment-to-population ratio is about 38% while it is higher than 50% in EU countries. The situation is substantially worse for young people whose employment-to-population ratio does not reach 18% and whose unemployment rate reaches some 60% in Bosnia and Herzegovina.

Figure 101. Employment-to-Population ratio in 2013



Source: International Labour Organization KILM 8th edition, World Bank (2013) Results of the Kosovo 2012 Labour Force Survey, World Bank (2014) Results of the Kosovo 2013 Labour Force Survey.

Thus, there is no doubt that employment remains the ultimate issue for the development of the region. In order to consider this crucial aspect, we try to establish a relationship between the suggested investment stimulus and its potential effect on employment levels, which is an indirect one, passing through growth

To do so, we may rely on *Okun's law and its developments*. The law stipulates a short-run negative relationship between economic growth and unemployment (or a positive between growth and employment) [Okun (1962)]. In a recent study, Ball et al. (2013) show that despite numerous critics:

> *"Okun's law is a strong and stable relationship in most countries. Deviations from Okun's Law occur, but they are usually modest in size and short-lived. Overall, the data are consistent with traditional models in which fluctuations in unemployment are caused by shifts in aggregate demand".*

The difficulty is to obtain a meaningful estimation of the relevant coefficient, i.e. the elasticity of the growth in employment to GDP growth. As numerous empirical studies show, this elasticity differs across countries and from one period to another. The coefficient, for example, is estimated to be 0.15 in Japan where lifetime employment prevails while it is 0.45 in the USA and 0.85 in Spain [Ball *et al.* (2013)].

Kapsos (2005) provides global and regional employment elasticity estimates based on a study of 160 countries. Global employment elasticity to GDP is estimated to equal 0.30 for the period 1999 – 2003. The differences however occur when comparing different age and sex groups of employment and different economic sectors. Thus, male employment elasticity is 0.29, female – 0.33 and youth employment elasticity only 0.06. Such a low coefficient for youth population implies that taking into account an average annual growth of the youth labor force of 0.5% between 2003 and 2015, a global growth of GDP of 10% is required just to generate enough job to maintain constant youth unemployment (one obtains 0.1% growth of youth employment when subtracting 0.5% youth labor force growth from 0.6% which is obtained by multiplying GDP growth rate (10%) by youth employment elasticity (0.06)). When comparing economic sectors, employment elasticity in services appears to be the highest (0.61) while in industry and agriculture it attains respectively 0.21 and 0.24. For the transition countries of the Central and Eastern Europe, the author finds that positive economic growth during 1991-2003 period was accompanied by job destruction rather than creation, growth was driven by high labor productivity growth. In the CIS[72] countries employment elasticity varies from 0.18 to 0.28 depending on period.

Kovtun *et al.* (2014) find for the period 1993-2011 the following coefficients: 0.32 for EU New member states, 0.44 for EU periphery countries and the lowest, only 0.17 for the Balkans.

Richter and Witkowski (2014) find that employment elasticity in Europe and Central Asia (comprising the Balkans) though increased over time remains on average lower than in the Western Europe. In the Balkan region it grew from negative values in 1995-2001 to 0.25 – 0.4 in 2002 – 2007 and to 0.6 – 0.7 in 2008-2010.

[72] Commonwealth of Independent States

Our own estimations for the period from 1995 to 2013 for the 6 Western Balkan countries (excluding Kosovo for which only two years data was available) provide us with the employment elasticity of 0.68. We consider this as an upper-bound measure of employment intensity of growth in the WB region and put it in comparison with more modest but still realistic figures of 0.5 and 0.3. For the youth employment, obtained employment elasticity coefficients are insignificant with one exception: there is a positive relationship between the youth employment and economic growth with two-year lag. This suggests that the effect of growth on youth employment is not immediate, to obtain positive youth employment dynamics, at least three years of continuous substantial positive growth is required. The coefficient we retain is of 0.19 implying that 10% growth would induce 1.9% youth employment growth two years after, provided youth labour force is not meanwhile increasing.

With these figures, our central "steady" scenario suggesting an annual investment effort of EUR 40 bn (EUR 28 bn for WB6 without Croatia) and implying an average growth rate of 4.25% (4.8% for WB6 only) would at best generate 3% employment growth per year. Assuming that working age population would continue to growth at average 2000-2013 pace[73] that means that at least 11 years of continuous and stable growth would be needed to achieve the EU-11 average employment-to-population ratio (51%)[74] meaning that employment should increase by 2.9 million persons (3.2 million for WB6 and Croatia). In the less favorable case (employment elasticity of 0.3), this transformation would take up to 29 years. *Table 26* summarizes potential impacts of other scenarios depending on employment elasticity coefficient.

Table 26. Potential employment impact of investment stimulus scenarios

Growth Scenario	Employment elasticity	Employment growth rate	Number of years needed for attaining EU level
"Steady"	0.3	WB6: 1.45% WB6+HRV: 1.27%	29 years
	0.5	WB6: 2.41% WB6+HRV: 2.12%	16 years
	0.68	WB6: 3.02% WB6+HRV: 2.89%	11 years
High growth	0.3	1.8%	21 years
	0.5	3%	12 years
	0.68	4.08%	8 years
Medium growth	0.3	1.2%	35 years
	0.5	2%	19 years
	0.68	2.72%	13 years
Low growth	0.3	0.6%	94 years
	0.5	1%	45 years
	0.68	1.36%	30 years

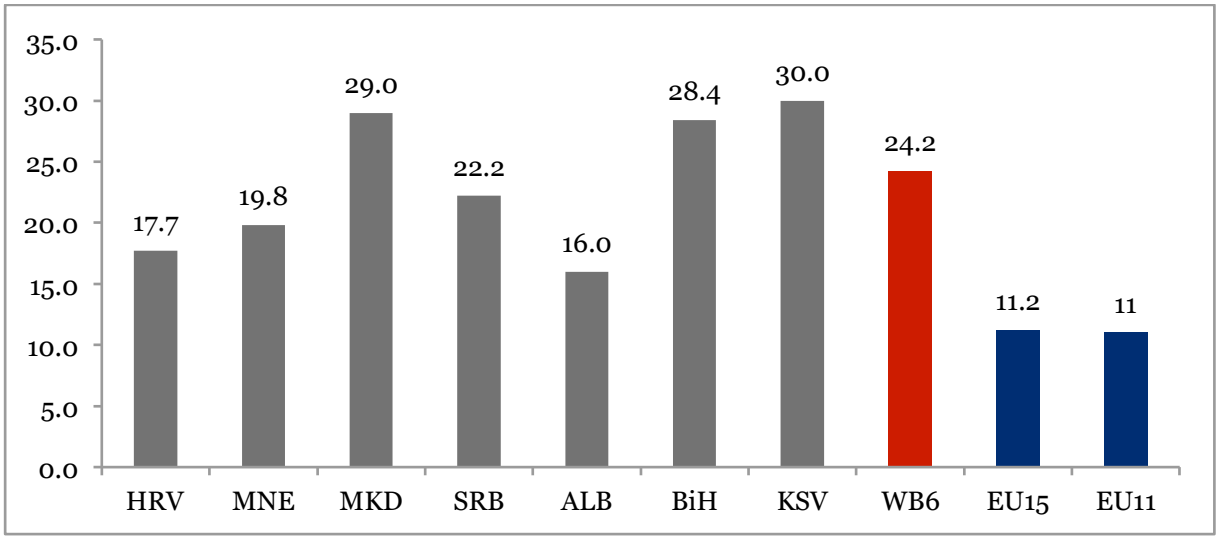
Source: own calculations

[73] Working age population growth during this period was negative in Croatia and Serbia (-0.14% and -0.2%) and positive in other countries (0.38% in Montenegro, 0.80% in FYROM, 0.67% in Albania, 0.55% in Bosnia and Herzegovina).

[74] For the WB6 average could attain the EU-11 level. It would take about 20 years for Montenegro, FYROM, Bosnia and Herzegovina and Kosovo to reach this level individually.

Figure 102 reminds that unemployment rates in the Western Balkans are alarmingly high.

Figure 102. Unemployment rate in 2013



In the best scenario, at least 7 years of sustained high growth rates would be needed to decrease the average unemployment rate in the Western Balkans under 10%. *Table 27* presents potential impacts of investment stimulus scenarios depending on employment elasticity coefficient. To make these projections we assume that the labour force participation rate remains unchanged which, it is useful to remind, is low compared to the EU-peers (49,8% versus 58,8% in EU-15 and 57,3 in EU-11). Otherwise, if the labour force participation rate would increase in the future, the above estimations would have to be corrected. This is the reason why the projections presented should be considered as an optimistic scenario. One can also assume that some part of the current migrant flows moving along the Western Balkan route to the EU could stay in the region. This would increase available labour force and thus worsen unemployment.

Table 27. *Potential impact of investment stimulus scenarios on unemployment level*

Growth Scenario	Employment elasticity	Number of years needed for unemployment rate to decrease under 10% level
"Steady"	0.3	26 years (HRV – 9, MNE – 34, MKD –more than 50, SRB – 9, ALB – 6, BIH -22, KSV – 17)
	0.5	9 years (HRV – 6, MNE – 15, MKD – 33, SRB – 6, ALB – 3, BIH -11, KSV – 11)
	0.68	7 years (HRV – 5, MNE – 10, MKD – 19, SRB – 5, ALB – 2, BIH -8, KSV – 8)
High growth	0.3	12 years (HRV – 5, MNE – 9, MKD – 25, SRB – 8, ALB – 7, BIH -19, KSV – 13)
	0.5	7 years (HRV – 3, MNE – 5, MKD – 11, SRB – 5, ALB – 4, BIH -10, KSV – 8)
	0.68	5 years (HRV – 3, MNE – 5, MKD – 11, SRB – 5, ALB – 4, BIH -10, KSV – 8)
	0.3	21 years (HRV – 7, MNE – 15, MKD – more than 50, SRB – 11, ALB – 14, BIH -36, KSV – 18)

Medium growth	0.5	11 years (HRV – 5, MNE – 8, MKD – 21, SRB – 7, ALB – 6, BIH -16, KSV – 12)
	0.68	8 years (HRV – 4, MNE – 6, MKD – 13, SRB – 6, ALB – 4, BIH -11, KSV – 9)
Low growth	0.3	45 years (HRV – 13, MNE – more than 50, MKD – more than 50, SRB – 19, ALB – increasing, BIH – more than 50, KSV – 32)
	0.5	27 years (HRV – 8, MNE – 20, MKD – more than 50, SRB – 13, ALB – 22, BIH –more than 50, KSV – 21)
	0.68	18 years (HRV – 7, MNE – 13, MKD – 43, SRB – 10, ALB – 11, BIH –29, KSV – 17)

Source: own calculations

The differences among countries of the region are high. A potentially fast unemployment reduction in Croatia, Serbia and Kosovo is explained by the negative population growth rates projected. In Montenegro, Macedonia and Bosnia and Herzegovina, where unregistered positive working age population still grows until now, the process would be much slower.

It is important to underline that the low growth scenario (2% annual growth rate) is dramatically insufficient to reduce the high unemployment levels in the region. This is the main reason why it is so important to target and sustain high growth in the Western Balkans, which requires important and sensible investment efforts accompanied by structural an institutional reforms. Without that, there is a growing danger of plunging the whole region into high economic, political and social instability.

III. Coordination to achieve policy synergies at regional level

While previous chapters have shown the need for a large investment stimulus to update public infrastructure and to achieve growth and development targets in the Western Balkans at the national level, the present chapter discusses the need for a coordinated policy action between the countries of the Western Balkans as a mean to generate synergies between the national efforts. The Western Balkan countries are *small open economies* linked through trade. Thus, through the cross-countries' effects of the economic multiplier, a positive shock on autonomous demand in one of the countries not only produces an increase of revenues in the domestic economy, but also generates a positive impact in the other countries of the region through increased imports by the country where the shock originated. A series of models is presented below illustrating that coordinated action on autonomous demand via increasing simultaneously public investment in several or all the countries of a regionally integrated area is more effective than isolated action by a single country.

Based on the estimation of *cross-country demand multipliers*, the potential effect of the investment decisions considered can be measured. For instance, it was calculated that the EUR 7.7 bn envelope for priority connectivity projects agreed by the WB6 Vienna summit last summer (WIIW estimate [Holzner, Stehrer and Vidovic (2015)]) implies up to 1% annual growth rate increase in the integrated region.

3.1. Demand coordination and multipliers

To illustrate the benefits of demand coordination in the Western Balkans we review the theoretical concept of the cross-country multiplier. The argument is built on a comparison between independent economies and multi-regional larger areas having increasing levels of trade integration. It relies on the "export" or "foreign trade multiplier", whose discovery is usually attributed to Harrod (1933) but that was discovered independently by Kalecki (1935, see King (1998)). The relevance of Harrod's foreign trade multiplier as a growth factor was confirmed empirically by the literature testing Thirlwall's laws, which are dynamic variants of the static Harrod foreign trade multiplier.

The logic of demand coordination in a regionally integrated area is illustrated via the cross-country demand multipliers between three separate areas linked through external trade[75]. Two areas are considered to be regionally integrated, i.e. interconnected and dependent on each other through trade flows and policy coordination (they can be taken to represent the "Western Balkan region"), while the third one is treated as independent (it can be seen as the "Rest of the World").

[75] These can be seen as "regions" or "countries" depending on whether the exchange rate is fixed or variable and depending on whether they have a common monetary and fiscal policy or not. See Godley-Lavoie (2007, chapters 6 and 12), being understood that two separate countries may have a fixed exchange rate between them and that separate countries may coordinate their fiscal and monetary policy so as to reach the same result that would be achieved in a single country comprising both.

