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Determinants of FDI in transition countries and estimation of the potential level of Croatian FDI

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Abstract

In a global economy, foreign direct investment (FDI) represents the main form of international business activities. More than the mere cross-border movement of capital, FDI includes transfer of technology and know-how, thus contributing to competitiveness, employment and trade, and consequently, economic growth and the development of the local economy. The recent drop in international capital flows resulting from global financial and economic crisis has caused concerns regarding growth prospects for the world economy in general and that of less advanced transition countries in particular. By hypothesizing that Croatia, as the next member of the EU, has realized sub-optimal effects in attracting FDI, and that international competition in this field is expected to grow further, the aim of the paper is to find out determining factors behind inward FDI to transition countries, in order to detect the capacities of Croatia in hosting new foreign investment. Statistical analysis, focusing on bilateral FDI-flows and country-specific characteristics, proved the importance of typical "gravity"-type variables, as well as those based on increasing returns to scale, while showing that at present Croatia has exhausted its potentials in hosting new FDI.

Keywords: FDI, gravity equation, economies of scale, transition economies, Croatia

1 INTRODUCTION

In the global economy dominated by multinational enterprises (MNEs), foreign investment represents the main form of international business activities. As a non-debt form of financing economic growth, FDI brings capital, technology and know-how, thus contributing to a local economy's productivity and development. The resulting improvements in competitiveness contribute further to increasing internationalization and easier access to foreign markets.

However, the global financial crisis (2008/2009) has considerably reduced international capital flows and has almost halved FDI worldwide, with the most pronounced fall throughout developed countries, including the EU (by 40-60%), followed by a slight improvement in 2011 (16%). The main risk for further positive developments still comes from the unstable business environment and problems of global economic governance in light of the sovereign debt crisis and financial sector problems (euro-zone). As it is, the pressure for further internationalization compels MNEs to business restructuring, which recently helped them to improve their business performance and, hence generate new investments on a global scale (UNCTAD, 2012; 2011).

The different motives for FDI call for specific location advantages of recipient countries (Dunning, 1993; 1997). Resource-seeking FDIs look for valuable resources which can justify relocation of production to another country. This type of FDI is nowadays increasing in value and in number of projects, as it is mostly

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concerned with investments into oil processing, and agriculture and food production (UNCTAD, 2010). Meanwhile, market-seeking FDIs are primarily aimed at achieving a stable and growing market share through entering new markets, sometimes even with the purpose of avoiding trade barriers (more in: Bergstrand and Egger, 2007; Clausing and Dorobantu, 2005; Girma, Greenaway and Wackelin, 2002). Investments of this type are primarily focused on supplying local or neighboring markets, creating backward- and forward-linkages, or merely adjusting products and services to local tastes and consumer preferences (Leffileur and Maurel, 2010; Borrmann, Jungnickel and Keller, 2005). The main location advantage for this type of FDI is access to a large market with solid growth prospects and a favorable investment climate.

The main objective of efficiency-seeking FDI is improvement in production efficiency through differentiation and geographical separation of the stages of production, or individual business activities, according to the local comparative advantage of the host economies. Creation of such an international value chain makes it possible for a large number of companies from different countries to take part in business internationalization and come into possession of new technologies and know-how. This also enables less developed (transition) countries to take part in international production and achieve competitiveness in narrow market niches, as long as they foster an open market policy with solid absorption capacities in terms of human capital and knowledge creation[1]. However, local market conditions should also include human capital as the main factor for attracting FDI in the long run (Wang and Swain, 1995; Barell and Paine, 1999). Technological advance, internalization of MNE ownership advantages and market deregulation nowadays put strong emphasis on knowledge creation, thus destining low wage countries to attracting labor-intensive production of standard technology and stagnant market demand. Finally, strategic assets-seeking FDIs are focused on increasing and diversifying MNEs' own assets, also including strategic positioning on monopoly or oligopoly markets. Companies with this motive usually have a longer time horizon and are engaged in large privatization projects (e.g. Eastern Europe during the 1990s).

The significant inflow of FDI that Croatia realised throughout the 1990s and in the first decade of the new millennium failed to exert any significant positive effects on the local economy (Derado, Škudar and Rakušić, 2011; Vukšić, 2005; Bačić, Račić and Ahec Šonje, 2004). Regarding the current global economic turmoil, which was reflected in the amount and structure of FDI worldwide, as well as the only slow improvement in business climate throughout South East Europe, it is reasonable to expect a downward pressure on dynamics of FDI-inflow in Croatia and other South East European countries (SEEC) in the future. By hypothesizing that Croatia has realized sub-optimal effects in attracting FDI, and that competition

[1] Institutional conditions play important role in achieving technology transfer and improving local economy's absorption capacity (more in: Barrios and Strobl, 2002; Braunerhjelm and Svensson, 1996; Te Velde, 2001).

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in this field is expected to grow further (East Asia, new EU-members), the aim of the paper is to reveal determining factors behind total inward FDI to transition countries in order to find out the capacities of Croatia in hosting new FDI. Analysis will, thus, indicate the most important determinants of FDI, and empirically verify the underlying theoretical hypotheses.

The relevance of the topic arises from the fact that the model of economic growth based on increasing domestic demand financed through foreign credits is no longer sustainable due to the worsening external position of the analyzed countries and fiscal and financial problems of the main investor countries. Complexity of theoretical and empirical analysis in this paper comes from the combination of two models – gravity equation, and increasing returns to scale – in explaining inward FDI. Analysis at a lower level of data aggregation (bilateral FDI-flows for country pairs), longer time series and a large group of transition countries as a benchmark for the SEEC, as well as calculation of potential, also known as "theoretically expected" level of FDI, are the main characteristics of this approach which, to the best of author's knowledge, includes Croatia for the first time. The relevancy of this paper from the economic policy perspective lies in its contribution to a better understanding of the factors behind bilateral inward FDI and the limits to its further growth in Croatia.

The paper consists of five sections. After the introduction, section two gives the theoretical background of FDI with reference to relative factor endowment, increasing returns to scale and MNE cross-border operations. Section three includes an overview of the amount and composition of FDI in Croatia and other transition countries, including the SEEC. Empirical analysis of the main determinants and expected levels of inward FDI to Croatia are presented and discussed in section four. The final section concludes.

