

IMF POLICIES AND THEIR EFFECTS ON EDUCATION IN ROMANIA

Abstract

The International Monetary Fund (IMF) has been largely criticized for its austere measures attached to the programs, so called conditionality. Some scholars claim that IMF has adverse effects on education in borrower countries. The latter is conditioned with the fact, that IMF often requires governments to cut budget deficits which is accompanied with direct cuts of public spending on education and health care. At the same time, Romania has been among the frontrunners of the European Union (EU) states to turn to the IMF for financial assistance during the crisis.

Hence, article seeks to analyze the possible ways that IMF may influence public spending on education and reveal the current effects of IMF intervention on Romanian education. Thus, we have explored all Stand-By arrangements since 2008 and their measures: Prior actions, Quantitative performance criteria and Structural benchmarks. Furthermore, we have applied *with-without* approach on main education indicators, in order to illustrate the IMF participation effects on Romanian education sector by attributing differences to the IMF programs. Particularly, employing Bulgaria as a control group for with-without approach, shows that during the crisis Romanian education indicators have been more affected than those of Bulgaria. Our findings report that Romanian government should be aware while applying to the IMF assistance that it may have adverse effects on education in short and medium term periods.

Keywords: IMF, Romania, conditionality, education.

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POLITICILE FMI ȘI EFECTELE LOR ASUPRA EDUCAȚIEI ÎN ROMÂNIA

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Rezumat

Fondul Monetar Internațional (FMI) a fost criticat foarte mult pentru măsurile sale de austeritate cuprinse în programe sub denumirea de condiționalități. Unii cercetători susțin că măsurile FMI au efecte negative asupra educației din țările împrumutate. Acesta se explică prin faptul că FMI cere de multe ori guvernelor să reducă deficitul bugetar, iar această măsură determină reduceri directe ale cheltuielilor publice în domeniile educație și sănătate. În același timp, România a fost printre statele Uniunii Europene care în perioada crizei a apelat la asistență financiară de la FMI. Prin urmare, articolul analizează modalitățile posibile prin care FMI ar putea influența cheltuielilor publice pentru educație și descoperă efectele actuale ale intervenției FMI în domeniul educației din România. Astfel, începând din 2008, am analizat toate acordurile stand-by ale României cu FMI și măsurile lor: acțiuni prealabile, criteriile cantitative de performanță și indicatori structurali. Mai mult, am aplicat abordare de tipul "with-without" asupra indicatorilor principali din educație cu scopul de a evidenția efectele implicării FMI prin programe speciale în domeniul educației din România. În mod concret, folosind Bulgaria ca bază de control pentru abordarea "with-without" am constatat că în perioada crizei indicatorii specifici domeniului educației din România au fost mai mult afectați decât cei ai Bulgariei. Descoperirile noastre arată că Guvernul României ar trebui să fie mai vigilent când apelează la asistență de la FMI, deoarece aceasta ar putea avea efecte adverse asupra educației pe termen scurt și mediu.

Cuvinte cheie: FMI, Romania, condiționalitate, educație.



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1. INTRODUCTION

IMF programs have regained their popularity since the outburst of financial crisis by offering financial and technical assistance to developing countries, even developed ones from the EU. The lack of credibility to the IMF as a global financial architect has been conditioned with failures to assure sound economic development in late 1990s to its borrowers such as Argentina, Mexico, South Korea and etc. (Sachs, 1998; Stiglitz, 2002; Hutchison & Noy, 2003; Miyakoshi et al, 2012). This could be noticed from the IMF data on yearly total disbursements. Particularly, in period of 2001-2003 total disbursements in average comprised SDR 24.1 billions, in 2004-2007 just SDR 2.9 billions, yet in 2008-2011 SDR 22.9 billions (IMF, 2015a)¹. Yet, the lack of credibility has not been caused just by mistreatment of countries in need, but the growing evidence of IMF adverse impact on economic growth (Przeworski & Vreeland, 2000; Dreher, 2006; Bas & Stone, 2014), on income distribution and poverty (Pastor, 1987; Garuda, 2000; Oberdabernig, 2013), on labor (Vreeland, 2002; Nooruddin & Vreeland, 2010; Androniceanu & Ohanyan, 2015), on health care (Ruckert & Labonté, 2013; Reeves et al, 2014; Kentikelenis et al, 2014) and education (Alexander, 2001; Marphatia, 2010; Vranken et al, 2011). In its turn, the IMF to tackle ongoing critiques towards the institutions has launched several amendments and reforms. Particularly, in order to protect poorest member countries, in 1999 the IMF established the Poverty Reduction and Growth Facility (PRGF), which then has been replaced by the Extended Credit Facility (ECF). The aim of these arrangements is to fit the objectives of country's own poverty reduction strategy preserving country ownership (IMF, 2009). Furthermore, in 2001 the IMF launched initiative to streamlining the number of conditions in IMF programs and increasing country ownership (IMF, 2002). Later on, since 2002 the IMF has become more public and transparent by publishing member countries' letter of intents and making available the data on prior actions, structural benchmarks and quantitative performance criteria via Monitoring of Fund Arrangements (MONA) database. Meanwhile, Lamdany (2009) notes that compliance rate among the member countries remains low comprising just 60 percent in the areas of IMF core competency², which undermines efficiency of conditionality and IMF programs in borrower countries.