This three countries framework completes an argument for fiscal policy coordination put forward in an elegant example developed by Muet (2004, pp. 128-132) for the case of two countries having the same import elasticity to income. In this special case[76], the fiscal policy (government expenditures) multiplier with economic policy coordination coincides with the closed economy multiplier and is of course substantially higher than the open economy multiplier without policy coordination.

Based on a discussion of a three countries example, this contribution illustrates the result that in more general cases, the fiscal policy multiplier with coordination is lower than the closed economy multiplier but higher than the multiplier without policy coordination. In other words the difference between the multiplier with and without policy coordination is positive, this difference being higher the higher the share of intra-regional trade between the areas considered, a result which was in fact recognized in rather general cases already in the 1950_s (see notably Metzler, 1950), but that seems to have been meanwhile forgotten.

To present the three country example, we proceed step-by-step. Initially, it is assumed that the three areas have their autonomous demand fixed independently without policy coordination, like it is the case for “independent countries” (a case opposite to that of “regions” in an integrated area). Spillover or feedback effects between national or regional economic policies are thus neglected. This is for instance equivalent to the assumption retained by the EU Member States when they present their economic reform and convergence programs to the European Union, which do not take into account of the intra-EU impact of the policies proposed [see Semieniuk, van Treeck and Truger (2012)]. The assumption is then relaxed by taking two of the three areas considered as integrated in a single “country”, while the third area is kept separate (the "Rest of the World").

The multiplier measures the effect of a change in an autonomous (or “strongly exogenous”) factor on an endogenous variable. The key determinants that need to be considered in order to define the multiplier on the demand side are: autonomous demand, domestic and external, and endogenous demand, made of private consumption and intra-regional exports as well as imports. By showing that the multiplier is higher with the coordination of autonomous domestic demand policy shocks than without, the example illustrates the opportunities that exist for gaining control over the business cycle through the coordination of fiscal policies around a full employment objective, pursued via a positive program of public expenditures. In practice, this is the only alternative to “mercantilist” competitive deflation policies, which achieve full employment only in net exporting countries. Indeed, by increasing net public expenditures to the level required to produce or bring back domestic confidence, such policies would increase also private investment and thus generate the growth that would ultimately render the initial increase in public expenditure sustainable from the fiscal point of view (autonomous domestic demand includes both net public expenditure and investment).

The models are kept deliberately simple to illustrate as clearly as possible the argument for fiscal policy and investment coordination. In particular, they are linear and there are no intermediate goods, nor factor movements. Although they rely on the canonical "Hansen" demand block of macroeconomic Keynesian models, which

[76] The authors are grateful to Nadia Garbellini and Ariel Wirkierman for pointing out the implications of Muet's assumption.

does not explicitly deal with relative prices, they are used also to illustrate the logic of the trade-off between demand and competitiveness policies.

3.2. Three independent small open economies

As discussed, initially it is assumed that there are three regions considered to be countries, which use the same currency or whose exchange rates are fixed or stable. Their exports are exogenous, representing for each country a part of autonomous external demand.

Taking the model for country 1 :

Model 1

$$
\begin{array}{lllll}
\textit{Income} & Y_1 & = & Aut_1 + C_1 + X_1tR_2 + X_1tR_3 - M_1fR_2 - M_1fR_3 & \\
\textit{Consumption} & C_1 & = & a_1 + c_1 Y_1 & \\
\textit{Exports to } R_2 & X_1tR_2 & = & \overline{X_1tR_2} & \\
\textit{Exports to } R_3 & X_1tR_3 & = & \overline{X_1tR_3} & (1) \\
\textit{Imports from } R_2 & M_1fR_2 & = & m_{012} + m_{12} Y_1 & \\
\textit{Imports from } R_3 & M_1fR_3 & & m_{013} + m_{13} Y_1 &
\end{array}
$$

where the four endogenous variables are: Y_1, representing income; C_1, representing private consumption; M_1fR_2, standing for imports of country 1 from country 2 and M_1fR_3, representing imports of country 1 from country 3.

The three exogenous variables are: Aut_1, domestic autonomous demand, comprising net public expenditures (current expenditures and public investment) and private investment, and external autonomous demand, comprising: exports from country 1 to country 2 (X_1tR_2) and exports from country 1 to country 3 (X_1tR_3).

The 6 parameters assumed to be constant are: a_1, c_1, m_{012}, m_{12}, m_{013}, m_{13}, standing respectively for: autonomous private consumption, marginal propensity to consume, autonomous import demand for exports of country 2, marginal propensity to import from country 2, autonomous import demand for exports of country 3, marginal propensity to import from country 3. In matrix form the system can be written:

$$
\begin{bmatrix} 1 & -1 & 1 & 1 \\ -c_1 & 1 & 0 & 0 \\ -m_{12} & 0 & 1 & 0 \\ -m_{13} & 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} Y_1 \\ C_1 \\ M_1fR_2 \\ M_1fR_3 \end{bmatrix} = \begin{bmatrix} Aut_1 + X_1tR_2 + X_1tR_3 \\ a_1 \\ m_{012} \\ m_{013} \end{bmatrix} \qquad (2)
$$

its final form solution[77], where each endogenous variable is expressed in terms of exogenous variables only, is:

[77] The final form solution provides the multipliers associated to the model, as shown for instance below in relations (4). See Artus, Deleau and Malgrange (1986, pp. 120-124).

$$
\begin{aligned}
Y_1 &= \frac{a_1 + Aut_1 - m_{012} - m_{013} + X_1tR_2 + X_1tR_3}{1 + m_{12} + m_{13} - c_1} \\
C_1 &= \frac{a_1 + a_1m_{12} + a_1m_{13} + Aut_1c_1 - m_{012}c_1 - m_{013}c_1 + X_1tR_2c_1 + X_1tR_3c_1}{1 + m_{12} + m_{13} - c_1} \\
M_1fR_2 &= \frac{m_{012} + a_1m_{12} + Aut_1m_{12} - m_{013}m_{12} + m_{012}m_{13} - m_{012}c_1 + X_1tR_2m_{12} + X_1tR_3m_{12}}{1 + m_{12} + m_{13} - c_1} \\
M_1fR_3 &= \frac{m_{013} + m_{013}m_{12} + a_1m_{13} + Aut_1m_{13} - m_{012}m_{13} - m_{013}c_1 + X_1tR_2m_{13} + X_1tR_3m_{13}}{1 + m_{12} + m_{13} - c_1}
\end{aligned} \qquad (3)
$$

The three multipliers of autonomous demand on country 1's incomes are thus:

$$
\begin{aligned}
\frac{\partial Y_1}{\partial Aut_1} &= M^{Y_1}_{Aut_1} = \frac{1}{1 + m_{12} + m_{13} - c_1} \\
\frac{\partial Y_1}{\partial X_1tR_2} &= M^{Y_1}_{X_1tR_2} = \frac{1}{1 + m_{12} + m_{13} - c_1} \\
\frac{\partial Y_1}{\partial X_1tR_3} &= M^{Y_1}_{X_1tR_3} = \frac{1}{1 + m_{12} + m_{13} - c_1}
\end{aligned} \qquad (4)
$$

i.e. they are the same for domestic autonomous demand (autonomous public expenditure and private investment) and external demand (versus Region 2 and Region 3 respectively).

One can note that these multipliers are set for a "small open-economy"[78] and they differ from the "closed economy multipliers" in that, for the latter, since there are no imports, the terms m_{12} and m_{13}, whose sum $m_{12}+m_{13}$ represents the total import propensity of country 1 to import from regions 2 and 3 together, vanish in the denominator.[79]

One can check that the difference between the multiplier for the "closed economy" and that for the "small open economy" is given by an expression that is always positive for reasonable values of the parameters[80]:

$$
\frac{1}{1 - c_1} - \frac{1}{1 + m_{12} + m_{13} - c_1} = \frac{m_{12} + m_{13}}{(1 + m_{12} + m_{13} - c_1)(1 - c_1)} > 0 \quad if \quad 0 < m_{12}, m_{13}, c_1 < 1 \qquad (5)
$$

Now let's consider the case of the of the Western Balkans region. Two different aggregates can be considered, depending on whether Croatia is included or not: the aggregate WB6 corresponding to the Western Balkans countries still out of the European Union and comprising Albania, Bosnia and Herzegovina, Kosovo under UNCR resolution 1244/99, the Former Yugoslav Republic of Macedonia, Montenegro and the Republic of Serbia, and the aggregate WB7, including these countries plus Croatia. Suppose the country 1 is one of the WB6 countries and that it is related by its trade flows with other countries of the WB7 region (country 2) and the Rest of the world (country 3). For the Western Balkans region (WB6), the value of the total

[78] See Dornbush (1980).

[79] The usual expression of the foreign trade multiplier is 1/m, corresponding to $1/(m_{12}+m_{13})$ in the example of relation 3, see for instance Polak (1947) or Machlup (1965 [1943]). Calculated from total imports of goods and services as reported in the national accounts, this value of the multiplier is imprecise for the reason that it does not take properly into account intermediate goods; see Kennedy and Thirlwall (1979).

[80] These values are conditions for stability of the associated static equilibrium model (see Metzler, 1950).

import propensity [the numerator in the relation (5) above] is of the order of 60%. The table below gives this value estimated from the national income accounts of Eurostat for 2011, together with a calculated breakdown between that part that comes from the Western Balkans and that part that comes from the rest of the world.

Table 28. Import and export, % of GDP

	Exports/Imports	*From WB and Croatia*	*From the Rest of the World*
WB6 Imports	56.7%	15.6%	41.1%
WB6 Exports	36.1%	12.7%	23.4%
WB7 Imports	50.5%	12.1%	38.4%
WB7 Exports	37.8%	13.3%	24.4%

Source: authors' calculations based on Eurostat's online databases and Garbellini and Wirkiermann (2012)

Thus, based on relation (5), one can see that if country 1 (one country of the WB6) has a propensity to consume of 80%, imports 16% of its GDP from Country 2 (rest of the WB7) and another 41% from country 3 (the rest of the world), the "closed economy multiplier" is 5, whereas the "small open economy multiplier" given above in (3) is 1.3, the difference being 3.7, which is substantial[81].

This difference increases with the total import propensity from country 2 and 3 together and with the propensity to consume. The chart below (*Figure 103*) illustrates how the difference between the closed and the open economy multipliers changes when the total import propensity ($m=m_{12}+m_{13}$) varies between 0 and 1 for three different values of the propensity to consume. It shows, for instance, that this difference increases from 1.9 to 2.22 when the propensity to import goes from 40% to 60% of GDP for the case with a 70% propensity to consume. Vice versa, when the propensity to import decreases, the difference between the closed and the open economy multipliers narrows, i.e. the coordination in the autonomous demand stimulus becomes more effective. This effect explains the policy coordination benefits discussed in the following sections.

[81] Even considering that in some of the smaller economies of the region, such as Kosovo, Montenegro and Bosnia and Herzegovina, the propensity to consume is high (90%) and that it can approximate 100% if some portion of public consumption is not considered as autonomous, import propensities are also very high and therefore the open economy multiplier is just marginally higher (1.7 rather than 1.3 in the example in the text), therefore the difference with the closed economy is still high.

Figure 103. Close and open economy multipliers difference and import propensity

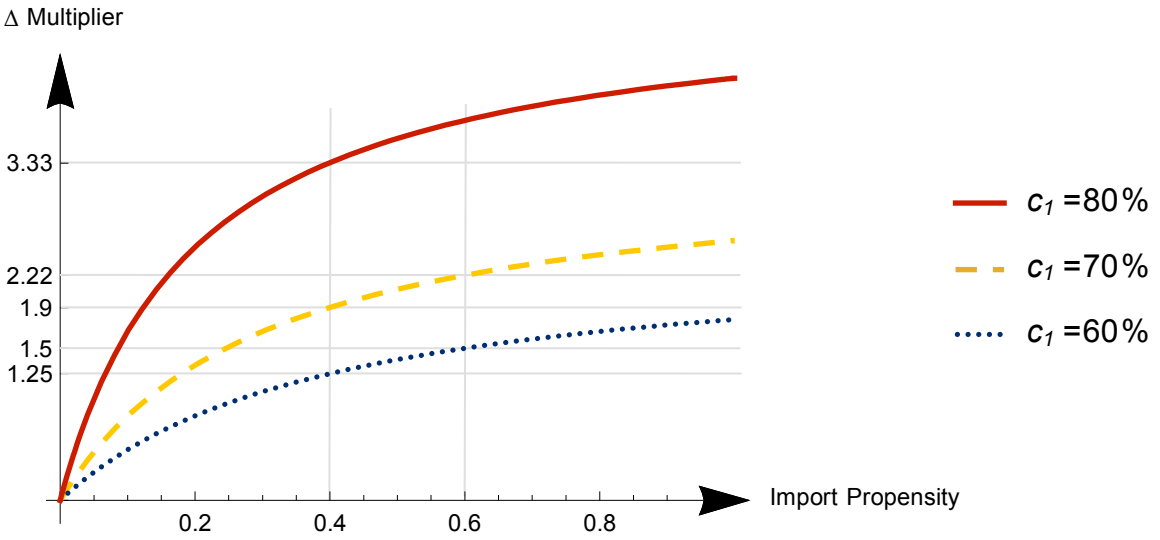
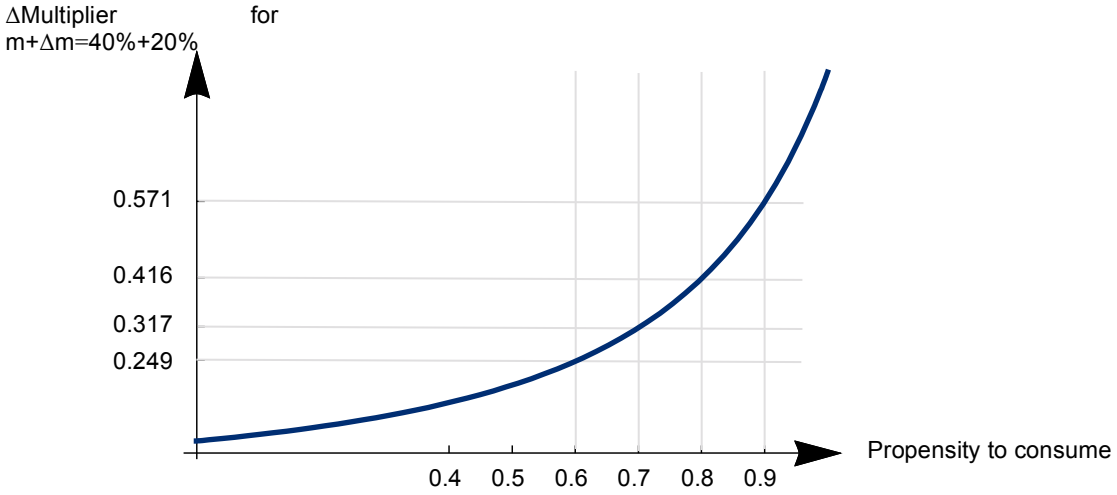


Figure 104 describes the evolution of the difference between the closed and open economy multipliers for an import propensity change from 60% to 40% as a function of the propensity to consume. It shows that the differences increase from 0.25 to 0.6 in absolute terms when propensity to consume goes from 60% to 90%.