2 BRIDGING THE GAP TOWARDS THE THEORY OF FDI

2.1 FROM TRADE THEORY TO VERTICAL FDI: THE WORK OF HELPMAN AND KRUGMAN

Early papers used to explain capital flows (primarily portfolio investment) as pure interest rate arbitrage, while later contributions, based on the neoclassical paradigm, viewed them as an outcome of international differences in marginal revenues (Frenkel, Funke and Stadtmann, 2004; Hosseini, 2005). However, the first significant contribution to understanding FDI as an outcome of the MNE business activities was provided by Helpman (1984). His analytical model with labor and headquarters services as the main production factors included two products – a homogeneous (labor-intensive), produced with constant returns to scale, and a differentiated, intensive in headquarters services and produced with increasing returns to scale. By assuming the differences in the relative abundance of production factors across countries and without trade barriers, the pattern of trade is determined by differences in relative factor endowment and relative country size.

Further refinements of this approach can be found in Helpman and Krugman (1986) where inferences of new trade theory are applied onto MNEs in a more straightforward manner. Apart from intra- and inter-industry trade, and with standard model assumptions and cross-country differences in relative factor endowment, the model introduces intra-firm trade in knowledge-intensive headquarters services[2]. By combining the principle of factor proportions with product differentiation and scale economies, this model explains FDI as a form of vertical business integration which occurs as an outcome of the differences in relative factor endowment between countries[3].

2.2 BRAINARD'S "PROXIMITY-CONCENTRATION TRADE OFF" AND HORIZONTAL FDI

Contrary to factor proportions, Brainard's approach assumes identical relative factor endowment across countries which, through multinational business activities, results in horizontal FDI. Here, two sectors are assumed – one with homogeneous goods produced under constant returns to scale, and the other with differentiated products and increasing returns to scale at firm level. Together with identical consumer preferences across countries, the model further supposes scale economies at plant level, existence of trade barriers and transport costs, and monopolistic competition of the Chamberlin type in a differentiated goods sector (Brainard, 1993). Due to the presence of transport and transaction costs on one hand, and scale economies on the other, the main reason for locating MNE affiliates abroad is to be found in a trade-off between the additional cost of exporting and the extra cost of starting production abroad. If the variable cost of exporting is higher, compared to operating business abroad (and closer to target market), horizontal FDI will increase.

This model results in three types of equilibrium – pure multinational, pure trade and mixed equilibrium. In a pure multinational equilibrium, due to high trade and transport costs and relatively small fixed costs of setting up production plant abroad, multinational production will dominate and completely replace trade in final goods with the sole exception of trade in "invisible" headquarters services (for further details see: Brainard, 1997).

2.3 MARKUSEN'S INTEGRATED TREATMENT OF HORIZONTAL AND VERTICAL FDI

Based on industrial organization approach, Markusen set multinational activities within the general equilibrium trade model and provided an explanation of horizontal and vertical MNE-activities. The "knowledge-capital model" consists of two countries, two homogeneous goods and two production factors (skilled and

[2] Model assumptions include: two production factors, two final goods (homogeneous – food; differentiated – industrial good) and one intermediary good (headquarters services), no transport and transaction costs, no trade barriers, and no differences in tax systems (Helpman and Krugman, 1986).

[3] Helpman (2006) improved this analysis by assuming within-industry heterogeneity in terms of different productivity levels and organizational forms among firms of the same industry.

unskilled labor). The unskilled-labor intensive product is produced under constant returns and perfect competition, while the skilled-labor intensive one is produced with increasing returns to scale under monopolistic competition, or oligopoly of the Cournot type. The skilled-labor intensive product uses headquarters services (Markusen and Maskus, 1999). It is further assumed that business activities can be differentiated geographically allowing each firm to have plants abroad. The model also hypothesizes the existence of transport costs and segmented national markets, with immobile production factors between countries (Markusen and Maskus, 2002; Carr, Markusen and Maskus, 1998).

The model assumes firm-level and plant-level scale economies, as well as the possibility of geographical separation of headquarters services and plant-level production, according to their factor intensities and the relative factor endowment of countries. If fixed costs at the firm level are high enough to make firm-level scale economies greater relative to those at plant-level, then MNE emerges through affiliate production abroad and supply of headquarters services from the MNE home country (Carr et al., 1998). Skilled-labor intensive headquarters services, which are central to the "knowledge-capital model", are assumed to be easily separated from production, transferred to dislocated production, and shared among different production plants (Markusen, 2002). Vertical or horizontal MNEs give rise, through the nature of their cross-border business activities, to vertical or horizontal FDI. Vertical FDI are seen as an outcome of the geographical separation of business activities by stages of business process, while horizontal FDI introduce expansion of the same production across countries. The simultaneous explanation of both types of FDI, that is, the greatest advantage of the knowledge-capital model is possible owing to the coexistence of trade costs and differences in factor intensity in the same model.

Country and industry characteristics have a significant impact on the nature of MNE activities and type of FDI. Horizontal FDI will arise when there is similarity in market size and relative factor endowment (factor costs) between FDI-home and -host country, and when the transport costs are high (Markusen and Venables, 1998). Vertical FDI occurs when countries are of a different size and with production facilities located in a country with a large domestic market that makes it possible to achieve plant-level economies of scale; headquarters services are performed by a country relatively endowed with skilled labor. An improvement of this model is offered by Bergstrand and Egger (2007), who demonstrated a complementarity between FDI and trade even between identical countries, and found out that trade, FDI and foreign affiliate sales can increase (on aggregate level) as GDP-size and -similarity between countries grow[4].

[4] Based on a similar model Baltagi, Egger and Pfaffermayr (2007) found out four types of FDI which, besides horizontal and vertical FDI, also include export-platform FDI and complex-vertical FDI.

3 FDI IN CROATIA AND OTHER EUROPEAN TRANSITION COUNTRIES

3.1 THE GLOBAL CRISIS AND ITS IMPACT ON SOUTH EAST EUROPE

The financial and economic crisis has made a huge negative impact on international capital flows and FDI in particular. Global FDI has fallen by approximately 50% in only two years and settled slightly above USD 1.1 bn by the end of 2009. The most pronounced impact of the crisis can be observed among developed countries, which experienced a 60% decrease, whereas developing countries have experienced a relatively modest reduction in FDI of approximately 15-20%. Meanwhile, the SEEC registered a decrease in inward FDI by approximately 40% with recovery still not on its way, since FDI-inflows have reached USD 4.1 bn in 2010, thus making a total fall of almost 70%. This negative dynamics is mostly determined by predominant motives of foreign investors in the region. Foreign investments in the SEEC are still mostly tied to privatization projects and realized through M&A, which are sensitive to business cycles and, therefore volatile in the medium term. Current problems on the international financial markets and fragile investment prospects contribute further to weak business outlook for the region, thus putting new investment plans on hold.