Thus, in 2009 the IMF has launched another initiative to streamlining conditionality and has become more flexible in the way to interact with countries. Particularly, structural performance criteria requiring formal

¹SDR- Special Drawing Rights is an international reserve asset, established by the IMF in 1969 to complement its member countries' official reserves. Its value is forming based on a basket of four key international currencies: US dollar, Japanese Yen, Great Britain Pound, Euro, and SDRs can be exchanged for freely usable currencies. As of September 11th, 2015 SDR was equal to USD 0.66

² The author consider compliance as no delay to draw corresponding tranche on the agree date> Waivers are sought for late or partial compliance (Lamdany, 2009)

waivers, was discontinued, and structural reforms, which should be tailored borrower countries' different policies, are subject of overall program performance review (IMF, 2015b). The latter should mitigate the conditions to withdraw disbursements even if there are some mid-term delays. In this end, recent review of IMF conditionality highlights that IMF measures have been better targeted on country programs and programs have generally been more effective and safeguarded priority spending (IMF, 2012).

On the other side, the national system of education is the quintessential tool for the creation and application of knowledge, which is pledge of long-term economic growth. Yet, education sector is mostly financed by public budget and in time of crises it is the shortest way to cut budget deficit. Moreover, fiscal adjustment is core measure for IMF to help economies to recover from the turmoil, sometimes by instrumentalizing health and education to pursue economic development (Marphatia, 2010). However, there is a wide consensus among policy makers and donors for greater education financing. In particular, in 2000 the United Nations Educational, Scientific and Cultural Organization (UNESCO) in association with the World Bank (WB) launched Education for All - Fast Track Initiative (EFA-FTI) movement, which is now known under Global Partnership for Education (GPE) to provide quality basic education for all children, youth and adults (UNESCO, 2015). At the same time, this project considers devotion from recipient countries, which means scaled-up levels of public investment as a share of Gross Domestic Product (GDP). While, there are two major concerns in scaling-up public investment: to stay in compliance with the IMF policies, which imply low budget deficits and low inflation, and aid from the other donors is usually linked to compliance with these policies (Rowden, 2011, p. 12).

Thus, the paper seeks to unveil IMF program effects on education in Romania during the crisis. Romanian authorities have signed three consecutive Stand-By Arrangements (SBA) with the Fund since 2009. In the light of IMF reforms towards safeguarding the priority spending in borrower countries it is of increased interest whether the IMF has required measures that have adverse effects on education in Romania.

The article is organized as follows. In the next section we present a brief literature review of measuring effects of IMF programs on education. Section 3 shows a theoretical background of IMF conditionality and recent modifications towards flexibility. In Section 4 we discuss SBAs between Romania and the IMF by highlighting the measure that may affect education. Section 5 is devoted to description of applied methodology and data sources. Section 6 outlines the results of IMF program effects on education in Romania. The final section provides concluding remarks.

2. LITERATURE REVIEW

There is a bulk amount literature that claims IMF adverse effects on social spending, especially on health care and education. While, we have chosen those pieces that are directly related with Romanian education sector and IMF program effects on education. Even, since 1986, the IMF has been highly criticized for affecting the poorest and most vulnerable sectors of society that are most dependent on the state for valuable public services such as health and education (Remmer, 1986, p. 7). Likewise, other prominent scholars note that burden of cuts in public spending as a result of IMF's fiscal adjustment spills on economic services and on education and health care, rather than on defense (Pinstrup-Andersen et al, 1987, p. 77).