Figure 104. Closed and open economy multipliers difference for import propensity change from 60% to 40%



The definition of the demand block in countries 2 and 3 is perfectly symmetrical with that of country 1 and therefore exports do not retroact on domestic demand. With the relevant country indices, the equivalent expression of relation (2) for countries 2 and 3, are given respectively in (6) and (7) which can be taken from now on as Model 2 and Model 3 respectively[82]:

[82] The matrix expression of the model is more convenient to make clear what are the endogenous variables and how they are linearly determined by the parameters and variables taken as given or exogenous. The matrix expression (2) corresponds plainly to expression (1). In the same way, from (6) and (7), which correspond to (2), it would be straightforward to write expressions equivalent to (1), but these were skipped to save space.

Model 2

$$\begin{bmatrix} 1 & -1 & 1 & 1 \\ -c_2 & 1 & 0 & 0 \\ -m_{21} & 0 & 1 & 0 \\ -m_{23} & 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} Y_2 \\ C_2 \\ M_2 fR_1 \\ M_2 fR_3 \end{bmatrix} = \begin{bmatrix} Aut_2 + X_2 tR_1 + X_2 tR_3 \\ a_2 \\ m_{021} \\ m_{023} \end{bmatrix} \quad (6)$$

Model 3

$$\begin{bmatrix} 1 & -1 & 1 & 1 \\ -c_3 & 1 & 0 & 0 \\ -m_{31} & 0 & 1 & 0 \\ -m_{32} & 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} Y_3 \\ C_3 \\ M_3 fR_1 \\ M_3 fR_2 \end{bmatrix} = \begin{bmatrix} Aut_3 + X_3 tR_1 + X_3 tR_2 \\ a_3 \\ m_{031} \\ m_{032} \end{bmatrix} \quad (7)$$

and the associated multipliers are:

$$\begin{aligned} \frac{\partial Y_2}{\partial Aut_2} &= M^{Y_2}_{Aut_2} = \frac{1}{1 + m_{21} + m_{23} - c_2} \\ \frac{\partial Y_2}{\partial X_2 tR_1} &= M^{Y_2}_{X_2 tR_1} = \frac{1}{1 + m_{21} + m_{23} - c_2} \\ \frac{\partial Y_2}{\partial X_2 tR_3} &= M^{Y_2}_{X_2 tR_3} = \frac{1}{1 + m_{21} + m_{23} - c_1} \end{aligned} \quad (8)$$

$$\begin{aligned} \frac{\partial Y_3}{\partial Aut_3} &= M^{Y_3}_{Aut_1} = \frac{1}{1 + m_{31} + m_{32} - c_1} \\ \frac{\partial Y_3}{\partial X_3 tR_1} &= M^{Y_3}_{X_3 tR_1} = \frac{1}{1 + m_{31} + m_{32} - c_1} \\ \frac{\partial Y_3}{\partial X_3 tR_2} &= M^{Y_3}_{X_3 tR_2} = \frac{1}{1 + m_{31} + m_{32} - c_1} \end{aligned} \quad (9)$$

Model 4 described hereafter (10) puts these three models and the associated closed economies together, still treating their exports as exogenous:

Model 4

$$
\begin{array}{lll}
\text{Income of country 1} & Y_1 = & Aut_1 + C_1 + X_1 tR_2 + X_1 tR_3 - M_1 fR_2 - M_1 fR_3 \\
\text{Consumption of country 1} & C_1 = & a_1 + c_1 Y_1 \\
\text{Imports of country 1 from 2} & M_1 fR_2 = & m_{012} + m_{12} Y_1 \\
\text{Imports of country 1 from 3} & M_1 fR_3 = & m_{013} + m_{13} Y_1 \\
\text{Income of country 2} & Y_2 = & Aut_2 + C_2 + X_2 tR_1 + X_2 tR_3 - M_2 fR_1 - M_2 fR_3 \\
\text{Consumption of country 2} & C_2 = & a_2 + c_2 Y_2 \\
\text{Imports of country 2 from 1} & M_2 fR_1 = & m_{021} + m_{21} Y_2 \\
\text{Imports of country 2 from 3} & M_2 fR_3 = & m_{023} + m_{23} Y_2 \\
\text{Income of country 3} & Y_3 = & Aut_3 + C_3 + X_3 tR_1 + X_3 tR_2 - M_3 fR_1 - M_3 fR_2 \\
\text{Consumption of country 3} & C_3 = & a_3 + c_3 Y_3 \\
\text{Imports of country 3 from 1} & M_3 fR_1 = & m_{031} + m_{31} Y_3 \\
\text{Imports of country 3 from 2} & M_3 fR_2 = & m_{032} + m_{32} Y_3
\end{array}
\qquad (10)
$$

The final solution of the model is given by the following (11):

$$
\begin{aligned}
Y_1 &= \frac{a_1 + Aut_1 - m_{012} - m_{013} + X_1 tR_2 + X_1 tR_3}{1 + m_{12} + m_{13} - c_1} \\
C_1 &= \frac{a_1 + a_1 m_{12} + a_1 m_{13} + Aut_1 c_1 - m_{012} c_1 - m_{013} c_1 + c_1 X_1 tR_2 + c_1 X_1 tR_3}{1 + m_{12} + m_{13} - c_1} \\
M_1 fR_2 &= \frac{m_{012} + a_1 m_{12} + Aut_1 m_{12} - m_{013} m_{12} + m_{012} m_{13} - m_{012} c_1 + m_{12} X_1 tR_2 + m_{12} X_1 tR_3}{1 + m_{12} + m_{13} - c_1} \\
M_1 fR_3 &= \frac{m_{013} + m_{013} m_{12} + a_1 m_{13} + Aut_1 m_{13} - m_{012} m_{13} - m_{013} c_1 + m_{13} X_1 tR_2 + m_{13} X_1 tR_3}{1 + m_{12} + m_{13} - c_1} \\
Y_2 &= \frac{a_2 + Aut_2 - m_{021} - m_{023} + X_2 tR_1 + X_2 tR_1}{1 + m_{21} + m_{23} - c_2} \\
C_2 &= \frac{a_2 + a_2 m_{21} + a_2 m_{23} + Aut_2 c_2 - m_{021} c_2 - m_{023} c_2 + c_2 X_2 tR_1 + c_2 X_2 tR_3}{1 + m_{21} + m_{23} - c_2} \\
M_2 fR_1 &= \frac{m_{021} + a_2 m_{21} + Aut_2 m_{21} - m_{023} m_{21} + m_{021} m_{2-} - m_{021} c_2 + m_{21} X_2 tR_1 + m_{21} X_2 tR_3}{1 + m_{21} + m_{23} - c_2} \\
M_2 fR_3 &= \frac{m_{023} + m_{023} m_{21} + a_2 m_{23} + Aut_2 m_{23} - m_{021} m_{23} - m_{023} c_2 + m_{23} X_2 tR_1 + m_{23} X_2 tR_3}{1 + m_{21} + m_{23} - c_2} \\
Y_3 &= \frac{a_3 + Aut_3 - m_{031} - m_{032} + X_3 tR_1 + X_3 tR_2}{1 + m_{31} + m_{32} - c_3} \\
C_3 &= \frac{a_3 + a_3 m_{31} + a_3 m_{32} + Aut_3 c_3 - m_{031} c_3 - m_{032} c_3 + c_3 X_3 tR_1 + c_3 X_3 tR_2}{1 + m_{31} + m_{32} - c_3} \\
M_3 fR_1 &= \frac{m_{031} + a_3 m_{31} + Aut_3 m_{31} - m_{032} m_{31} + m_{031} m_{32} - m_{031} c_3 + m_{31} X_3 tR_1 + m_{31} X_3 tR_2}{1 + m_{31} + m_{32} - c_3} \\
M_3 fR_2 &= \frac{m_{032} + m_{032} m_{31} + a_3 m_{32} + Aut_3 m_{32} - m_{031} m_{32} - m_{032} c_3 + m_{32} X_3 tR_1 + m_{32} X_3 tR_2}{1 + m_{31} + m_{32} - c_3}
\end{aligned}
\qquad (11)
$$

Expression (11) offers a convenient manipulation, since Model 4, which has the same multipliers as Models 1 to 3 taken together but separately, will be the basis for endogenizing intra-regional trade in the following paragraphs.

The theoretical rational for endogenizing intra-regional trade is based on Harrod's foreign trade multiplier and the associated Thirlwall's law (cf. *Box 1*).

Box 1. Harrod's foreign trade multiplier and Thirlwall's law

The Harrod's *static foreign trade multiplier* [Harrod (1930)] can be summarized by the following expression:

$$Y = \frac{1}{m} X$$

where Y stands for national income, X designates exports and m the marginal propensity to import. The real trade terms (or real exchange rate) are assumed to be constant and balance of trade in equilibrium (Exports= Imports or X=M).

This expression of the foreign trade multiplier implies that the main constraint to income determination is the level of external demand divided by the propensity to import. The higher is the propensity to import, the lower would be the effect of an export expansion on the income level. Taking into the account the high import propensities of the Western Balkan countries, an export-led policy might not be as efficient as it could be in less import-dependent countries. In this sense, import substitution policies are as important as export-led ones. This import substitution could be achieved for instance in the energy sector if the hydroelectric production capacity would be developed, which implies an important investment effort in the medium term.

Thirlwall's law [Thirlwall (1979, 2011)] represents a dynamic extension of Harrod's static multiplier. In its simplest variant, it asserts that "the rate of growth (y) of any country in the long run is equal to the growth rate of exports (x) divided by the income elasticity of demand for imports (π)" [Thirlwall (2011)]:

$$y = \frac{x}{\pi}$$

Thirlwall's law implies that this ratio is a good predictor of actual GDP growth. "No country can grow faster than the rate consistent with balance of payments equilibrium on current account, unless it can finance ever-growing deficits, which in general it cannot" [Thirlwall (2011]). Relative prices, exchange rates and capital movements can be introduced in this basic variant, generating several versions of the law. Contrary to a widespread view where exports are seen as linked to the supply-side of the economy, Thirlwall interprets his laws as an empirical validation that demand matters: the fact that growth is constrained by the balance of payments in a large number of countries confirms that in these countries the generation of domestic demand is insufficient to attain the growth potential, implying that "world demand" matters, as only net exports allow avoiding domestic demand shortages. Indeed, since 1979's original contribution, Thirlwall's laws were verified empirically many times, showing that they explain the growth paths followed by a large number of developing as well as by many small and medium sized advanced countries for which they were tested [Thirlwall (2011, 2012)]. For Thirlwall, his results, well tested at the international level, apply also to regionally integrated areas linked by a fixed exchange rate, in line with Kaldor's (1970) initial insights in regional economics and consistently with the related literature on the role of regional exports in explaining the regional economic base.

Box 1. Harrod's foreign trade multiplier and Thirlwall's law

In this regional framework, policy coordination (in terms of domestic demand expansion) in an economically integrated area makes a lot of sense as it enables to endogenize a part of each integrated country's imports (intraregional trade flows), thus reducing the propensity to import from abroad from the area.

Hein & Detzer (2014) discuss how the balance of payments equilibrium growth rate defined by Thirlwall laws could be used as a device for policy coordination in the Euro area, where the latter is seen as a collection of independent geographical regions bound by a common exchange rate but without a common fiscal policy, like in Model 4, where policy coordination must passively acknowledge that the aggregate demand in each area is that for the goods and services produced by its existing economic base. Obviously, as argued in the next sections, the greatest advantages of policy coordination come with active fiscal demand coordination, that can set also the basis for a reallocation of the productive base in the integrated regional area.