FDI-flows in the SEEC peaked in 2007, but as the crisis developed and investment flows decreased, the countries realized a lower share of inward FDI in national gross fixed capital formation. However, total inward FDI stock has considerably increased, reaching USD 76 bn in 2010, Croatia being the most prominent recipient of FDI in the region (45%). Investment slowdown in the SEEC can be seen from the decreasing number and value of investment projects (both M&A and greenfield), followed by just a slight recovery in 2010 (table 1).

TABLE 1

*Various indicators of FDI in the SEEC**

Indicator	2005	2006	2007	2008	2009	2010
Inflow (USD mn)	4,877	9,875	12,837	12,601	7,824	4,125
Outflow (USD mn)	273	395	1,448	1,896	1,371	52
Inward stock (USD mn)	26,913	46,951	74,036	67,320	77,299	76,414
Outward stock (USD mn)	2,139	2,545	4,200	9,644	11,170	8,775
Inflow (% of gross fixed capital formation)	15.5	24.3	33	27.4	21.8	13
Outflow (% of gross fixed capital formation)	1.4	1.3	1.3	4.1	3.8	0.2
Inward stock (% of GDP)	29.8	46.3	62.7	39.7	50.6	52
Outward stock (% of GDP)	3.1	3.2	4.3	5.7	7.3	6
Value of cross-border M&A sales (USD mn)	955	3,942	2,192	767	529	266
Number of cross-border M&A sales projects	30	39	73	46	17	18
Number of FDI greenfield projects	148	140	156	231	136	175

** Albania, Bosnia and Herzegovina, Croatia, Macedonia, Montenegro, Serbia.*

Source: UNCTAD, 2011.

3.2 DYNAMICS AND STRUCTURE OF INWARD FDI IN EASTERN EUROPE

Dynamic inflows of FDI marked the period of mature transition in Eastern Europe. The highest annual inflow has been realized by the advanced transition countries like Poland, the Czech Republic and Hungary which also stand out in 2010, according to their FDI stock. Meanwhile, the SEEC have realized much weaker inflows, mainly due to a sluggish economic liberalization and institutional reforms, as well as the slow association process with the EU. Among those, only Croatia and Serbia have realized a higher annual inflow (table 2).

TABLE 2

Various indicators of FDI in the European transition countries (USD mn)

Country	FDI-inflow						FDI-stock
	1990-2005 (cumulative inflow)	2006	2007	2008	2009	2010	2010
Czech Republic	56,297	5,463	10,444	6,451	2,927	6,781	129,893
Hungary	50,111	6,818	3,951	7,384	2,045	2,377	91,933
Poland	78,477	19,603	23,561	14,839	13,698	9,681	193,141
Slovakia	20,303	4,693	3,581	4,687	-50	526	50,687
Slovenia	5,237	644	1,514	1,947	-582	834	15,022
Bulgaria	14,451	7,805	12,389	9,855	3,351	2,170	47,971
Romania	23,977	11,367	9,921	13,910	4,847	3,573	70,012
Croatia	12,198	3,743	5,035	6,179	2,911	583	34,374
Albania	1,709	325	656	988	979	1,097	4,355
Bosnia & Herzegovina	2,472	766	2,080	932	246	63	7,152
Macedonia	1,642	433	693	586	201	293	4,493
Serbia	5,687	4,256	3,439	2,955	1,959	1,329	20,584
Montenegro	688	622	934	960	1,527	760	5,459

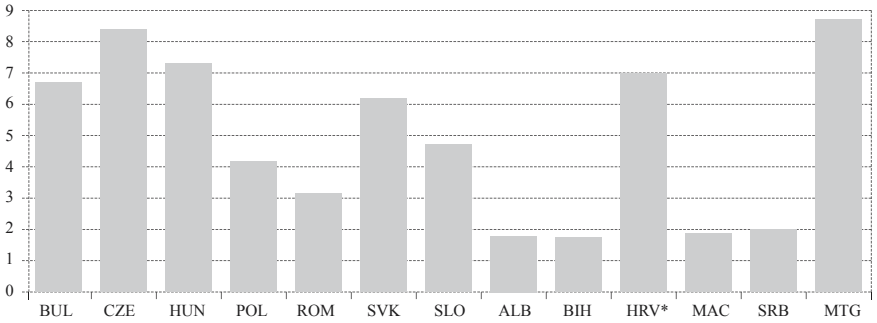
Source: UNCTAD, 2011.

Recently, FDI inflows have accounted for less than 25% of national gross fixed capital formation in the analyzed countries, although in some of them this indicator goes up to 30% (Albania) or even 130% (Montenegro). However, the crisis has considerably reduced reliance on this form of external financing, since in some countries this share is considerably below the EU-average (9.7%), or that of developed countries in general (8.4%).

Despite the increasing outward investment of countries like Hungary and Slovenia, transition countries generally remain net recipients of FDI. Indicator of cumulative per capita net FDI-inflow reveals a more accurate picture as to the success of individual countries in attracting foreign capital. In this respect the highest inflow is realized by the most successful transition countries, but also by Bulgaria, Croatia and, recently, Montenegro (figure 1).

Figure 1

Cumulative net inflows of FDI per capita in the European transition countries (in thousands USD), 1990-2010



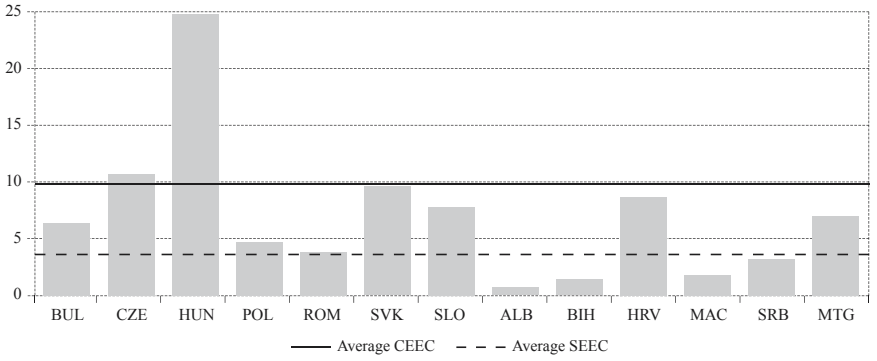
** HRV stands for Croatia (Hrvatska) throughout the paper.*

Source: UNCTAD, 2011; IMF, 2011.