Therefore, the IMF's watchdog Independent Evaluation Office (IEO), in order to tackle such critiques towards the institution, published a circumstantial review of Fund's fiscal adjustment (Martin & Segura-Ubiego, 2004). The authors employing Autoregressive Integrated Moving Average (ARIMA) model techniques, also a two-stage estimation method to correct for the endogeneity of IMF programs, find that social spending does not decline under IMF-supported programs. The data covers 146 countries over 1985-2000 period. Yet, the paper does not cover efficiency of public spending, i.e. IMF impact on health and education outcome indicators have not been evaluated, but total expenditures on health and education as a share of GDP. At the same time this paper is considered first attempt to assess empirically IMF conditionality effects on public spending. As Nooruddin & Simmons (2006) underline that preceding studies had problems either with data availability mostly based on anecdotal evidence or did not count selection bias or endogeneity. Furthermore, they note that Martin & Segura-Ubiego (2004) study has solved the issue with endogeneity and it is more rigorous, but it is not bereft of a serious flaw. Particularly, the paper has not accounted political considerations regarding with governments cut spending as a response to IMF austere measures. Thus, Nooruddin & Simmons (2006, p. 1013) includes political consideration in their regression and questions the following two issues:

"First, we may find that the effect of IMF programs is conditional on the regime type of the recipient country, and possibly that they have different effects in different political systems. Second, we may find that the precise impact of increasing the level of democracy in a given country on its level of social spending depends on whether there is an IMF program in place".

Including political considerations in the regression, the authors find strong and robust evidence towards IMF adverse effects on health and education sector (Nooruddin & Simmons, 2006, p. 1027).

Another paper evaluating effects of IMF programs on school enrollment covers data on school attendance at the district level aged 9-11 and 12-14 from 44 developing countries between 1997-2007 (Vranken et al, 2011, p. 11). The authors using multi-level analyses find significant positive short-term impact on school enrollment in the age 9-11, and positive significant for 14-14 age group if employed specific group of control variables. Meanwhile long-term insignificant negative impact on boys and girls in age 12-14 is found and bivariate analyses show positive but as well insignificant impact on growth in school enrollment.

Case studies from Latvia, Jamaica and Uganda come to corroborate the critiques towards the IMF adverse effects on education during the global financial crisis. The author exploring alternative ways to avoid cuts on education, claim that education advocates need to be unified in fighting against the neoliberal regime put forward by the IMF like institutions (Rowden, 2011, p. 68).

IMF experts conducted another research to evaluate effects of IMF programs on social spending in 2011 and found positive significant impact on growth of health care and education spending (Clements et al, 2011). Particularly, the authors use cross-country panel regression model for data of 140 countries from between 1985 and 2009, where all countries are eligible for concessional IMF lending. They argue, that concessional loans contributes to the growth in social spending, where over a five-year period education spending as a share of GDP increases 0.8 percentage point of GDP, and for health care, about 1 percentage point of GDP.

The most recent research on the topic of IMF effects on social spending was conducted in 2014, which claimed that IMF had negative impact on social indicators inclusive health and education in 9 under-program countries (Kotsios & Kotsios, 2014, p. 218). The authors simply compare under-program countries' social indicators with non-program ones and conclude about lower rates in under-program countries without accounting selection bias. In many cases, IMF under-program countries are affected by crisis and other factors that should have been included in the analysis.

By reviewing appropriate literature on chosen topic, we find that our research may fill the niche on case studies revealing the nature of domestic bargaining under the shadow of IMF austerity measures as it is proposed by Nooruddin & Simmons (2006).

3. BRIEF OVERVIEW OF ROMANIAN EDUCATION SECTOR: EXOGENOUS ANTECEDENTS

It is, indeed, a difficult and harmful path transformation from socialism to capitalism towards market-oriented economic system. Romania, after the famed revolution in 1989 and termination of Ceausescu's socialist regime, has started collaboration with international financial institutions such as IMF and WB, to mitigate the economic slow-down, rising inflation with its adverse consequences on the population.