3.3. Trade interdependence without policy coordination

There is a long tradition in the analysis of trade linkages in the macro econometric literature, starting in particular from the Link model developed by Lawrence Klein and his associates (Waelbroeck and Grinwis, 1971; Waelbroeck, 1976). In order to introduce the interdependence between areas 1 and 2 in Model 4 of the previous section, it is necessary to add relations that determine their reciprocal exports. This is done in Model 5 below where exports of country 1 to country 2 are equal to imports of country 2 from country 1 and vice versa. Exports to country 3 from countries 1 and 2 are equal to imports of country 3 from countries 1 and 2 respectively and are defined as a function to its import parameters as done in Model 3 and 4 above[83]. For the purposes of the present analysis, it is not necessary to keep income and consumption of country 3 endogenous, therefore the income of country 3 can be taken at an exogenous level *Y3exo*.

[83] There is thus a retroaction of exports to country 3 on countries 1 and 2.

Model 5

Income of country 1	Y_1	=	$Aut_1 + C_1 + X_1tR_2 + X_1tR_3 - M_1fR_2 - M_1fR_3$
Consumption of country 1	C_1	=	$a_1 + c_1Y_1$
Imports of country 1 from 2	M_1fR_2	=	$m_{012} + m_{12}Y_1$
Imports of country 1 from 3	M_1fR_3	=	$m_{013} + m_{13}Y_1$
Exports from country 1 to 2	X_1tR_2	=	M_2fR_1
Exports from country 1 to 3	X_1tR_3	=	$m_{031} + m_{31}Y_3$
Income of country 2	Y_2	=	$Aut_2 + C_2 + X_2tR_1 + X_2tR_3 - M_2fR_1 - M_2fR_3$ (12)
Consumption of country 2	C_2	=	$a_2 + c_2Y_2$
Imports of country 2 from 1	M_2fR_1	=	$m_{021} + m_{21}Y$
Imports of country 2 from 3	M_2fR_3	=	$m_{023} + m_{23}Y$
Exports from country 2 to 1	X_2tR_1	=	M_1fR_2
Exports from country 2 to 3	X_2tR_3	=	$m_{032} + m_{32}Y_3$
Income of country 3	Y_3	=	Y_3exo

It is easy to verify that the multipliers of country 1 and country 2 incomes with respect to the three exogenous variables Aut_1, Aut_2 and $Y3exo$ are given by relations (13) and (14) below.

$$\begin{aligned}
\frac{\partial Y_1}{\partial Aut_1} &= M^{Y_1}_{Aut_1} = \frac{1 + m_{21} + m_{23} - c_2}{m_{12}(1 + m_{23} - c_2) + (1 + m_{13} - c_1)(1 + m_{21} + m_{23} - c_2)} \\
\frac{\partial Y_1}{\partial Aut_2} &= M^{Y_1}_{Aut_2} = \frac{m_{21}}{m_{12}(1 + m_{23} - c_2) + (1 + m_{13} - c_1)(1 + m_{21} + m_{23} - c_2)} \\
\frac{\partial Y_1}{\partial Y_3 exo} &= M^{Y_1}_{Y3EXO} = \frac{m_{21}m_{32} + m_{31}(1 + m_{21} + m_{23} - c_2)}{m_{12}(1 + m_{23} - c_2) + (1 + m_{13} - c_1)(1 + m_{21} + m_{23} - c_2)}
\end{aligned} \quad (13)$$

One can check there that, for Model 5, the multiplier of autonomous demand in country 1 (Aut_1) on Y_1 given by relation (13) is higher than the same multiplier for Model 1, given by relation (3). Indeed developing from the assumption that the multiplier in (13) is lower than that in (3), for reasonable values of the parameters such as $m_{12} \geq 0$, $m_{21} \geq 0$, $m_{13} \geq 0$, $m_{23} \geq 0$, $c_1 \geq 0$, $c_2 \geq 0$, $c_1 \leq 1$, $c_2 \leq 1$, one finds a contradiction.

Putting : $\dfrac{1 + m_{21} + m_{23} - c_2}{m_{12}(1 + m_{23} - c_2) + (1 + m_{13} - c_1)(1 + m_{21} + m_{23} - c_2)} < \dfrac{1}{1 + m_{12} + m_{13} - c_1}$ *gives :*

$$\frac{(1 + m_{21} + m_{23} - c_2)(1 + m_{12} + m_{13} - c_1)}{[m_{12}(1 + m_{23} - c_2) + (1 + m_{13} - c_1)(1 + m_{21} + m_{23} - c_2)](1 + m_{12} + m_{13} - c_1)} < \frac{[m_{12}(1 + m_{23} - c_2) + (1 + m_{13} - c_1)(1 + m_{21} + m_{23} - c_2)]}{[m_{12}(1 + m_{23} - c_2) + (1 + m_{13} - c_1)(1 + m_{21} + m_{23} - c_2)](1 + m_{12} + m_{13} - c_1)}$$

or : $(1 + m_{21} + m_{23} - c_2)(1 + m_{12} + m_{13} - c_1 - 1 - m_{13} + c_1) < m_{12}(1 + m_{23} - c_2)$ *The latter brings to a contradiction because :*

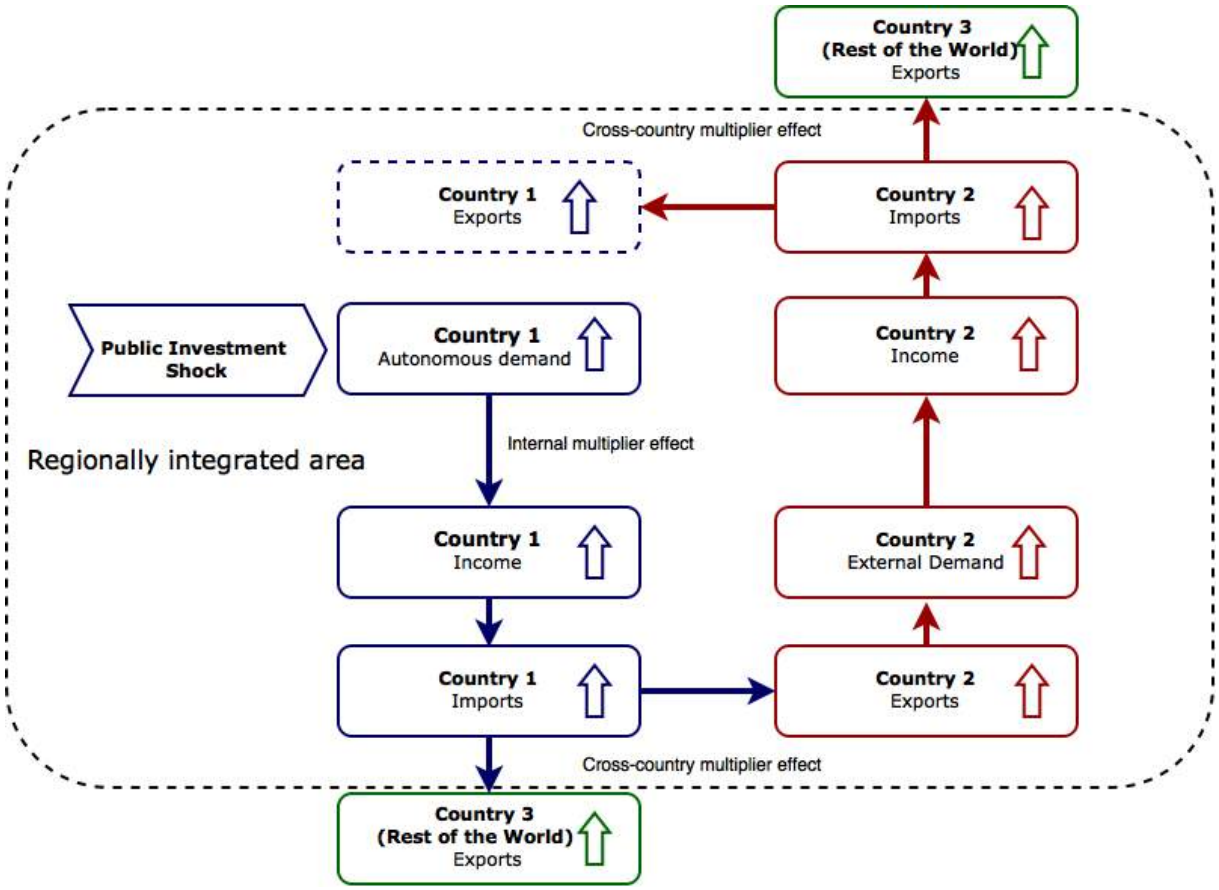
$(1 + m_{21} + m_{23} - c_2) - (1 + m_{23} - c_2) = m_{21} < 0$ *which is contrary to what was assumed in the beginning.*

Similarly one can also verify that the multiplier of Y_2 with respect to autonomous demand in country 2 in (14) is higher than the relevant multiplier in (6):

$$\begin{aligned}
\frac{\partial Y_2}{\partial Aut_1} &= M^{Y_2}_{Aut_1} = \frac{m_{12}}{m_{12}(1+m_{23}-c_2)+(1+m_{13}-c_1)(1+m_{21}+m_{23}-c_2)} \\
\frac{\partial Y_2}{\partial Aut_2} &= M^{Y_2}_{Aut_2} = \frac{1+m_{12}+m_{13}-c_1}{m_{12}(1+m_{23}-c_2)+(1+m_{13}-c_1)(1+m_{21}+m_{23}-c_2)} \\
\frac{\partial Y_2}{\partial Y_3 exo} &= M^{Y_2}_{Y_3 exo} = \frac{m_{12}m_{31}+m_{32}(1+m_{12}+m_{13}-c_1)}{m_{12}(1+m_{23}-c_2)+(1+m_{13}-c_1)(1+m_{21}+m_{23}-c_2)}
\end{aligned} \quad (14)$$

One can thus conclude that, once repercussion effects between country 1 and country 2 are taken into account in a regionally integrated area where two countries fix independently their level of autonomous demand, the effect of an autonomous domestic increase in demand is higher because the latter increases also imports from country 2, which increases its income, and therefore its imports from 1. This chain of effects can be illustrated by the following scheme where country 1 autonomous demand increases due to initial public investment stimulus (*Figure 105*):

Figure 105. Internal and cross-country multiplier effects in regionally integrated area where the level of autonomous demand is fixed independently in each country



As a special case of Model 5, one can check that for a two country model where output is considered as the endogenous variable rather than income, the multipliers (8) and (9) with no repercussion reduce to those presented in Brems (1956), therefore model 5 generalizes his model.

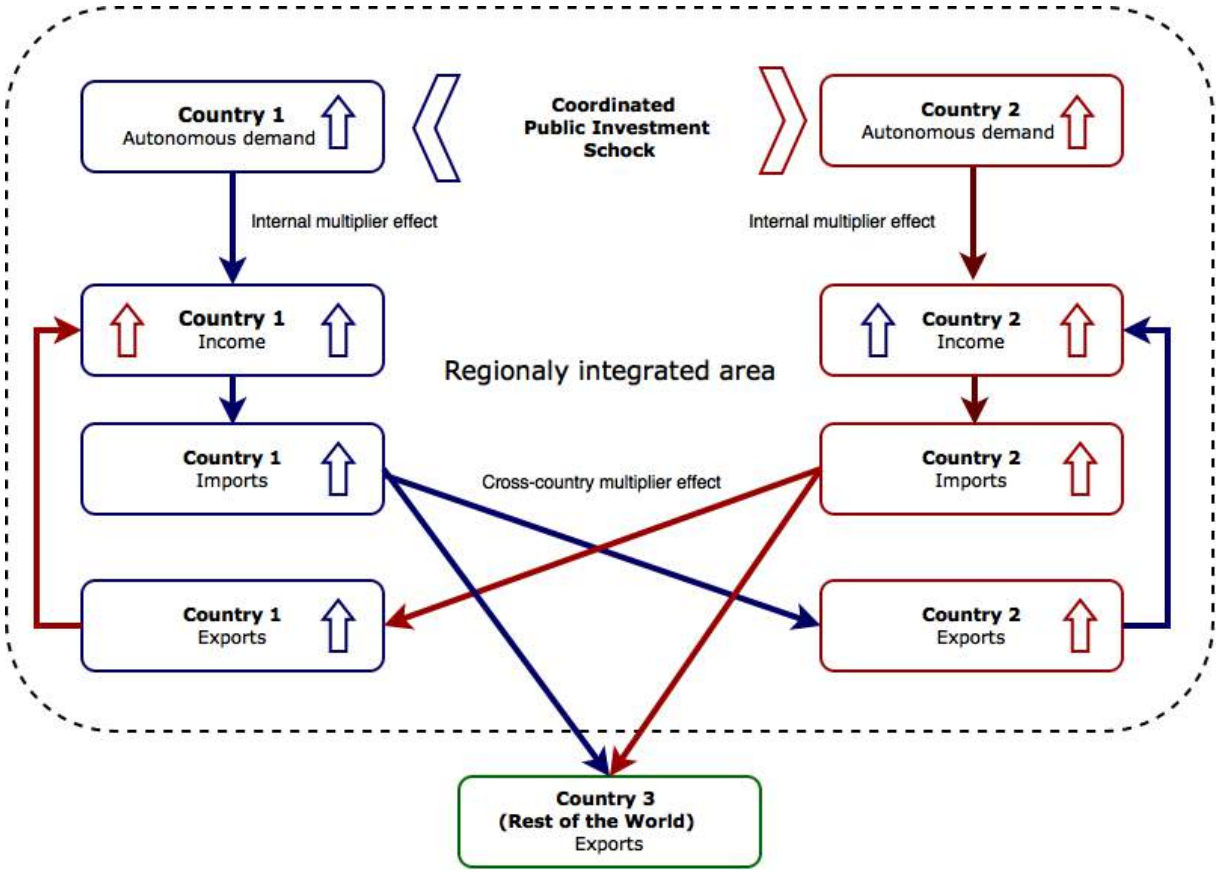
Coming back on the issue of policy coordination, one can also see in the charts of *Figure 103* (page 131) that, if by policy coordination, one can endogenize the portion

of imports that comes from the regionally integrated area (Western Balkan's intra-trade), thus decreasing import propensity from 60% to 40%, the difference between the closed and open economy multiplier would decrease by an amount that, depending from the propensity to consume, varies between 11% and 20%: from 3.75 to 3.33 if c_1=80%; from 2.22 to 1.9 if c_1=70% and from 1.5 to 1.25 if c_1=60%. The reduction in the difference between the closed and open multipliers corresponds to an increase in the open multiplier itself, which is obviously higher in % terms: going from 13% to 25% depending from the propensity to consume in the examples above. This increase in the open economy multiplier (the actual multiplier, given prevailing trade circumstances) represents the dividend from policy cooperation. It is clearly more important for more regionally integrated areas (where m_{12} and m_{21} are relatively higher with respect to m_{13} and m_{23}). Given the likely value of the parameters in the Western Balkans, the percentage increase in the value of the open economy multiplier is of the order of the share of intra-regional trade. This idea is further developed in the next section.