While indicators of FDI inflow point to the amount and dynamics of incoming investment, FDI-stock reveals, however, real effectiveness of the realized investments[5]. Figure 2 shows that in Central Europe hardly any country compares to the Czech Republic in terms of the realized FDI stock *per capita*, followed by Slovakia and Hungary. In South East Europe Croatia and Montenegro exceed the average of the advanced transition countries. The remaining SEEC realize significantly lower values of this indicator.

Figure 2

FDI stock per capita in the European transition countries (in thousands USD), 2010



Source: UNCTAD, 2011; IMF, 2011.

[5] Unlike cumulative FDI inflow which merely represents a sum of incoming FDI, FDI stock is calculated on the basis of actual stock market value of the acquired company share, exchange rate fluctuations and the principle of adding together of individually acquired company shares, which together, might go beyond the 10% threshold.

Following the solid growth during the second half of the 1990s, foreign investment in Croatia has gone through a steady period marked by annual inflows of approximately USD 1 bn. After 2005, Croatian inward FDI rose substantially and peaked in 2008 at slightly more than USD 4 bn. As a consequence of the economic crisis, FDI was halved in 2009, leading to a steep fall to USD 400 mn in 2010 and just a modest recovery to approximately USD 1.5 bn in 2011 (CNB, 2012).

As far as the form of inward FDI is concerned, in the majority of the analyzed countries, including Croatia, equity capital dominates, whereas larger shares of reinvested earnings can be found only in the Czech Republic, Estonia, Lithuania and Slovakia. According to the structure of inward FDI-stock by economic activities, there are differences between the new EU members and the countries from South East Europe. The new EU members have realized about one third of inward FDI in manufacturing, followed by real estate, financial intermediation and trade. Among the SEEC the largest share of FDI in manufacturing was realized in Bosnia and Herzegovina and Macedonia (30%) which compares well with the figures of the advanced transition countries, while the Croatian share of manufacturing FDI amounts to 25.8%. By the beginning of 2012 Croatia had received most of its FDI in services (68.4%) with financial intermediation (33.9%) and trade (13.7%) leading the way, followed by investment in real estate (10.1%), transport, storage and communication (8.6%) and tourism (2.1%). As expected, investments in the SEEC went mostly to activities on a lower scale of value added like food processing, basic metals, non-metallic mineral products, and in some cases oil processing. Meanwhile, the advanced transition countries received FDI in production of transport equipment, electrical and optical instruments, and machinery and equipment. Regarding the sector composition of inward FDI, Croatia closely resembles the SEEC group with 40% of all manufacturing FDI in production of refined petroleum products, followed by other non-metallic mineral products (17.3%), food products (10.7%), and pharmaceuticals (9.4%) as the only exception to this general pattern. The regional structure of inward FDI to the SEEC reveals significant presence of investors from the EU with the Netherlands, Austria and Germany as the main FDI-home countries (WIIW, 2012).

4 COUNTRY-SPECIFIC FACTORS AS DETERMINANTS OF FDI IN TRANSITION ECONOMIES

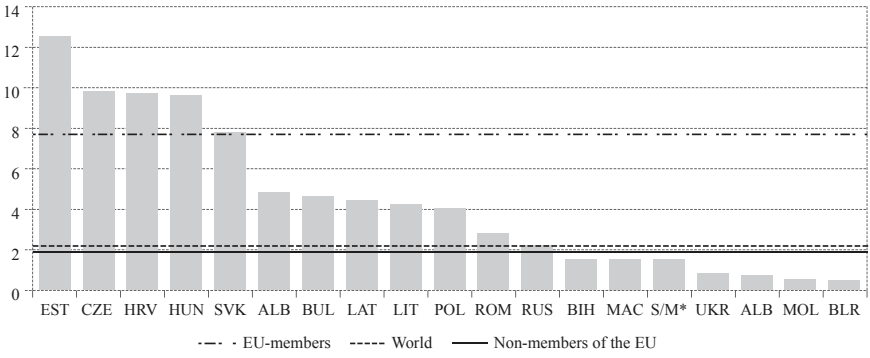
4.1 RELEVANCE OF THE CONCEPT OF POTENTIAL FDI

The question of "the upper boundary", or economic capacity for receiving new FDI is an important topic on the economic policy agenda for all countries, especially those that are net recipients. The reasons for this are manifold. Foreign direct investment has a strong potential for economic growth and development, and usually takes precedence among the strategic goals of many less developed countries. Although the advanced transition countries of Central and East Europe have enjoyed positive FDI spillovers, and have successfully gone through structural and economic reforms towards the EU membership, the countries of South

East Europe have either failed to take advantage of the foreign presence in their economies, or have started receiving large amounts of FDI relatively late. Due to slow economic and institutional reforms and non-membership in the EU, it becomes important for the SEECs to find out factors upon which the amount and quality of inward FDI depend, as well as to find out their real capacities for hosting new FDI in the future[6]. Furthermore, FDI opens the way to capital inflows without pressure on the recipient country's external position (Ramirez, 2006; Chakrabarti, 2001). Finally, after the "first wave" of FDI, mostly related to privatization projects and aimed at strategic market positioning of foreign investors, these economies should now develop into genuine investment-friendly locations with stabile long-term inflow of foreign capital. This calls for identification of the most important factors which determine a country's economic capacity for hosting new FDI. However, uncertainties on the international market do not contribute to easy realization of the above goals. A slow recovery of global FDI, the rising importance of developing countries, and a shift of FDI from the manufacturing to the primary sector and services will determine the situation on international capital markets in the medium and long run[7].

Figure 3

FDI stock/capita in the European transition countries (in thousands USD), 2010



** S/M stands for Serbia and Montenegro.*

Source: UNCTAD, 2011.