Besides, Romania in 1993 signed an association agreement with European Union as a first step towards integration with European society. Yet, collaboration with such institutions and higher targets of integrations supposed substantial changes and structural reforms. Particularly, the IMF has famed by its conditionality attached to the loans, which entails privatization and marketization of economy. The IMF goal is to solve balance of payments problems of its member-states and to contribute to sustainable economic growth. Yet, its conditions vary from fiscal adjustment to structural reforms in education and health care. Since the collapse of socialist regime, first SBA with IMF signed in 1994 under Nicolae Văcăroiu government, meanwhile first full compliance with IFM conditionality and continuity of tranches was recorded in mere 1999 under technocrat prime-minister Mugur Isărescu. Education sector along with other sectors of economy was privatized transforming higher education from totally controlled and government-funded institutions to privatized and internationally commercialized ones. Particularly, Eisemon *et al* (1999) note that Romania was the leader in Europe by operating 73 private higher education institutions in late 1990s. Moreover, Ginsburg *et al* (2005) highlight that enrollment in higher private institutions was significantly increased from 0 percent in 1989-1990 to 31.9 percent in 2000-2001. Continuing the reforms in education sector, Romania became first post-socialist country, which created the legislative framework for distance education. Within this framework, Bucharest University of Economic studies opened its branch in Piatra-Neamț in 2001. Moreover, several public universities began to launch their own open distance education programs. Notwithstanding the dynamics of reforms, assessment of Romanian Education performance before the adhesion to the EU by World Bank experts finds real failures and challenges for Romanian authorities. In particular, Romania Education Policy Note (2007) underlines major challenges among them: continuously decreasing teacher/student ration, therefore high staffing level; strong trade unions and regulations; low teaching loads and low wages, human resource management, chronically underfinanced education sector. Indeed, Romania lagged behind the neighboring countries by most indicators. Accordingly, Program for International Student Assessment launched by Organisation for Economic Co-operation and Development (OECD) scores Romania 36th out of 57 participant countries (PISA, 2006). In addition, low wages of teachers make them reluctant to their jobs and there are poorly motivated and rarely accountable. This is partially caused by Romanian Ministry of Education and Scientific Research (MESR) low authority to supervise and motivate the teachers. As MESR preserves the right to establish the curricula, to hire the staff but it does not have any instrument to guide the allocation of scarce resources and defend education budget. Instead, Ministry of Public Finance (MPF) is responsible for remuneration, which is almost 60 percent of annual expenditures on education. Recent phase of Romanian education has begun since its accession to the EU in 2007. Currently, Particularly, Romanian government has a unique opportunity to improve efficiency of

education allocation and increase expenditures/GDP ratio via attracting resources from structural and cohesion funds. While, they by absorption rate of cohesion funds are lagging behind the average EU-28 by 15 percentage points comprising 63.7 percent in 2013 (Cohesion data, 2013). Already, in 2008 all major political parties and trade unions highlighted the urgency of educational reforms by signing National Pact for Education (NPE). The following objectives are put in the pact: modernization of education and institutions in 2008-2013; budget allocation on education pin at minimum 6 percent of GDP by 2013; adoption of the principle "the money follows the students" in precollege education and many others (NPE, 2008). Yet, Romanian government receded since global financial crisis hard hit its economy. Moreover, it could not be able to withstand the downturn solely turned to the IMF and the EU for financial assistance. Both gave financial assistance by conditioning Romanian government to pursue IMF measures tailored to the loans.

An overview of some Romanian educational indicators in 2008-2013 reveals negative impact of crisis (see Table 1). Particularly, since 2008 educational units decreased by 1,161 comprising only 7,069 in 2013. Moreover, population enrollment in education and teaching staff along with shrinkage of educational units curtailed by respectively around 700 thousand and 32 thousand persons.

TABLE 1 - SOME DESCRIPTIVE INDICATORS OF ROMANIAN EDUCATION

Years	2008	2009	2010	2011	2012	2013
Units	8,230	8,221	8,244	7,588	7,204	7,069
Enrolled population (M)	4,405	4,325	4,177	4,029	3,824	3,734
Children in kindergartens (M)	650	653	666	674	674	581
Pupils (M)	2847	2781	2735	2682	2610	2689
Student (M)	907	891	775	673	540	465
Teaching staff (M)	277	275	269	253	247	245
Education abandon rate (percent)						
Primary and secondary	2.0	1.7	1.6	1.8	1.8	na
High school and vocational	4.1	3.6	2.9	4.2	4.2	na
Post high school and foremen	4.8	5.9	5.5	6.3	6.1	na
State budget allocation on education (percent of public budget)	9.1	5.8	4.2	4.0	3.8	3.5

Source: Romanian National Institute of Statistics and authors' calculation

Yet, some small improvement could be noticed on primary and secondary education abandon rate, which comprised 1.8 percent in 2012 instead of 2.0 percent in 2008. At the same time, abandon rate within high school and post high school education increased respectively comprising 4.2 and 6.1 percent in 2012. As could be observed state allocation on education as was significantly reduced becoming just 3.5 percent of state budget.