3.4. Trade interdependence with policy coordination

Once it is understood that policy decisions taken in one country affect the situation in all countries that are linked with it through trade, it is logical to start exploring the possibilities for policy cooperation on this basis. This can be illustrated by taking countries 1 and 2 as parts of an integrated regional area, as it is done with Model 6, which is the same as Model 5, except that a new endogenous variable is added: the total income of regions 1 and 2, which is just given by their sum $Y_{12}=Y_1+Y_2$. For studying the effects of autonomous shocks, taking country 1 and country 2 as an aggregate is equivalent to considering them as a single country.

Figure 106. Internal and cross-country multiplier effects in regionally integrated area with coordinated stimulus of autonomous demand



Model 6 is given by:

Model 6

Income of country 1	Y_1	=	$Aut_1 + C_1 + X_1tR_2 + X_1tR_3 - M_1fR_2 - M_1fR_3$
Consumption of country 1	C_1	=	$a_1 + c_1Y_1$
Imports of country 1 from 2	M_1fR_2	=	$m_{012} + m_{12}Y_1$
Imports of country 1 from 3	M_1fR_3	=	$m_{013} + m_{13}Y_1$
Exports from country 1 to 2	X_1tR_2	=	M_2fR_1
Exports from country 1 to 3	X_1tR_3	=	$m_{031} + m_{31}Y_3$
Income of country 2	Y_2	=	$Aut_2 + C_2 + X_2tR_1 + X_2tR_3 - M_2fR_1 - M_2fR_3$
Consumption of country 2	C_2	=	$a_2 + c_2Y_2$
Imports of country 2 from 1	M_2fR_1	=	$m_{021} + m_{21}Y$
Imports of country 2 from 3	M_2fR_3	=	$m_{023} + m_{23}Y$
Exports from country 2 to 1	X_2tR_1	=	M_1fR_2
Exports from country 2 to 3	X_2tR_3	=	$m_{032} + m_{32}Y_3$
Income of country 3	Y_3	=	Y_3exo
Total income of integrated area	Y_{12}	=	$Y_1 + Y_2$

(15)

The final solution of the model implies the following multipliers for total income of countries 1 and 2 (Y_{12}):

$$\begin{array}{lll} \dfrac{\partial Y_{12}}{\partial Aut_1} = M^{Y_{12}}_{Aut_1} = & \dfrac{1+m_{12}+m_{21}+m_{23}-c_2}{m_{12}(1+m_{23}-c_2)+(1+m_{13}-c_1)(1+m_{21}+m_{23}-c_2)} \\ \dfrac{\partial Y_{12}}{\partial Aut_2} = M^{Y_{12}}_{Aut_2} = & \dfrac{1+m_{12}+m_{13}+m_{21}-c_1}{m_{12}(1+m_{23}-c_2)+(1+m_{13}-c_1)(1+m_{21}+m_{23}-c_2)} \\ \dfrac{\partial Y_{12}}{\partial Y_3 exo} = M^{Y_{12}}_{Y3exo} = & \dfrac{m_{32}(1+m_{12}+m_{13}+m_{21}-c_1)+m_{31}(1+m_{12}+m_{21}+m_{23}-c_2)}{m_{12}(1+m_{23}-c_2)+(1+m_{13}-c_1)(1+m_{21}+m_{23}-c_2)} \end{array} \quad (16)$$

Since the denominators in these multipliers are the same as those in (13) and (14) it is relatively simple to check that the three multipliers in (16) are higher than either (13) and (14), as in fact they represent their sum as shown in the table below:

	Y_1	Y_2	Y_{12}
Aut_1	$\dfrac{1+m_{21}+m_{23}-c_2}{m_{12}(1+m_{23}-c_2)+(1+m_{13}-c_1)(1+m_{21}+m_{23}-c_2)}$	$\dfrac{m_{12}}{m_{12}(1+m_{23}-c_2)+(1+m_{13}-c_1)(1+m_{21}+m_{23}-c_2)}$	$\dfrac{1+m_{12}+m_{21}+m_{23}-c_2}{m_{12}(1+m_{23}-c_2)+(1+m_{13}-c_1)(1+m_{21}+m_{23}-c_2)}$
Aut_2	$\dfrac{m_{21}}{m_{12}(1+m_{23}-c_2)+(1+m_{13}-c_1)(1+m_{21}+m_{23}-c_2)}$	$\dfrac{1+m_{12}+m_{13}-c_1}{m_{12}(1+m_{23}-c_2)+(1+m_{13}-c_1)(1+m_{21}+m_{23}-c_2)}$	$\dfrac{1+m_{12}+m_{13}+m_{21}-c_1}{m_{12}(1+m_{23}-c_2)+(1+m_{13}-c_1)(1+m_{21}+m_{23}-c_2)}$
$Y3EXO$	$\dfrac{m_{21}m_{32}+m_{31}(1+m_{21}+m_{23}-c_2)}{m_{12}(1+m_{23}-c_2)+(1+m_{13}-c_1)(1+m_{21}+m_{23}-c_2)}$	$\dfrac{m_{12}(m_{31}+m_{32})+m_{32}(1+m_{13}-c_2)}{m_{12}(1+m_{23}-c_2)+(1+m_{13}-c_1)(1+m_{21}+m_{23}-c_2)}$	$\dfrac{m_{32}(1+m_{12}+m_{13}+m_{21}-c_1)+m_{31}(1+m_{12}+m_{21}+m_{23}-c_2)}{m_{12}(1+m_{23}-c_2)+(1+m_{13}-c_1)(1+m_{21}+m_{23}-c_2)}$

(17)

It is thus clear that the total impact of an increase of autonomous demand in country 1 has higher effects on the total of incomes of country 1 and 2 than on the incomes of each of the countries.

An example can serve to fix the ideas. The following values for the parameters are relatively realistic for WB7 (propensities to consume and import) or simplify the argument (zero autonomous demand parameters)[84]:

Table 29. *Sample parameters for the WB countries*

Autonomous import demand	$m_{012}=0$	$m_{013}=0$	$m_{021}=0$	$m_{023}=0$	$m_{031}=0$	$m_{032}=0$
Import propensities	$m_{12}=0.15$	$m_{13}=0.35$	$m_{21}=0.15$	$m_{23}=0.35$	$m_{31}=0.4$	$m_{32}=0.4$
Consumption coefficients	$c_1=0.65$	$c_2=0.7$	$a_1=0$	$a_2=0$	-	-

With these parameters, the income multipliers for an autonomous demand shock are as follows (*Table 30*):

[84] The value for m_{31} implies that the rest of the world is treated as a "small country", of the size of the Western Balkans, which can be done by a change of unit. In that case the value of 0.4 is acceptable.

Table 30. Multipliers values for the WB sample

	Independent Small open economies (Models 1-4)		Regionally integrated area (Models 5 to 6)			
	Y_1	Y_2	Y_1	Y_2	Y_{12}	Y_{12}
Aut_1	**1.1765**	-	**1.2167**	0.2281	**1.4449**	**2.9658**
Aut_2	-	**1.25**	0.2281	**1.2928**	**1.5209**	
Y_3exo	-	-	0.5779	0.6084	1.1863	

For these parameters, the value of the multipliers in Model 1 to 4 are respectively 1.18 for country 1 and 1.25 for country 2, therefore, with reference to the discussion at the end of the previous section, it is apparent that by endogenizing exports going from Model 4 to Model 5 the multiplier increases from 1.18 to 1.22 in country 1 and from 1.25 to 1.29 in country 2. However this is only part of the story, because in fact the increase in autonomous demand in country 1 also has effects on income of country 2, for which the multiplier is 0.23. Thus the total effect on country 1 and country 2 together of an increase in autonomous demand in country 1 is 1.44, which is significantly higher than 1.18 (+22%).

The same is true for country 2: from 1.25 in model 2, the multiplier of an autonomous demand shock in country 2 becomes 1.29 and the total effect on country 1 and 2 is 1.52 (+22%). It is thus clear that by giving *coordinated demand shock* country 1 and 2 can substantially increase their joint income. The latter is given by the sum of the multipliers $M_{Aut_1}^{Y_{12}}$ and $M_{Aut_2}^{Y_{12}}$ in the last column of *Table 3*, which is in this case: 2.96 that divided by 2 gives 1.48. To obtain the same effect[85] by an uncoordinated autonomous demand shock, would have required 1.26 increase in autonomous demand in country 1 and 1.18 in country 2, against a shock of 1 in both countries when they coordinate their policies.

3.4.1. Policy coordination vs. competitiveness policies

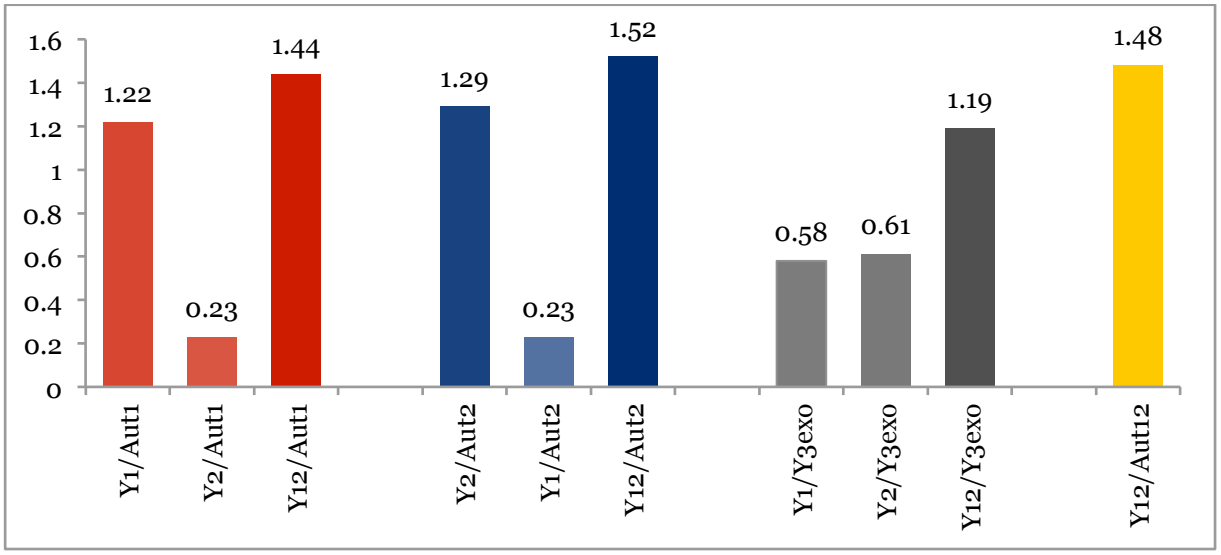
Recent studies argue for a "new growth model" in the Balkans based on export stimulation as pre-crisis domestic demand-led growth is regarded to be unsustainable (ECFIN (2009), EBRD (2010), World Bank (2014)). Such export stimulation policies imply, generally, an improvement in the business environment and competitiveness enhancing policies. While improving export performances is no doubt an important challenge for the Western Balkans, which would bring positive effects and diminish existing trade imbalances, it is important to understand how this improved competitiveness is achieved.

With reference to the discussion in the previous paragraph, one should note that the multiplier $M_{Y3exo}^{Y_{12}}$ is lower (1.19) than the coordinated policy multiplier (1.48) (Cf. *Table 30* and *Figure 107*). This means that if exogenous demand for country 1 and

[85] Equivalent to 1.48

country 2 exports would increase by an amount corresponding to a unitary shock on autonomous demand in country 3, then the multiplier effect on countries 1 and 2 would be of the same order, although significantly lower (1.19 against 1.48), to that of a unitary increase in domestic demand in both countries[86]. In other words, in this context, all other things being equal, a domestic demand stimulus would have a more substantial effect on income than an increase in exports triggered by a stimulus of external demand of the same size).

Figure 107. Coordinated policy multipliers (direct, induced and joint effects)



Note: Y1/Aut1 – country 1 income multiplier of country 1 demand shock; Y2/Aut1 – country 2 induced income multiplier of country 1 demand shock; Y12/Aut1 – total income multiplier of country 1 demand shock; Y2/Aut2 – country 2 income multiplier of country 2 demand shock; Y1/Aut2 – country 1 induced income multiplier of country 2 demand shock; Y12/Aut2 – total income multiplier of country 2 demand shock; Y1/Y3exo – country 1 induced income multiplier of country 3 income shock; Y2/ Y3exo – country 2 induced income multiplier of country 3 income shock; Y12/ Y3exo – total country 1 and 2 income multiplier of country 3 income shock; Y12/Aut12 – total income multiplier of coordinated demand shock in countries 1 and 2 (by country).