Attracting new FDI has become an internationally competitive task for governments (Dunning and Narula, 1997) in which both trends on the international capital markets and a country's own economic capacities for hosting FDI, together with factors determining the expected amount and structure of inward FDI, have

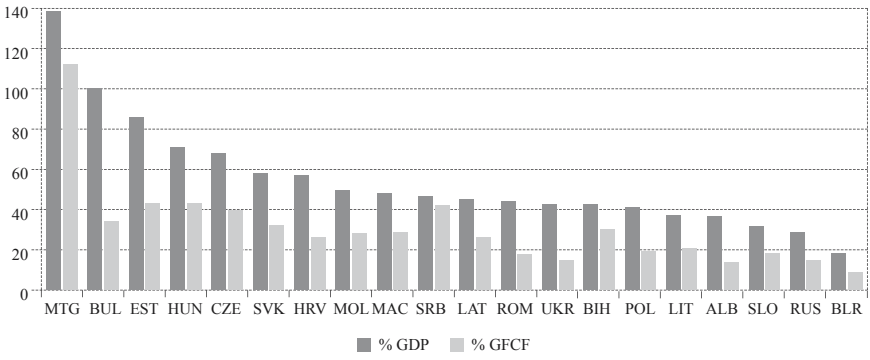
[6] In the Vinerian tradition of trade creation and diversion, many studies tried to find out the effects of economic integration on FDI. Generally, economic integration contributes to increasing FDI for participating countries, yet without negative effects on "third countries" (Kreinin and Plummer, 2008; Baltagi, Egger and Pfaffermayr, 2008; Brento, Di Mauro and Lücke, 1999; Buch, Kokta and Piazolo, 2003; Brouwer, Paap and Viaene, 2008).
[7] On the counter-cyclical effects of FDI, see: Levy Yeyati, Panizza and Stein (2007) and Frenkel, Funke and Stadtmann (2004).

to be considered. Furthermore, finding out FDI-growth potentials by benchmarking the countries with the more successful counterparts (e.g. new EU members), should indicate the remaining economic and institutional reforms necessary to increase local market attractiveness for new investments[8]. According to the FDI-stock-to-population ratio, Croatia is relatively well positioned among the transition countries, as its FDI *per capita* (USD 7,800) compares well with the average of the 10 new EU-member countries. Croatian FDI-stock/*capita* is double the average of non-EU-members which makes Croatia a leading recipient of FDI in the region (figure 3).

Relative indicators of FDI show that Croatia had large amounts of inward FDI, both compared to the ten new EU member countries and the remaining transition countries (figure 4). According to the FDI-to-GDP-ratio and the ratio of FDI inflow to gross fixed capital formation, the advanced reform countries of Central and East Europe are ranked high, while the less advanced countries take lower positions with the respective shares of approximately 40% or less. Croatia is again relatively well positioned with almost 60% of FDI-to-GDP ratio and a relatively low level of FDI inflow, as measured by the value of gross fixed capital formation.

FIGURE 4

FDI stock (% of GDP; 2010) and average annual FDI-inflow (% of gross fixed capital formation; 1990-2010) in the European transition countries

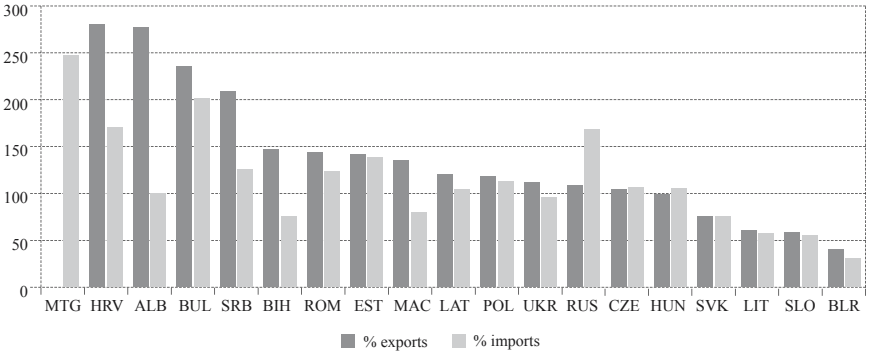


Source: UNCTAD, 2011.

According to the share of FDI stock in trade flows, the analyzed countries can be divided into two groups. The first group, with the FDI share in exports exceeding 100%, comprises less advanced countries of South East Europe and Croatia. On the other hand, the advanced reform countries and the new members of the EU are grouped at the bottom of the list indicating that their inward FDI does not go far beyond their created export capacities (figure 5).

[8] On economic policy effectiveness in attracting FDI, see: Borensztein, De Gregorio and Lee (1998), and Yu, Chang and Fan (2007).

FIGURE 5
FDI stock in the European transition countries (% of exports, % of imports), 2010



Source: UNCTAD, 2011.

The data presented indicate that some countries have reached relatively high levels of FDI, measured in terms of their domestic market and its absorption capacity, and that it might become difficult for them to host new FDI in the future without generating stronger economic growth.

4.2 REFERENCES TO SIMILAR EMPIRICAL LITERATURE

The question of finding out potential FDI is closely related to investigating the determinants of FDI flows. Empirical studies which include today's transition countries before the 1990s, are relatively scarce and mostly focused on the "core economic variables" and the cost-related factors. Wang and Swain (1995) analyzed the determinants of inward FDI to Hungary and China (1978-1992) and proved the relevance of local market size and its growth potential, together with typical cost-related factors (wages, trade barriers and exchange rate). Ang (2008), in his study on Malaysian FDI, came to a similar conclusion on the importance of local market conditions and factors influencing production costs. This study also proved that Malaysian inward FDI grew despite the problems of increasing country risk and the Asian financial crisis. A similar analysis of Chilean FDI during the 1990s proved the relevance of GDP from previous periods as a determinant of inward FDI (lagged GDP variable), assuming that investment decisions are based on the future expectations generated from the realized level of development and implicitly on the perception of growth dynamics (Ramirez, 2006). This study makes strong reference to a country's external position (balance of payments and external vulnerability), as well as to the political stability, as determinants of inward FDI.

Chakrabarti (2001) carried out a cross-country analysis of 135 countries in 1994 and found out that cost-related factors strongly determine inward FDI, but the results proved to be strongly sensitive to changes in the state of macroeconomic stability (inflation, budget deficit, external debt, etc.). Moosa and Cardak (2006)

performed a similar analysis and proved the relevance of the level of development, income and trade openness as the determinants of inward FDI.