Indeed, we could observe that education has been palpably affected since financial crisis penetrated the national economy. In this end, further analysis would be an attempt to identify whether and in what extent the IMF participation helped Romanian government to mitigate adverse effects on education. As was

mentioned above, there is a notable amount of studies claiming that IMF participation led to reducing budget allocations on educations, freezing salaries of public employees and cutting jobs in public institutions. Hence, we present comprehensive discussion of employed methodology in the next chapter.

4. DATA AND METHODOLOGY

In the literature there are several statistical methods employed to estimate effects of IMF programs. In this section we briefly introduce those main methodological approaches by justifying our choice of a method. Particularly, Ul Haque and Khan (1998) segregate the following four methods: before-after method, with-without, generalized evaluation and comparison of simulations.

Yet, Vreeland (2006) goes further by splitting generalized evaluation into three distinct approaches, there are as follows: controlling for selection on observed variables, controlling for selection on unobserved variables and instrumental variables. Each of them represents sophisticated methods to tackle selection problem in evaluation of IMF programs.

The before-after (BA) and with-without (WW) approaches are more intuitive and have drawback as they do not count selection problem, but their advantage is the ease of calculation. Yet, generalized evaluation and controlling for selection demand large-n observations, which are available in cross country and panel data analysis. Moreover, these methods, as well, have their limitations. Particularly, controlling selection methods are based on assumption that errors are distributed normally or bell-shaped. Instrumental variables could solve the problem with selection, but factors that condition the selection into IMF program can influence its effects, as well (Vreeland, 2006). Thus, assessment of IMF conditionality effects on program countries is not straightforward.

Given that our research attempts to identify IMF conditionality effects on Romanian education, we have faced with real constraints on data availability. Data limitation hinders employment of above mentioned sophisticated methods for evaluation remaining the most appropriate ones BA and WW. Meanwhile, BA approach could be applied in this case, as Romania since 2009 has signed three continuous SBAs with IMF with two years duration, respectively in 2011 and 2013. Hence, there is no available data on education indicators to evaluate after program performance.

We have consulted the literature on overcoming selection problem in WW approach. As not considering the selection could cause serious misinterpretation of results. Particularly, it is not fair to compare a country that has problems and turned to the IMF with one that is more preferable economic situation.

The solution to surmount this issue is offered by Garuda (2000), who uses propensity scores to group countries based on their economic performance and probability to apply for IMF financial assistance. Furthermore, employing propensity score method in evaluation IMF program effects on employment within the EU, it is found that Romania has similar pre-economic conditions, i.e. closest propensity scores to apply for IMF programs in 2009. Meanwhile, Romania turned to the IMF in 2009 and Bulgarian authorities abstained. This evidence reduces availability of selection bias, as those two countries had economic conditions alike. Thus, in evaluating IMF program effects on Romanian education we employ Bulgaria as "control group".

In general, data on analysis of education sector include input and output variables, where input variables are public expenditures on different levels of education and its share in GDP and public budget. Yet, output variables illustrate the efficiency of such expenditures on education such as enrollment of students, out-of-school children number. In this end, we have made comparison both input and output variables in Romania and Bulgaria to understand the sway of IMF programs on Romanian education.

It should be noted, that input variables have been under indirect influence of IMF measures such as cutting budget deficit, shrinkage of public jobs and wage increase limitations. Those IMF measures on Romania during the crisis and after are comprehensively discussed in the following chapter. In order to eliminate problems related with differences between statistical methodologies of distinct sources. We have based just on Eurostat databases, which provide data till 2012.