Moreover, one should consider the potential effect of competitiveness policies when these are achieved through wage contraction rather than productivity increases and their effects on export flows. A unit labour costs decrease (*i.e.* the most common measure retained for cost competitiveness) can result from either a relative reduction in domestic wages compared to wages abroad or a relative increase in productivity of the domestic economy versus the rest of the world. In the second case, when productivity increases are achieved through new investment, the domestic demand increases, whereas if they are achieved only through wage contraction it is reduced and this channel of transmission can offset the favourable effect of the gain in competiveness. In this respect, examining a large sample of Belgian exporting firms, Decramer, Fuss and Konings (2014) find a partial elasticity of exports to unit labor costs comprised between -0.2 and -0.4, i.e. rather low. It means that if unit labor costs were decreased by 10% through wage contraction, exports would increase only by 4%.

[86] As mentioned before, country 3 is assumed in this example to be of the same size of country 1 and 2, representing the Western Balkans, in order to retain an import propensity of 40%. That is equivalent to assuming a different unit for Y_3 and for Y_1 and Y_2. However, the argument is not affected by this change of unit. Under these assumptions, a unitary increase in demand of country 3 corresponds to an absolute increase in exports of country 1 or 2 by 1 unit, which, with an export to GDP ratio of 40% corresponds to a gain of 6% in unit labour costs.

If competitiveness policies are based on wage deflation only, they imply, at first, a negative effect on domestic income. Therefore, when one compares the multiplier effect of a unitary increase in domestic and external demand, the net effect of competitiveness policies is not given by the unit labour cost shock multiplied by elasticity of exports to country 3, but by a lower multiplier figure that takes into account the reduction of domestic output following wage deflation, which could be substantial. In fact, it is now generally acknowledged that growth is wage rather than profit led [see for instance Lavoie and Stockhammer (2012) and (2013)] and therefore an intelligent policy of wage increases is supportive to growth, whereas wage deflation has cumulative negative effects on economic activity. Hence competitiveness gains must be pursued through investment and productivity increases rather than wage deflation if growth and employment objectives must be achieved.

The argument for wage-led growth can also be appreciated with reference to Kalecki's interpretation of the multiplier, which sees it as expressing distributive shares, with the denominator that equals the profit share of income in the simplest case of a closed economy where workers do not save. When the economy is open to foreign trade, things get more complicated, but the various parameters at play make it relatively plausible that the positive effect on export demand of a decrease in wages is more than compensated by the negative effect on domestic demand through a deterioration of the distribution between wages and profits to the detriment of wages [see for instance Laski and Walther (2015)]. Therefore, in the short-term, when private investment is constrained by a lack of demand and fiscal space considerations limit public investment, productivity cannot increase because of a lack of investment. The only way to obtain gains in unit labor costs is then to reduce wages, which, as argued above, is likely to provoke a compensating reduction in domestic demand. This implies that the interregional coordination of demand through the foreign trade multiplier is a more effective way to restore growth that wage deflation, also because it allows to achieve productivity gains once private investment responds to the improvement in demand conditions, which is unlikely to occur under wage deflation.

On the contrary, if it would be possible to obtain a significant cost reduction by a devaluation of the exchange rate, then this multiplier effect of exogenous demand would be achieved at no cost in terms of domestic deflation, as it is the case for instance for the exchange rate policy followed by China after its entry in the World Trade Organization, whose effect on the Euro area have been mitigated for a while by the appreciation of the dollar. However, excluding cases where exchange rate controls still exist and are effective, it is not possible to keep artificially a low exchange rate in a sustainable way, therefore sooner or later in a country that runs a current account surplus there would be an appreciation of the exchange rate.

To come back on the discussion of Thirlwall's laws and on policy coordination, for a regionally integrated area, an alternative to a passive policy of waiting that negative external shocks vanish is an active demand coordination exploiting regional trade multipliers as that suggested in the present contribution. Such an alternative is all the more rational, if not necessary, given that in a regionally integrated area, by definition, not only goods and services, but also factors of production, cross borders through trade, and, as recent developments confirm, these not always go towards reducing imbalances.

3.4.2. Potential effect of regional infrastructure projects

The theoretical argument in favour of policy coordination developed here can be applied also to the evaluation of the effects of regional infrastructure investment in the Western Balkans.

Coordination of investment policy in regionally integrated areas, as promoted under the *Western Balkans Investment Framework*[87], fully fulfils the requirements of the policy coordination framework considered in this paper and is thus beneficial. These benefits can be achieved in particular by focusing investment on a network of regional investment projects which can be financed in all countries at the same time and contribute to improve supply conditions. Some developments of the above analysis can be found in Cingolani, Garbellini and Wirkiermann (2012 and 2014), in particular on the question of a rational sharing of the cost and benefits of such investment policy coordination. Active policy coordination towards growth and employment creation represents an alternative to the present coordination, and often disruptive competition, around austerity targets.

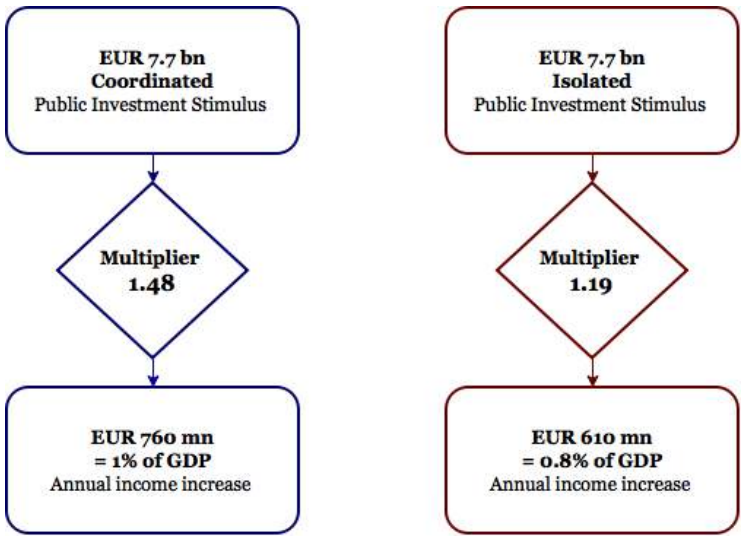
Such infrastructure projects are sizeable enough for their impact to be measurable at the macroeconomic level. Let's consider the connectivity agenda within the "WB6/Berlin process" and priority projects in transport and energy sectors agreed by the Western Balkans Vienna summit of August 2015. The total cost of these priority projects was estimated to be EUR 7.7 bn by WIIW [see Holzner, Stehrer and Vidovic (2015)]. As these projects are of regional importance and concern all the countries of the region, they could be considered as representing a coordinated domestic demand stimulus. Assuming that all the projects will be realised in the following 15 years, they imply an annual investment of EUR 513 mn. Applying the coordinated policy multiplier for the WB7 region (1.48)[88] to this annual additional investment suggests an increase of EUR 759 mn in income per year, which represents 1% of regional GDP.

It is important to underline one more time that such a sizeable effect is conditional on a coordinated and simultaneous action in all the countries of the region. An isolated action of the same magnitude would generate only 0.8% growth as shown in *Figure 108*.

[87] see: www.wbif.eu.

[88] It is acceptable to take the same hypothetical value of the cross-regional multiplier in WB6 and WB7 to the extent that, in parallel with the WB6 process, Croatian connectivity investments are also increased in parallel with the support of the Structural and Cohesion Funds of the European Union.

Figure 108. Potential income effect of EUR7.7 bn investment package



A more important income effect could be achieved when considering a larger initial demand stimulus comprising not only transport and energy connectivity agenda but also environment and social sector investments as well as SMEs supporting programs. This could be achieved with the help of IPA national investment budget when the latter is open to social investment.

Conclusion. Investment needs and financing – mind the gap

After six years of crisis, the Western Balkans are finally again on the path of growth. The unemployment remains unacceptably high and private investment, though showing positive signs, is still fragile. While the crisis has shown the drawbacks of the previous growth model, the aftermath of the crisis is critical to find a new, more sustainable, way to development.

The main message of the analysis presented in this report is that taking this way is impossible without substantial investment effort in all the spheres of the economy with public investment being the engine of this movement. Infrastructure investment needs are huge in light of existing infrastructure gaps and lack of appropriate maintenance during several years. A particular attention should also be given to promote the investment by the SMEs as they are the backbone of economic activity and employment in the Western Balkans.

While recognising the challenge of improving the overall efficiency of spending, this report emphasizes that, at this stage, the major part of investment could be realised only through the debt increase. Growth can be (and should be) effectively stimulated trough investment but the capacity to borrow should be increased by adapting the concept of fiscal space to the shared development vision agreed by the donors and the final beneficiaries for the region. It is more than ever important to support investment in infrastructure and SME lending. Otherwise, there is an important risk for the region to be stuck in the vicious cycle of low growth, weak private investment, high unemployment and high debt level.

To address this challenge, the role of development finance is crucial. It is the only way to finance long-term projects needed to redesign economic and social structure of the Balkan countries. Official support coordinated by the WBIF and the National Investment Committees (NICs), though insufficient to cover all the needs, represents a critical mass (some [16%] of the estimated public and private investment needs) that, if suitably planned and coordinated, could also influence choices on the other [84%] (cf. *Table 31*).

NICs defining strategies and prioritizing projects to be supported by IPA grants, should establish investment selection criteria that take into account also potential effects on growth, labor, welfare and cross-border effects. Their capacity to program the use of IPA resources and combine them with IFI loans for the development of the region in an efficient and effective way will be a key determinant of the success of this phase of EU integration.

The Western Balkan countries are small open economies linked by trade. The report shows that ccoordinated action on autonomous demand via increasing simultaneously public investment in several or all the countries of a regionally integrated area is more effective than isolated action by a single country**.** Coordination of investment policy, as promoted under the *Western Balkans Investment Framework,* is thus beneficial. These benefits can be achieved,

particularly, by focusing investment on a network of regional investment projects which can be financed in all countries at the same time and contribute to improve supply conditions.

Table 31. *WB6, possible coverage of financing needs by external flows (WBIF) 2015-20 (EUR mn)*

Expected annual investment in WB6. Estimated distribution infra/SMEs	Inv. needs coverage 2015-2020	Assumption		Resulting estimate	
		% lending imputed to infra	% lending imputed to SMEs	Estimated Infra investment	Estimated SME investment
Estimated amount of annual investment in WB6	**24 271**	27%	51%	**6 510**	**12 467**
IPA II annual grants for investment	350	95%	5%	333	18
EIB annual lending	600	41%	39%	246	234
EBRD annual lending	1 000	60%	30%	600	300
CEB annual lending	150	66%	33%	100	50
WB annual lending	580	40%	0%	232	-
KfW annual lending	280	26%	29%	73	81
Other lending and grants	100	50%	50%	50	50
Total Official Flows	**3 060**	53%	45%	**1 632**	**732**
% of annual investment needs	**16%**			**25%**	**6%**

Sources: consultations with the IFIs and own calculations

One should also bear in mind the geopolitical importance for the EU to maintain its influence in the strategic Western Balkans region as other competitors (China, Russia, etc.) are already widely present by conducting active investment policy often contradictory with EU policies[89].

Finally, despite a clear tendency to prioritize energy and transport projects following the Berlin process, social and environment sector are in crucial need of investments which are essential to achieve long-term development of the region, they should thus be fully integrated in the programming of the resources invested to satisfy the needs of the region, taking advantage of the fact that the NICs are responsible also to make proposals for the national budget.

[89] Cf. for example, Poulain (2011) for the overlook of China's strategy in the region.

References

Adarov, Amat, Vasily Astrov, Serkan Çiçek, et al. 2015. "A Time of Moderate Expectations", wiiw Forecast Report No. Spring 2015, Vienna Institute for International Studies, March 2015.

Allais, Maurice. 1962. "The Influence of the capital-output ratio on the real national income", *Econometrica*, 1962, Vol. 30, Issue 4 (October), pp. 700 – 728.

Andrés, Luis, Dan Biller, and Matias Herrera Dappe. 2014. "Infrastructure Gap in South Asia. Infrastructure Needs, Prioritization, and Financing," Policy Research Working Paper 7032, The World Bank.

Antiochou, Effie. 2011. "Medium Term Projections of Investment in the Western Balkans", EIB Working Paper, Sept 2011, 43 p.

Artus, Patrick, Michel Deleau and Pierre Malgrange. 1986. *Modélisation macroéconomique*, Paris: Economica.

Astrov, Vasily, Vladimir Gligorov, Doris Hanzl-Weiss, et al. 2012. "New Divide(s) in Europe?", wiiw Current Analyses and Forecasts, No. 9, Vienna, March 2012.

Ayyagari, Meghana, Thorsten Beck, Asli Demirguc-Kunt. 2003. "Small and Medium Enterprises across the Globe: A New Database", World Bank WPS 3127.

Ball, Laurence M., Daniel Leigh, and Prakash Loungani. 2013. "Okun's Law: Fit at Fifty?", *NBER Working Paper*, No. 18668.

Barjaktarevic, Zaneta Ostojic. 2001. "Condition of the Serbian Railways Infrastructure and Chances for its Fair Inclusion in the European Railways", UIC.

Barro, Robert J. 1988. "Government Spending in a Simple Model of Endogenous Growth", *RCER Working Papers* from University of Rochester - Center for Economic Research (RCER)

Bartlett, Will, and Milica Uvalić. 2013. "Chapter 1. Introduction". [ed] Will Bartlett and Milica Uvalić. *The Social Consequences of the Global Economic Crisis in South East Europe*. London: London School of Economics and Political Science, June 2013, pp.1-14.