Bellak, Librecht and Riedl (2008) analyzed the factors behind bilateral FDI-flows of the CEEC. Based on the panel-gravity approach this study proves relevance of all typical gravity variables and cost-related factors as an approximation of the cost competitiveness of FDI recipient country. The analysis proved that the strongest impact on the dependent variable came from the baseline gravity specification of the regression, while showing that cost-related factors offer large "playing field" for government intervention aimed at increasing inward FDI. Garibaldi, Mora, Sahay and Zettlemayer (2001) carried out analysis on a large sample of transition countries during the 1990s. They differentiated between greenfield and portfolio investment and ran independent regressions on these two dependent variables. A detailed specification of explanatory variables includes indicators of macroeconomic stability, institutional reform indicators, and specific structural variables describing financial market development. This paper gives strong support to "economic fundamentals" (such as macroeconomic stability, level of economic reforms, trade liberalization and privatization method) as the determinants of greenfield investments. Carstensen and Toubal (2004) hypothesized that differences between the advanced CEEC and the SEEC in attracting foreign investment cannot be explained only by "traditional variables" (GDP, cost-related factors and level of education), and introduced transition-specific variables, which proved relevant, into the dynamic panel model.

In an analysis of Croatia, Deichmann (2013) tried to find out the determinants of inward FDI during the second decade of transition (2000-2009). With a gravity-type regression equation he analyzed bilateral Croatian FDI and found out that the agglomeration forces, relations with the EU, historical linkages and bilateral trade relations determine the nature of Croatian inward FDI, whereas he found no support for typical gravity variables.

The analyses of the economic integration effects included a dilemma about complementarity, or substitutability between FDI and trade[9]. In an attempt to answer that question Di Mauro (2000) created a model which combined aspects of a gravity equation and the increasing returns to scale variables, in an analysis of bilateral FDI-flows among OECD-countries. This group of variables included composite indicators like size similarity, "economic space" (sum of two countries' GDPs), and index of differences in the relative production factor endowment. Besides confirming the relevance of variables originating from new trade theory, Di Mauro (2000) showed that the exchange rate had no adverse impact on FDI flows (as long as it remained reasonably stable), nor do tariffs (implying the absence of the "tariff-jumping"-motive of FDI). These results come as no surprise taking into

[9] For further reference, see: Hejazi and Safarian (2001), Lipsey (2002), Lin (1995), Graham (1996) and Portes (2007).

account the analyzed sample of developed open economies with stable exchange rates. Christie (2003) used a similar methodology to analyze bilateral inward FDI to the CEEC and the SEEC in order to determine the pattern of FDI. The results showed that FDI to the advanced transition countries (CEEC) were mostly of a horizontal type, whereas that pattern for the SEEC remained unclear. Further, the paper proved the relevance of similarities in market size, "size effect", and the relative difference in factor endowment as explanations for the differences in cross-country investment flows.

Buch, Kokta and Piazolo (2003) were primarily concerned with the application of the concept of "potential" FDI on estimating the effects of the EU-enlargement (CEEC) on old members (Portugal, Spain). By estimating typical gravity equation for bilateral FDI-flows, they came to a conclusion that there occurred no "redirection" of FDI from the old to the new EU-members, as they proved that potential or theoretically predicted FDI generally correspond to the actual level of FDI. Brenton, Di Mauro and Lücke (1999) came to a similar conclusion regarding the estimated potential level of FDI for the Czech Republic, Hungary, Poland and Romania. In an analysis of the integration effects on FDI for the CEEC, Clausing and Dorobantu (2005) confirmed a positive influence of the EU-accession, as well as the relevance of cost-factors and other "fundamentals" (GDP, income and trade openness).

Other analyses primarily focused on estimating potential FDI include Demekas, Horváth, Ribakova and Wu (2007) and Borrmann, Jungnickel and Keller (2005). Demekas et al. (2007) observed a large sample of countries over a short period (2000-2002), whereas the analysis of non-privatization-related FDI as the dependent variable was performed on the aggregate level, as well as for country pairs. The results showed no statistically significant difference between the CEEC and the SEEC regarding the determinants of FDI inflows. An interesting insight into the analysis of potential FDI is offered by Borrmann et al. (2005) who focused primarily on German outward FDI, trying to find out the position of actual vis-á-vis potential FDI from Germany to four recipient countries from Central and East Europe. The novelty of this approach is that it takes into account not only the market potential of FDI target countries, but also that of the neighboring markets. General conclusion is that the realized German FDI to the analyzed countries is higher than the estimated level of potential FDI. Babić and Stučka (2001) analyzed the determinants of Croatian inward FDI and found out that the strongest influence on FDI inflows came from agglomeration effects and income, followed by indicator of credit rating. The variable of trade openness is not significant in the analyzed model, which is not surprising regarding the ongoing process of Croatian trade liberalization at the time of the analysis (1992-1999).

The above evidence shows that the SEEC have been much less analyzed than their more successful counterparts from Central Europe, and that Croatia has rarely

been in the focus of these analyses. This paper adds to the existing literature on FDI in transition countries by focusing on the SEEC which still lag behind in terms of inward FDI and their location characteristics. In doing so, the originality of the paper arises from investigating the determinants of inward FDI by combining typical gravity variables and those of increasing returns to scale. The paper, furthermore, uses the advanced CEEC as a benchmark and calculates potential level of Croatian inward FDI by individual FDI-home countries. In contrast to similar empirical studies, this paper considers a larger group of countries for the analysis of bilateral FDI and observes data over a longer period (1990-2004), which is strictly determined by the first wave of the EU-enlargement in 2004, as otherwise the analysis would go into the direction of estimating the integration effects on FDI flows, which is beyond the scope of the paper (see: Medvedev, 2011; Kim, 2007; Petroulas, 2007).

4.3 MODEL SPECIFICATION AND RESULTS

In order to explain the factors which determine FDI flows to transition countries, the following model incorporates three groups of explanatory variables: the typical gravity variables, variables based on increasing returns to scale and institutional variables (for detailed explanation of the variables and the data sources see table A1 in the appendix).

The gravity-type variables are designed according to Linnemann (1966) and include GDP, population and income of both FDI home and host countries, but also the factors that can additionally influence bilateral economic relations – either positively (common border, participation in the same economic integration, cultural similarities), or negatively (trade and transaction costs commonly approximated by physical distance). Gross domestic product, as the absolute measure of market size and the realized level of economic development, determines a local economy's general efficiency level and its capacity for achieving economies of scale, the latter being critical for small economies (Chakrabarti, 2001; Ang, 2008). GDP is, therefore expected to significantly influence FDI flows. By approximating the potentials of economies of scale, GDP is expected to put less pressure on FDI outflow in the case of big economies, while the opposite holds for small developed economies. In the case of recipient countries, increasing GDP is expected to influence inward FDI positively. Variable of income (GDP/capita), as an indicator of purchasing power on the local market, but also an approximation of local labor costs, can have both a positive and a negative effect on inward FDI[10]. Population of both source and recipient country of FDI usually have opposite effects on bilateral FDI flows. Whereas a large population of the FDI home economy might reduce local companies' interest in foreign markets, large population of host economy can, however, turn this lack of interest into generation of new investments. The role of distance in the FDI-gravity-model is not always straightforward. In

[10] Eaton and Tamura (1996) found out that FDI prefer middle income countries over low income ones with weak local market absorption capacity, or high income ones with high production costs.

light of the "proximity-concentration hypothesis" and assuming that FDI is used to replace the existing trade flows, a positive relationship between distance and FDI can be expected. In a simpler case in which capital circulates between countries at different levels of development, a negative relation between distance and FDI can be expected. The variable of a common border, can, in the same sense, have a positive influence on FDI-flows. Association with the EU will presumably also have a positive influence, since it includes economic reforms and restructuring, implementation of common policies, as well as legal and institutional approximation with the EU-standards.