5. DISCUSSION OF IMF PROGRAM EFFECTS ON EDUCATION IN ROMANIA

Romania since 2009 has signed three SBAs with IMF, where the last two ones have been declared as precautionary.³ Due to data limitation we discuss further SBAs signed in 2009 and 2011 each respectively with 24 month duration (see Table 2).

Particularly, the IMF officials need to review Romanian government performance on quarterly basis. Hence, we have analyzed 16 overall reviews by the IMF staff and extracted the reforms or measures that directly or indirectly could influence Romanian education sector.

TABLE 2 - DESCRIPTION OF ROMANIAN STAND-BY ARRANGEMENTS

Approval Date	Initial End Date	Revised End Date	Total Access	Precautionary	Delayed By
05/04/2009	05/03/2011	03/30/2011	11.4 SDR mln.	No	
03/31/2011	03/30/2013	06/30/2013	3.1 SDR mln.	Yes	3 to 6 months

Source: IMF MONA database

³ Precautionary arrangements are used when countries do not intend to draw on approved amounts, but retain the option to do so should they need it.

Particularly, the IMF officials after all reviews concluded that “Romania has successfully concluded two Stand-by Arrangements with the Fund” (IMF MONA, 2015). Given that IMF staff announced about successful accomplishment of two SBAs with Romania, we suppose that government compliance was not a problem in implementation of IMF measures. Hence, the effects of IMF policies on Romanian education sector could be fully attributed to the Fund, as soon as compliance was not an issue.

TABLE 3 - MAJOR REQUIREMENTS OF THE IMF

SBA 2009-2011	SBA 2011-2013
Budget expenditures	Budget expenditures
Streamlined public employment (by over 100,000)	Continued streamlining of public employment allowing restoration of the 2010 public wage cut within a sustainable wage bill
A public sector wage cut of 25 percent (partly offset by 15 percent increase in 2011)	Improved targeting of subsidies and social assistance
Elimination of holiday bonuses and the 13th salary	Elimination of arrears of the health insurance fund, reduction and improved control of central and local government arrears, and shortening of payments period
Inefficient social benefits cut (15 percent) and reinforced social inspections	
Central government arrears reduced to near zero	
Budget revenue	Budget revenue
A rise in social security contribution rates (3 pts.)	Integration of tax and social contributions collection
Structural reforms	Structural reforms
A major pension reform was approved to increase retirement ages, move indexation from wages to inflation, and reduce incentives for early retirement, while continuing to build the second pension pillar	Passage of a New Labor Code and Social Dialogue Law that enhance labor market efficiency
The public wage system was reformed, harmonizing wages across ministries and significantly reducing the role of bonuses in compensation	Passage of a Social Assistance Law that provides for streamlining and better targeting of social benefits
Social benefits were reformed—including unemployment insurance, social assistance programs, and maternity benefits—to improve efficiency while reducing costs	

Source: IMF official reviews of Romanian SBAs initiated in 2009 and 2011

According to the reviews of the IMF staff Romanian government has implemented various successive and comprehensive reforms in four major economic areas: budget expenditures and revenue, structural reforms and financial sector. Yet, within our topic we have extracted those measures that could affect education sector either directly or indirectly (see Table 3). Particularly, first SBA signed in 2009 urged Romanian government to cut budget deficit up to 3 percent of GDP. This difficult path could not be implemented without harmful and rigid methods.

Especially, on expenditure side IMF measures caused shrinkage in public employment by over 100,000 persons, public wages are cut by 25 percent, the 13th salary was eliminated and inefficient social benefits were cut by 15 percent. Meanwhile, the majority of public employees are in education and in health sector, hence those sectors are more affected of the aforementioned measures. Moreover, on the revenue side 3 percentage point rise in social contribution, as well may have adverse effects on employment in private sector and private schools. Furthermore, Romanian authorities made reforms of wages and social contribution by reducing the role of bonuses and compensations.

Review of SBA initiated in 2011 shows that Romanian government continued streamlining of public employment, eliminations of arrears and improved targeting of social assistance on the expenditure side. Yet, on the revenue side IMF officials highlight that integration of tax and social contribution collection took place. Amongst the structural reforms we have extracted Passage of New Labor Code and Social Assistance Law, which could affect the education sector.

In this end, we further analyze main education indicators of Romania and Bulgaria to unveil the effects of aforementioned measures on education. Thus, the data are split into two categories based on their nature. Particularly, data represented in the first part include those indicators that directly may be affected by local fiscal policies and are entitled as input variables.