Baumol, William J. 1990. "Entrepreneurship: Productive, Unproductive and Destructive", *Journal of Political Economy*, October.

Beck, Thorsten, Asli Demirguc-Kunt, and Ross Levine. 2005. "SMEs, Growth, and Poverty", NBER WP w11224.

Bencivenga, Valerie R., and Bruce D. Smith. 1991. "Financial Intermediation and Endogenous Growth". *Review of Economic Studies*. 1991, Vol. 58, pp. 195-209

Bhattacharya, Amar, Mattia Romani, and Nicholas Stern. 2012. "Infrastructure for development: meeting the challenge," The Centre for Climate Change Economics and Policy (CCCEP), The Grantham Research Institute on Climate Change and the Environment in collaboration with The Intergovernmental Group of Twenty-Four on International Monetary Affairs and Development (G-24).

Bićanić, Rudolf. 2010. *Economic Policy in Socialist Yugoslavia*, Cambridge: Cambridge University Press.

Bonifazi, Corrado, and Marija Mamolo. 2004. "Past and Current Trends of Balkan Migrations ", Espace populations sociétés [online], 2004/3 | 2004, mis en ligne le 22 janvier 2009, consulté le 29 octobre 2013. URL: http:// eps.revues.org/356

Bredenkamp, Caryn, and Michele Gragnolati. 2008. "Sustainability of Health Care Financing in the Western Balkans: an Overview of Progress and Challenges", *South-East Europe Review*, 2/2008, pp.151-184.

Brems, Hans. 1956. "A generalization of the foreign trade multiplier", *Kyklos*, 9, n. 4: 475-491.

Business and Finance Consulting. 2016. "Assessment of financing needs of SMEs in the Western Balkans countries: country reports", Business and Finance Consulting, Zurich, April 2016.

Cingolani, Massimo, Nadia Garbellini and Ariel Luis Wirkierman. 2012. "Macroeconomic Developments and Medium Term Outlook for the Western Balkans and Croatia" in *European Integration Process in Western Balkan Countries*, Paulino Teixeira, Antonio Portugal Duarte, Srdjan Redzepagic, Dejan Eric, Saša Andrejevic (ed.), 91-113, Coimbra, Faculty of Economics.

Cingolani, Massimo, Nadia Garbellini and Ariel Luis Wirkierman. 2014. "Multiplicateurs matriciels du commerce extérieur et coordination de la politique fiscale: une application aux Balkans Occidentaux", In: *La 'grande Europe' en devenir*, Claude Berthomieu, Jean-Paul Guichard, Elena Ponomarenko, Srdjan Redzepagic ed., 175-186, Nice: Cemafi International.

Clark, Colin M.A. 1957. *The conditions of economic progress*, London: Macmillan & co ltd and New York: St Martin's Press, Third edition.

Commission on Growth and Development. 2008. "The Growth Report. Strategies for Sustained Growth and Inclusive Development," The International Bank for Reconstruction and Development / The World Bank, Washington.

Danube Water Program. 2015a. "Water and Wastewater Services in the Danube Region. Albania Country Note: A state of the Sector," the World Bank, Washington, May 2015.

Danube Water Program. 2015b. "Water and Wastewater Services in the Danube Region. Bosnia and Herzegovina Country Note: A state of the Sector," the World Bank, Washington, May 2015.

Danube Water Program. 2015c. "Water and Wastewater Services in the Danube Region. Croatia Country Note: A state of the Sector," the World Bank, Washington, May 2015.

Danube Water Program. 2015d. "Water and Wastewater Services in the Danube Region. Kosovo Country Note: A state of the Sector," the World Bank, Washington, May 2015.

Danube Water Program. 2015e. "Water and Wastewater Services in the Danube Region. FYR Macedonia Country Note: A state of the Sector," the World Bank, Washington, May 2015.

Danube Water Program. 2015f. "Water and Wastewater Services in the Danube Region. Montenegro Country Note: A state of the Sector," the World Bank, Washington, May 2015.

Danube Water Program. 2015g. "Water and Wastewater Services in the Danube Region. Serbia Country Note: A state of the Sector," the World Bank, Washington, May 2015.

Dascalovic, Djordje. 2015. "Works on Bar-Boljare motorway in Montenegro formally get underway – report", *SeeNews*, May 11, 2015, http://wire.seenews.com/news/works-on-bar-boljare-motorway-in-montenegro-formally-get-underway-report-475943.

De Lima, P., S. Bernabè, R.L. Bubbico, S. Leonardo, C. Weiss. 2016. "Forced and economic migration to Europe: challenges and opportunities", *Biweekly Econ Special Focus*, European Investment Bank, March 2016.

Decramer, Stefaan, Catherine Fuss and Jozef Konings. 2014. "How do exporters react to changes in cost competitiveness?", *ECB Working Paper Series*, n. 1752, December.

Domar Evsey D. 1944. "The Burden of Debt and National Income". *American Economic Review*, Dec, Vol. 34 Issue 4, pp. 798-827.

Domar, Evsey D. 1946. "Capital Expansion, Rate of Growth, and Employment", *Econometrica,* Vol. 14, No. 2 (Apr., 1946), pp. 137-147

Dornbusch, Rudiger. 1980. *Open Economy Macro-economics*, New York: Basic Books.

Easterly, William. 1999. "The Gost of Financing Gap. Testing the Growth Model Used in the International Financial Institutions", *Journal of Development Economics* 60 (2), pp. 423-438, (December 1999).

EBRD. 2010. "Recovery and Reform", Transition Report 2010, EBRD.

ECFIN. 2009. "The Western Balkans in Transition", Directorate-General for Economic and Financial Affairs *Occasional Papers*, n. 49: 1-78.

ECFIN. 2010. "The pre-accession economies in the global crisis: from exogenous to endogenous growth", Occasional Papers, No.62, June 2010.

EEA. 2014. "Security implications of future water use in Western Balkans: Indicators," prepared by Globevnik, Lidija, Luka Snoj, and Gašper Šubelj, European Environment Agency, March 2014.

EIB. 2016. "Health Policy Paper", European Investment Bank, Luxembourg, February 2016.

Energy Community. 2013. "Energy Community Strategy and Projects of Energy Community Interest", 1 November 2013, Energy Community Secretariat.

Energy Community. 2015. "Annual Implementation Report", 1 September 2015, Energy Community Secretariat.

ETF. 2014. "Skills 2020 Albania", European Training Foundation, 2014.

ETF. 2014. "Skills 2020 Former Yugoslav Republic of Macedonia ", European Training Foundation, 2014.

ETF. 2014. "Skills 2020 Kosovo", European Training Foundation, 2014.

ETF. 2014. "Skills 2020 Montenegro", European Training Foundation, 2014.

ETF. 2014. "Skills 2020 Serbia", European Training Foundation, 2014.

European Commission. 2009. "Social Protection and Social Inclusion in the Western Balkans. A Synthesis Report," European Commission, Directorate-General for Employment, Social Affairs and Equal Opportunities, 2009.

Eurostat. 2013. *European system of accounts - ESA 2010*, Luxembourg: Publications Office of the European Union. Available online.

Feenstra, Robert C., Robert Inklaar, and Marcel P. Timmer. 2013. "The Next Generation of the Penn World Table" available for download at www.ggdc.net/pwt.

Gabrisch, Hubert. 2014. "The binding constraint on growth in less developed Western Balkan countries", MPRA Paper No. 60020, http://mpra.ub.uni-muenchen.de/60020/, pp.1-25.

Garbellini, Nadia and Ariel Wirkierman. 2012. "A brief note on the foreign trade structure of the Western Balkans (2006-2011)", Draft dated 4 October 2012.

Gligorov, Vladimir, Mario Holzner, Michael Landesmann, et al. 2012. "New Divide(s) in Europe?", Current Analyses and Forecasts: Economic Prospects for Central, East and Southeast Europe, Vienna Institute for International Studies, March 2012.

Global Footprint Network. 2015. National Footprint Accounts, 2015 Edition.

Godley, Wynne, and Marc Lavoie. 2007. *Monetary Economics: An Integrated Approach to Credit, Money, Income, Production and Wealth*, Palgrave MacMillan, New York

Godley, Wynne, and Marc Lavoie. 2007. *Monetary Economics: An Integrated Approach to Credit, Money, Income, Production and Wealth*, Palgrave MacMillan, New York

Goldsmith, Raymond W. 1952. "The growth of reproducible wealth of the United States of America from 1805 to 1950", *Income and Wealth of the United States. Trends and Structure. Income and Wealth, Series II* - 1952. Publication of the International Association, for Research in Income and Wealth, Edited by: Simon Kuznets, 244-328.

Government of Kosovo. 2014. "Progress Report 2014. Joint Annual Review – Kosovo Education Strategic Plan", Ministry of Education, Science and Technology, 2014.

Government of the Republic of Serbia. 2011. "National Environmental Approximation Strategy for the Republic Of Serbia", Ministry of Environment, Mining and Spatial Planning, Belgrade, December 2011.

Government of the Republic of Serbia. 2012. "Strategy for Education Development in Serbia 2020", Ministry of Education, Science and Technological Development of the Republic of Serbia, Belgrade, 2012.

Graziani, Augusto. 1961. "Il Rapporto Capitale-Prodotto nell'Economia Italiana : Aspetti teorici e risultati statistici", *Giornale degli Economisti e Annali di Economia*, Nuova Serie, Anno 20, No. 3/4, (Marzo-Aprile 1961), pp. 211-244.

Graziani, Augusto. 1967. "La valeur actuelle de la théorie de l'équilibre économique général", *Economies et Sociétés - Cahiers de l'ISE*A, n. 16, pp. 119-176, special number of the series BA5: Cahiers franco-italiens n. 9 (Novembre); translation of large parts of Equilibrio generale ed equilibrio macroeconomico, Napoli: Edizioni Scientifiche Italiane, 1965.

Guesnerie, Roger. 2013. "Expectational Coordination Failures and Market Volatility", CH 1 in *Rethinking Expectations: The way forward in macroeconomics*. Roman Frydman and Edmund S. Phelps ed., Princeton: Princeton University Press.

Harrod, Roy F. 1939. "An Essay in Dynamic Theory", *The Economic Journal,* Vol. 49, No. 193 (Mar., 1939), pp. 14-33.

Harrod, Roy. F. 1957 [1933]. *International Economics*, Chicago: the University of Chicago Press.

HEAL. 2016. "Health Impacts of Coal Fired Power Stations in the Western Balkans", by Mike Holland, Health and Environment Alliance (HEAL), March 2016.

Hein, Eckhard and Daniel Detzer. 2014. "Coping with imbalances in the Euro area: Policy alternatives addressing divergences and disparities between member countries", FESSUD Working Paper Series, No 63, September, 2014.

Helmstädter, Ernst. 1973. "The Long-Run Movement of the Capital-Output Ratio and of Labour's Share", in *Models of Economic Growth, Proceedings of a Conference held by the International Economic Association at Jerusalem*, James A. Mirrlees and Nicholas H. Stern ed., 3-22, London: Macmillan.

Hicks, John. 1965. *Capital and Growth*, Oxford: Claredon Press.

Holzner, Mario, Robert Stehrer, and Hermine Vidovic. 2015. "Infrastructure Investment in the Western Balkans", Research Report 407, The Vienna Institute for International Economic Studies (wiiw), September 2015.

Ianchovichina, Elena, Antonio Estache, Renaud Foucart, Grégoire Garsous, and Tito Yepes. 2012. "Job creation through infrastructure investment in the Middle East and North Africa," Policy Research Working Paper 6164, The World Bank.

INSTAT. 2015. "Labour Cost Survey 2013", Albania.

Kaldor, Nicholas. 1957. "A Model of Economic Growth", *Economic Journal*, Dec., 1957, pp. 591–624.

Kaldor, Nicholas. 1970. "The case for regional policies", *Scottish Journal of Political Economy*, 17, 3 (Nov.): 337-348.

Kalecki, M. 1990[1935]. "The Business Upswing and the Balance of Payments". In *Collected Works of Michal Kalecki : Volume I, Capitalism: Business Cycles and Employment*. ed. J. Osiatynski, 195-200, Oxford: Clarendon Press.

Kapsos, Steven. 2005. "The employment intensity of growth: Trends and macroeconomic determinants", *Employment Strategy Papers*, 2005/12, International Labour Office.

Kennedy, Charles and Anthony P. Thirlwall. 1979. "The input-output formulation of the foreign trade multiplier", *Australian Economic Papers*, Wiley Blackwell, 18, n. 32 (June): 173-80.

King, John. 1998. "From Giblin to Kalecki: The Export Multiplier and the Balance of Payments Constraint on Economic Growth, 1930-1933", *History of Economics Review*, Volume 28, Summer 1998: 62-71.

Kosovo National Council for European Integration. 2013. "Thematic Round Table on National Council for European Integration Innovation Information Society Social and Health Policies. Kosovo 2020," Pristina, May 2013.

Kovtun, Dmitriy, Alexis Meyer Cirkel, Zuzana Murgasova, Dustin Smith, and Suchanan Tambunlertchai. 2014. "Boosting Job Growth in the Western Balkans", *IMF Working Paper*, WP/14/16, IMF.

Kuznets, Simon. 1952. "Long-term changes in the national income of the United States of America since 1870", *Income and Wealth of the United States. Trends and Structure. Income and Wealth, Series II* - 1952. , Publication of the International Association , for Research in Income and Wealth, Edited by: Simon Kuznets, 24-241

Landesmann, Michael A. 2015. "The new North-South Divide in Europe – Can the European Convergence Model be Resuscitated?", in: Jan Fagerberg, Staffan Laestadius and Ben R. Martin (eds), *The Triple Challenge for Europe: The Economy, Climate Change and Governance*, Chapter 3, Oxford University Press, 2015.