The analysis also includes variables based on increasing returns to scale, imperfect competition and product differentiation (Helpman and Krugman, 1986) which make it possible to disentangle various types of FDI (horizontal and vertical) and the underlying motives for investment (market- and efficiency-seeking) empirically. These composite variables are based on GDP of FDI home and host countries and are, therefore appropriate for analyzing bilateral investment flows (Di Mauro, 2000). The variable of GDP similarity explains the extent to which similarity in economic size between countries is responsible for generating bilateral cross-border investment. Consequently, the more similar the countries, the larger investment flows they create. The variable of GDP size, which, by adding together GDPs of two countries, measures the size of their bilateral "economic space", is expected to positively influence FDI. Finally, the variable of differences in the relative factor endowment (GDP/capita-difference) should capture the impact of different composition of production factors across countries, on the structure and the amount of inward FDI. Accordingly, large differences in endowment between countries would indicate vertical FDI, while small differences would indicate horizontal FDI.

Institutional variables aim at capturing specific characteristics of transition economies like trade and foreign exchange liberalization, privatization, and the share of trade with non-transition countries. Contractual relations with the EU can also be seen as an indirect measure of institutional reforms, since they incorporate legal and institutional approximation to standards of the developed countries, usually seen as a solid guarantee for an investment-friendly environment.

The analysis that follows is primarily focused on country-specific determinants of inward FDI and aims at revealing the main factors behind the bilateral FDI flows to Eastern Europe during the period in which some countries became significant recipients of FDI (1996-2004). In doing so, this analysis incorporates 12 FDI host economies[11] and the five single most important foreign investor countries in the region (the Netherlands, Germany, Austria, France and USA). The dependent

[11] Based on contractual relations with EU this group includes: Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Macedonia, Poland, Romania, Slovakia and Slovenia. By 2004, the majority of them had finished accession negotiation (Bulgaria and Romania being prospective members), whereas Croatia and Macedonia had signed their Stabilization and Association Agreements.

variable of the standard multiple regression model is inward FDI stock which includes all types of investments (privatization and non-privatization-related). This type of variable is more appropriate for analyses with longer time series and focused on FDI determinants. The variable of FDI stock is usually more stable over time and, unlike flow-variables, rarely takes negative value or zero[12]. Correlation matrix of explanatory variables can be found in table A2 in the appendix.

Regression equation of ln-linear form in all variables (except dummies) is analyzed by the OLS-method:

$$Ln\ inwardFDIstock = Const. + \beta_1 Ln\ X_1 + \beta_2 X_2 + \ldots + \beta_n Ln\ X_n + \mu \qquad (1)$$

and has produced the results presented in table 3.

TABLE 3

Results of regression analysis for the European transition countries (1996-2004)

	Model 1			Model 2		
	Coefficient	**Std. error**	**t-statistics**	**Coefficient**	**Std. error**	**t-statistics**
Const.	-34.784	2.787	-12.085 ($t^*_{0.005}$=2.576)	-27.996	3.017	-9.279 ($t^*_{0.005}$=2.576)
Ln GDP host	1.399	0.081	17.282 ($t^*_{0.005}$=2.576)			
Ln GDP home	0.147	0.057	2.580 ($t^*_{0.005}$=2.576)			
Ln POP host						
Ln POP home						
Ln GDPcap host	-0.516	0.127	-4.079 ($t^*_{0.005}$=2.576)			
Ln GDPcap home	1.981	0.257	7.700 ($t^*_{0.005}$=2.576)			
GDPsim_Ln				1.461	0.082	17.875 ($t^*_{0.005}$=2.576)
GDPsize_Ln				1.593	0.087	18.399 ($t^*_{0.005}$=2.576)
GDPcapDIF_Ln				-0.802	0.160	-5.000 ($t^*_{0.005}$=2.576)
Ln DIST	-0.674	0.088	-7.691 ($t^*_{0.005}$=2.576)	-0.639	0.093	-6.875 ($t^*_{0.005}$=2.576)
Ln relDIST						
Ln relDIST GDP						
Ln ULC						
Ln ULC ERadj						
Ln ULC PPPadj						
Ln OPEN g						
Ln OPEN gs	1.395	0.251	5.557 ($t^*_{0.005}$=2.576)	1.383	0.245	5.654 ($t^*_{0.005}$=2.576)

[12] Nevertheless, some studies, mostly concerned with policy measures, use FDI-flows as dependant variable (Bellak et al., 2008; Grosse and Trevino, 2005; Ang, 2008; MacDermott, 2007).

	Model 1			Model 2		
	Coefficient	**Std. error**	**t-statistics**	**Coefficient**	**Std. error**	**t-statistics**
Ln PRIVAT rev	0.150	0.057	2.617 ($t^*_{0.005}$=2.576)	0.171	0.058	2.966 ($t^*_{0.005}$=2.576)
Ln TRADE nont	1.307	0.325	4.026 ($t^*_{0.005}$=2.576)	1.555	0.363	4.281 ($t^*_{0.005}$=2.576)
Ln EBRDi ss				3.664	1.135	3.227 ($t^*_{0.005}$=2.576)
ln EBRDi ls						
ln EBRDi ft						
BORD	0.315	0.190	1.661 ($t^*_{0.050}$=1.645)	0.171	0.026	0.863 ($t^*_{0.100}$=1.282)
EU	0.293	0.186	1.573 ($t^*_{0.100}$=1.282)	0.290	0.039	1.492 ($t^*_{0.100}$=1.282)
No. obs. = 469	R=0.829	R^2=0.687	R^2_{adj}=0.681	R=0.812	R^2=0.659	R^2_{adj}=0.653
	F=131.238	$F^*_{0.05}$=1.83		F=115.710	$F^*_{0.05}$=1.83	

Source: Author.