As was mentioned above the data are extracted from the one source, in order to overcome some minor differences in statistics. In our case all data are captured from Eurostat database, which let us analyze the desired data from 2008 until 2012 with some exceptions. We include 2008 as a non-crisis year to draw on some conclusions (See Table 4 and Table 5).

First of all, the attention is directed to the education expenditures to explore its development since crisis penetration. This indicator is calculated as percentage of GDP and illustrates that Bulgaria has notable comparative advantage on Romania. Especially, Bulgarian authorities managed to preserve approximately the pre-crisis year level of education expenditures comprising 3.8 percent in 2013.

At the same time, Romanian authorities, perhaps due to IMF imposed measures to cut budget deficit, notably reduced expenditures on education pinning it on 2.8 percent in 2013, which is less than pre-crisis year by 37.7 percentage points.

Detailed breakdown of public expenditures on all levels of education, i.e. pre-primary, primary, secondary and tertiary, unveils that all four educational levels have been affected by budget shrinkages (see Table 4).

TABLE 4 - ROMANIAN AND BULGARIAN EDUCATIONAL INPUT INDICATORS

	2008	2009	2010	2011	2012	2013
Education expenditures as a percentage of gross domestic product (GDP)						
Bulgaria	4,0	4,2	3,7	3,5	3,4	3,8
Romania	4,5	4,1	3,3	4,1	3,0	2,8
Total public expenditure on education as % of GDP, at pre-primary level of education						
Bulgaria	0,85	0,91	0,92	0,88		
Romania	na	0,73	0,66	0,67		
Total public expenditure on education as % of GDP, at primary level of education						
Bulgaria	0,84	0,85	0,80	0,71		
Romania	na	0,78	0,58	0,49		
Total public expenditure on education as % of GDP, at secondary level of education						
Bulgaria	1,89	1,87	1,76	1,59		
Romania	na	1,53	1,28	1,07		
Total public expenditure on education as % of GDP, at tertiary level of education						
Bulgaria	0,86	0,95	0,61	0,65		
Romania	na	1,20	1,00	0,85		
Expenditure on educational institutions from private sources as % of GDP						
Bulgaria	0,56	0,66	0,63	0,65		
Romania	na	0,11	0,12	0,11		
Public subsidies to the private sector as % of GDP, for all levels of education combined						
Bulgaria	0,60	0,70	0,74	0,65		
Romania	na	0,13	0,12	0,12		
Annual expenditure on public and private educational institutions per pupil/student in pps						
Bulgaria	2.874,3	2.860,7	2.655,0	2.713,4		
Romania	na	2.391,0	2.132,5	2.074,6		

Source: Eurostat

By another indicator, such as expenditures on educational institutions from private sources as percentage of GDP, as well Bulgaria steps forward. Particularly, during 2008-2011 investment from private sources on education had some growth increasing by 16,5 percent and comprising 0,65 percent of GDP in 2011. At the same time, Romania being behind Bulgaria by this indicator could hardly preserve that level comprising just 0,11 percent of GDP in 2011. Moreover, public subsidies towards private sector illustrates the same image, i.e. Bulgarian authorities with minor deeds, but stepped forward, while Romanian authorities just lagged behind their Bulgarian counterparts respectively 0,65 and 0,12 percents of GDP in 2011.

Our last input indicator is annual expenditure on educational institutions per pupil/student in purchasing power standard. By comparing performances of these two countries in 2009 and 2011 respectively could be revealed that Romanian students were more affected than Bulgarian ones. Besides the fact that Bulgarian government spends more money on an average pupil/student they did manage to mitigate the

adverse effects of crisis more efficiently than Romanian government. Particularly, per student expenditures in Bulgarian and Romanian decreased in 2011 comparing with 2009 by respectively 5,1 and 13,2 percents composing 2.713 and 2.074 pps.

We further discuss the effects of input indicators on overall performance of education sector by presenting some output indicators (see Table 5). Teachers and academic staff in these countries are seriously affected by the crisis. The data show that both in Bulgaria and Romania took place serious cuts, particularly comparing with 2008 the overall number of teachers and academic staff decreased by respectively 10,1 and 10,6 percents comprising 97,1 thousand and 247,5 thousand in 2011.