Laski, Kazimierz and Herbert Walther. 2015. "Kalecki's Profits Equation after 80 Years", CH 9 In *Micha Kalecki in the 21st Century*, Jan Toporowski and Lukasz Mamica ed., 131-156, London and New York: Palgrave Macmillan.

Lavoie, Marc and Engelbert Stockhammer. 2012. "Wage-led growth: Concept, theories and policies", *Conditions of Work and Employment* Series No. 41: ILO International Labour Organization.

Lavoie, Marc and Engelbert Stockhammer. 2013. *Wage-Led Growth: An Equitable Strategy for Economic Recovery*, New York: Palgrave Macmillan, Advances in Labour Studies.

Lewis, W. Arthur. 1977. "The Evolution of the International Economic Order," Discussion Paper no. 74, Princeton University, Woodrow Wilson School, Research Program in Development Studies, pp.39-40.

Lucas, Robert E. Jr. 1988. "On The Mechanics of Economic Development", *Journal of Monetary Economics*, vol. 22, pp. 3-42.

Machlup, Fritz. 1965 [1943]. *International Trade and the National Income Multiplier*, New York: Princeton University, reprints of economic classics, Augustus M. Kelley, Bookseller.

Madsen, Jakob B., Vinod Mishra and Russell Smyth. 2012. "Is the Output Ratio Constant?", *The Manchester School*, Vol.80, pp. 210-236 (March 2012).

Massé, Pierre. 1991 [1965]. *Le Plan ou l'hanti-hasard*. Paris, Hermann.

Mastilovic, Snezana. 2014. "Road Infrastructure in Bosnia and Herzegovina in the Aftermath of the May 2014 Floods", Ministry of Communications and Transport of Bosnia and Herzegovina, June 2014.

Mirrlees, James A., and Nicholas H. Stern (ed.). 1973. *Models of Economic Growth, Proceedings of a Conference held by the International Economic Association at Jerusalem*, London: Macmillan.

Montenegro Ministry of Economy. 2012. "Strategy for Sustainable Economic Growth in Montenegro through the Introduction of Business Clusters 2012- 2016", Montenegro.

Muet, Pierre-Alain. 2004. *Introduction à l'analyse macroéconomique*, Paris: Les éditions de l'école polytechnique.

NALAS (Network of Associations of Local Authorities of South-East Europe). 2016. "Benchmarking on Solid Waste Management in South-East Europe: 2014", Skopje, March 2016.

National Agency for Regional Development. 2013. "Report on Small and Medium-Sized Enterprises and Entrepreneurship 2012", Ministry of Economy, Ministry of Regional Development and Local Self-Government, Belgrade, December 2013.

National Agency for Regional Development. 2014. "Report on Small and Medium-Sized Enterprises and Entrepreneurship 2012", Ministry of Economy, Ministry of Regional Development and Local Self-Government, Belgrade, 2014.

Nehru,Vikram, and Ashok Dhareshwar. 1993. "A New Data Base on Physical Stocks. Sources, Methodology and Results", *Revista de Analysis Economico*, Vol.8, N°1, pp. 37-59 (June 1993)).

O'Mahony, Mary. 2014. "Report on Realising Priority Infrastructure Projects for Energy Community," Energy Community Secretariat, December 2014.

OECD. 2006. "Infrastructure to 2030: Telecom, Land Transport, Water and Electricity", OECD, June 2006.

OECD. 2007. "Taxes and Economic Growth: A Progress Report", Note by the Economics Department and the Centre for Tax Policy and Administration, OECD, Paris.

OECD. 2015. "Capital expenditure in the health sector", in Health at a Glance 2015: OECD Indicators, OECD Publishing, Paris.

Okun, Arthur M. 1962. "Potential GNP: Its Measurement and Significance." Reprinted as *Cowles Foundation Paper* 190.

Ottolenghi, Daniel and Alfred Steinherr. 1993. "Yugoslavia: Was it a winner's curse?", *Economics of Transition*, 1, n. 2: 209-243.

Papadimitriou, Dimitri B., Gennaro Zezza, and Michalis Nikiforos. 2013. "A Levy Institute Model for Greece. Technical Paper", Levy Economics Institute of Bard College, May 2013.

Pasinetti, Luigi. 2000. "Critique of the neoclassical theory of growth and distribution", *Banca Nazionale del Lavoro (BNL) Quarterly Review*, 53, n. 205 (December): 383–431. Available on line at *Paolo Sylos Labini (PSL) Quarterly Review*:

Pasinetti, Luigi. 2003. "Public Debt in the European Union Countries: Two Ways of Facing the Problem" in Krishnakumar J. and Ronchetti E. (ed.) *Panel Data Econometrics: Future Directions. Essays in Honor of Pietro Balestra*, pp. 317-28, Amsterdam, Elsevier B.V.

Petri, Fabio. 2004. *General Equilibrium, Capital and Macroeconomics: A Key to Recent Controversies in Equilibrium Theory*, Cheltenham UK: Edward Elgar.

Petri, Fabio. 2011. "On the recent debate on capital theory and general equilibrium", in *The Evolution of Economic Theory: Essays in Honour of Bertram Schefold*, Caspari ed., London and New York: Routledge.

Phelps, Edmund. 1961. "The Golden Rule of Accumulation: A Fable for Growthmen", *The American Economic Review*, Vol.51, N°4 (Sep. 1961), pp.638-643.

Phelps, Edmund. 1966. *Golden rules of economic growth*, New York, Norton

Polak J. J. 1947. "The Foreign Trade Multiplier", *American Economic Review*, Vol. 37, No. 5 (Dec.): 889-897.

Poulain, Loïc.2011. "China's New Balkan Strategy", *Central Europe Watch*, vol. 1, N°2 (August 2011), Center for Strategic and International Studies, Washington.

REACH. 2016. "REACH Situation Overview: rapid assessment of the humanitarian impact of new border policies in the Western Balkans", March 4, 2016.

REKK. 2014. "Smart Gridin the Danube Region Countries. An Assessment Report", Regional Centre for Energy Policy Research, report commissioned by the Sustainable Energy Priority Area of the Danube Region Strategy, 2014.

Richter, Kaspar, and Bartosz Witkowski. 2014. "Does Growth Generate Jobs in Eastern Europe and Central Asia?", *Policy Research Working Papers*, No. 6759, World Bank.

Rodrik, Dani. (ed.) 2003. *In Search of Prosperity: Analytic Narratives on Economic Growth*, Princeton: Princeton University Press.

Romer, Paul M. 1986. "Increasing Returns and Long-Run Growth", *The Journal of Political Economy*, Vol. 94, No. 5. (Oct., 1986), pp. 1002-1037.

Sardoni Claudio. 2011. "An Alternative approach to the problem of the public debt", in Niechoj, Onaran, Stockhammer, Truger and van Treeck (eds.), *Stabilising an Unequal Economy? Public debt, Financial Regulation and Income Distribution*, pp. 97-116, Marburg, Metropolis Verlag.

SEETO. 2012. "From the SEETO "Core" Network to the Full Integration of the Western Balkan Infrastructure Network into the Ten-T," SEETO working paper, 2012.

SEETO. 2015. "SEETO Comprehensive Network Development Plan. Five Year Multi-Annual Plan 2015: Common Problems – Shared Solutions," SEETO, 2015.

SEETO. 2016. "SEETO Comprehensive Network Development Plan. Five Year Multi-Annual Plan 2016. Common problems – Shared solutions," SEETO, 2016.

Semieniuk, Gregor, Till van Treeck, and Achim Truger. 2011. "Nothing learned from the crisis? Some remarks on the stability programmes 2011–2014 of the Euro area governments", in: *Keynes's General Theory for Today*: Contemporary Perspectives, Jesper Jespersen and Mogens Ove Madsen ed., Chapter 11, pp.186-206, Edward Elgar.

Setterfield, Marc. 2010. *Handbook of Alternative Theories of Economic Growth*, Cheltenham, Edward Elgar.

Shwarz, Ulrich. 2015. "Hydropower Projects on the Balkan Rivers – Update", RiverWatch & EuroNatur, September 2015.

Sicurella, Frederico. 2013. "40 km an hour. The slow modernization of the Serbian railways", Osservatorio Balcani e Caucaso, Belgrade, 28 October 2013.

Simon, Jr., György. 2012. An Economic History of Socialist Yugoslavia. Rochester: Social Science Research Network, 2012. 1-129

Snowdon, Brian, and Howard R. Vane. 2005. *Modern Macroeconomics: Its Origins, Development, Current State*, Cheltenham and Northampton: Edwar Elgar.

Solow, Robert M. 1956. "A Contribution to the Theory of Economic Growth", *The Quarterly Journal of* Economics, Vol. 70, No.1. (Feb.1956), pp. 65-94.

Thirlwall, Anthony P. 1979. "The Balance of Payments Constraint as an explanation of International growth rate differences", *Banca Nazionale del Lavoro (BNL) Quarterly Review*, Vol 32, March: 45--53.

Thirlwall, Anthony P. 2011. "Balance of payments constrained growth models: history and overview", *PSL Quarterly Review*, vol. 64 n. 259 (2011): 307-351.

Thirlwall, Anthony P. 2012. Balance of Payments Constrained Growth Models: History and Overview. In *Models of Balance of Payments Constrained Growth*. eds.E. Soukiazis and P.A. Cerqueira, 11-49. Palgrave Macmillan.

UNDP. 2014. "Kosovo Human Development Report: Migration as a Force for Development", United Nations Development Program.

UNHCR. 2016. "Europe Refugees and Migrants Emergency Response - Daily Estimated Arrivals per Country - Flows through Western Balkans Route: 1 October 2015 - 22 May 2016", UNHCR, released on the 22 May 2016.

UNICEF. 2012. "Investing in Early Childhood Education in Serbia: Costing models for ensuring preschool education for all", Belgrade, September 2012.

UNICEF. 2015. TransMonEE 2015 Database, UNICEF Regional Office for CEE/CIS, released in June 2015.

United Nations, Department of Economic and Social Affairs, Population Division. 2015. "World Population Prospects: The 2015 Revision," custom data acquired via website.

USAID. 2015. "South East European Distribution System Operators. Benchmarking Study", April 30, 2015.

Vanek, Jaroslav and Milena Jovicic. 1975. "The Capital Market and Income Distribution in Yugoslavia: A Theoretical and Empirical Analysis", *The Quarterly Journal of Economics*, 89, n. 3 (Aug.): 432-443.

Vinski, Ivo. 1959. "The national wealth of Yugoslavia at the end of 1953", *The Measurement of National Wealth. Income and Wealth, Series VIII* - 1959 , Publication of the International Association, for Research in Income and Wealth, Edited by: Raymond Goldsmith and Cristopher Saunders, 160-192

Vinski, Ivo. 1961. "National product and fixed assets in the territory of Yugoslavia 1909-1959", *Studies in Social and Financial Accounting. Income and Wealth, Series IX* - 1961 , Publication of the International Association for Research in Income and Wealth, Edited by: Phyllis Deane, 206-233

Waelbroeck, Jean and Mona Grinwis .1971. "Model linkage for the international coordination of economic policies", *Recherches Économiques de Louvain / Louvain Economic Review*, 37e Année, No. 3 (Oct.): 139-169.

Waelbroeck, Jean. 1976. *The Models of Project Link*, Amsterdam: North-Holland.

WBIF. 2010. *Review of the Western Balkans Investment Framework*, December 2010.

Weishaar, S.E., and A. Madani. 2015. "Report on the long-term economic viability of constructing new electricity capacities for electricity exports in the Western Balkan countries", University of Groningen, Netherlands, and The Advisory House, Germany for the CEE Bankwatch Network.

Western Balkans Summit Vienna 2015. 2015. "Final Declaration by the Chair of the Vienna Western Balkans Summit," Vienna, August 27, 2015.

WHO. 2015. "European health for all database (HFA-DB)", World Health Organization Regional Office for Europe, December 2015.

World Bank. 2003. "Water Resources Management in South Eastern Europe. Volume I. Issues and Directions," The International Bank for Reconstruction and Development / The World Bank, Washington, April 2003.

World Bank. 2012. "South East Europe Regular Economic Report No.3: From Double-Dip Recession to Accelerated Reforms", Word Bank, 2012, December 18.

World Bank. 2014. "Rebalancing Serbia's Economy: Improving Competitiveness, Strengthening the Private Sector, and Creating Jobs", World Bank, 2014.

World Bank. 2014a. "South East Europe Regular Economic Report No.6: Brittle Recovery", Word Bank, 2014, May 2014.

World Bank. 2014b. "South East Europe Regular Economic Report No.6 update: Uneven Recovery", Word Bank, 2014, December 2014.

World Bank. 2014c. "South East Europe Economic Update: Uneven Recovery", presentation by Ellen Goldstein, Luxembourg, December 9, 2014.

World Bank. 2015. "South East Europe Regular Economic Report No.7: Coping with Floods, Strengthening Growth", Word Bank, 2015, January 2015.

World Bank. 2016. "South East Europe Regular Economic Report No.9 Rebalancing for Stronger Growth", Spring 2016.

Zoï Environment Framework. 2013. "Sustainable Mobility and Tourism in Sensitive Areas of the Alps and the Carpathians: Study on Traffic Flows and Possible Solutions in Eastern Serbia (Timok Region)," Access2Mountain project, Belgrade and Geneva, May 2013.

Zoï Environment Network. 2012. "Climate Change in the West Balkans", ENVSEC, Zoï environment network.