TABLE 5 - ROMANIAN AND BULGARIAN EDUCATIONAL OUTPUT INDICATORS

	2008	2009	2010	2011	2012
Teachers (ISCED 0-4) and academic staff (ISCED 5-6) thousand persons ⁴					
Bulgaria	108,1	100,6	98,4	96,4	97,1
Romania	276,8	275,4	268,7	253,0	247,5
Number of students in enrolled in all levels of education million persons					
Bulgaria	1.349,5	1.323,0	1.314,8	1.307,7	1.294,0
Romania	4.553,9	4.532,1	4.401,1	4.228,1	3.989,0
Ratio of Students to teachers (ISCED 1-3)					
Bulgaria	12,8	13,5	13,6	13,8	13,9
Romania	14,3	14,1	14,3	15,2	15,4
Students in public institutions (ISCED 1 to 4) - as % of all students in public and private institutions					
Bulgaria	97,1	97,0	97,3	96,7	96,3
Romania	98,4	98,0	97,7	97,5	97,4
Participants in early education (aged between 4-7 years-old) - as % of inhabitants of the corresponding age group					
Bulgaria	84,4	84,2	85,3	86,6	87,1
Romania	88,5	88,0	87,2	86,4	85,5

Source: Eurostat

As well, a drastic shrinkage in number felt students in those countries, as in 2012 compared with pre-crisis year student amount in Bulgaria and Romania decreased respectively by 4,1 and 12,4 percents. These two mentioned indicators together contribute to the growth of students to teachers ratio, which traditionally was lagging behind the EU member-states. Particularly, in Bulgaria and Romania this indicator comprised respectively 13,9 and 15,4 at primary and secondary levels of education. Furthermore, from Table 5 could be shown that two countries have high level student enrollment in public institutions in Bulgaria 96,3 percent and 97,4 percent in Romania. Yet, both two countries felt decrease in enrollment in public institutions during the crisis. At the same time, Bulgaria has significantly improved

⁴ The International Standard classification of Education is a statistical framework for organizing information on education.

enrollment in early education increasing it by 3,2 percent compared with pre-crisis year. Yet, Romania felt decrease in enrollment of pre-primary education by 3,4 percent in the same period. Hence, 14,5 and 12,9 percents of inhabitants corresponding age group remained out of education in 2012 respectively in Romania and Bulgaria.

CONCLUSIONS

Romania since fall of socialism regime has made several reforms to improve education sector and to be more integrated with the EU member-states. Yet, in 2008 by signing a national pact on education all major parties and civil societies agreed that it is still more need to be done to improve the efficiency of education sector. On the other side, financial crisis put another pressure on Romanian authorities to implement those reforms with stringent budget. Moreover, Romania could not solely withstand the adverse effects of crisis and turned to IMF for assistance, which aggravated the pressure on government to cut the budget deficit. The latter caused elimination of thousand jobs in public sector, wage freezes and elimination of 13th salary.

Nevertheless, the IMF during the crisis underlined the importance of both education and health sector, in Romania education sector has felt the serious financial shortages. In this end, we involved Bulgaria as “control group” and make a comparison between those two countries, based on our earlier findings that those two had closest propensity in pre-crisis years to apply to an IMF program. Thus, two types of education indicators are employed, i.e. input and output indicators. First one unveils direct impact of budget cuts on education sector, while the second one attempts to reveal the efficiency of those expenditures.

Overview of both input and output indicators reveal that Romanian education sector is more affected than Bulgarian one. Particularly, expenditures on education in Romania are cut more drastically than in Bulgaria and enrollment of students are more severe than in Bulgaria. Moreover, enrollment in early education has increased in the observed period in Bulgaria, but dropped down in Romania. On the other side in both countries predominates the concept, that public educational institutions are better, which is explained by overwhelming weight of student enrollment in public institutions.

Taking into consideration the rigor of employed methodology in estimation the effects of IMF programs on Romanian education, we could conclude that during the crisis initiated two SBAs had adverse effects on Romanian education. It should be noted that the nature of the methodology does not let us to generalize the results. Yet, in Romanian case IMF programs had negative short and middle-term impact

on education. Hence, before applying to another precautionary loan from the IMF, Romanian government should be advised about adverse social effects of those conditional loans.

At the same time we would like to underline the limitations that we have faced during the research is the problem of endogeneity of programs and lack of data for more empirical studies. Thus, the study should be revised upon the data availability.

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