The results confirm the theoretical expectations about the relevance of the selected variables, as well as their signs and statistical significance, in explaining transition countries' inward FDI. Model 1 corroborates the existence of a "gravity-type behavior" of FDI which means that typical "push and pull" factors have played important roles in determining the amount and the direction of FDI, a finding consistent with that of Bellak et al. (2008). Model 2, based on imperfect competition and increasing returns to scale, reveals that motives like economies of scale, or dispersion of business activities across countries according to factor intensity and relative factor endowment add to the explanation of the forces behind the realized FDI in Eastern Europe.

The strongest influence on inward FDI in the gravity model comes from the level of development (GDP) and the income of both source and recipient countries of FDI. This outcome shows that high-income and capital-abundant countries have created more direct investment and were primarily attracted by large economies with lower production costs. In contrast to the existing empirical literature, this analysis proved a negative sign and statistical significance of GDP/capita variable for FDI-host economy confirming the above, and indicating that high income (and high wages) reduced the amount of inward FDI to transition countries. A strong influence also comes from trade openness, indicating that free access to the international market was an important factor in attracting FDI. This is further corroborated by the presence of the variable "trade with non-transition countries" in the final model. This variable resembles the degree of the transition countries' trade re-orientation towards developed markets and the underlying growing competitiveness and successful restructuring they have gone through. This can, at least partially, explain the lagging behind of some SEEC in terms of modest investment inflows. As expected, distance had an adverse impact on FDI, indicating that geographical proximity contributes to generating more FDI. Furthermore, the

presence of dummy variable for common border corroborates the above, by indicating that neighboring countries have stronger potentials for this type of economic cooperation. Finally, another dummy variable, intended to grasp positive influence of manifold aspects of relations with the EU, is again proved relevant for transition countries, as also confirmed in Deichmann (2013) and Clausing and Dorobantu (2005). This outcome comes as no surprise since it is known that association with the EU opens up free access to large market, stimulates legal and institutional reforms, and gives credibility to a country as investment-friendly location.

Model specification based on the concept of increasing returns to scale confirms the relevance of the variables, which show that market size and respective (dis) similarities among countries play an important role in determining bilateral FDI (similar to findings in Di Mauro, 2000). This is shown by a high value of the estimated parameter for variable GDP-size, as a measure of "common economic potential" of two countries. However, the variables measuring the degree of similarity of GDPs (GDP-similarity and GDP/cap-difference) have realized a slightly weaker influence on the transition countries' inward FDI. The relatively low value of the estimated parameter for the variable "differences in GDP per capita", shows that the degree of income similarities did not strongly determine the realized level of FDI, while the negative sign indicates that the majority of FDI were horizontal, or market-seeking. Regarding the dominant share of the CEEC in total inward FDI of the analyzed sample, this result is not surprising and correlates well with that in Christie (2003). However, this model specification abandoned the importance of the common border, since this variable entered the model, but remained statistically insignificant.

As for the institutional variables, the only one which entered the final model specification is that of small scale privatization which achieved the highest parameter value estimated. Other institutional variables such as large scale privatization, or foreign exchange and trade liberalization did not prove relevant and were, therefore, left out of both models. Explanation for that possibly lies in different models of large scale privatization across countries (e.g. direct sale vs. insider privatization). On the other hand, absence of the indicator of exchange rate from the model can perhaps be explained through its relative stability (finding in line with Di Mauro, 2000). However, these issues need further research, possibly through improvement of the presented analytical models, either in terms of alternative variable selection, measurement method of the variables like privatization method, exchange rate, or unit labor costs (see: Bellak et al., 2008), or taking into account the dynamic nature of FDI.

The above models have been used to calculate potential Croatian inward FDI stock. Based on the actual macroeconomic data and the best scores for institutional reforms (according to EBRD-scoring matrix) values of potential inward FDI

are calculated for the period 2005-2010, on aggregate and by individual countries of origin[13]. This analysis includes 19 countries which in 2010 accounted for approximately 90% of Croatian inward FDI-stock.

Results in table 4 show that, according to the gravity model (Model 1), the realized level of FDI stock is over the years usually higher than the estimated one, however with some exceptions. Results for the years 2009 and 2010 should be interpreted with caution due to the global economic slowdown, which obviously reduced the capacities to both generate and host new FDI, while a simultaneous slowdown in global investments additionally confirms that. During these years, and based on actual data, Croatian inward FDI was realized at approximately 30% higher level than predicted by the model. In 2006 and 2007 this difference is much smaller (10-20%), while data for 2005 and 2008, years preceding the crisis, even show a "shortage" in the realized level of FDI-stock, compared to figures estimated by the model[14].

Table 4

Realized and estimated level of inward FDI-stock for Croatia (USD bn)

Inward FDI-stock	2005	2006	2007	2008	2009	2010
Realized	13.7	22.2	35.6	28.6	31.1	30.6
Estimated (Model 1)	15.8	20.2	30.4	40.5	23.7	23.8

Source: Author.

Analysis by individual countries further confirms a relatively strong gravitational character of Croatian inward FDI as presented by indicators in table 5. The ratio of potential-to-realized FDI below one shows that the country received more FDI than predicted by the model, while values above one show that there exist more scope for receiving new FDI. The neighboring and geographically close countries to Croatia (Austria, Hungary, Germany and Slovenia) have invested more than theoretically expected, while the majority of other countries, according to these results, have not yet reached their full capacity in bilateral FDI-flows to Croatia. Regarding the selection of time-varying variables in the model (GDP, trade openness, privatization and contractual relations with the EU), it can be said that the Croatian capacity to induce economic growth and structural reforms, and continue with institutional reforms, including EU membership, will appear as the critical factors in attracting new FDI in the future.

[13] Potential FDI-stock is obtained as the value which would prevail if the entire Croatian inward FDI would be determined by variables and parameters estimated by the model (Nilsson, 2000; Fidrmuc and Fidrmuc, 2003).
[14] Regarding the non-privatization related FDI only, Demekas et al. (2007) found out a relatively small gap between actual and potential Croatian FDI.

Table 5

Ratio of potential-to-realized level of Croatian inward FDI-stock by countries of origin (Model 1)

FDI-country of origin	2005	2006	2007	2008	2009	2010
Austria	0.36	0.43	0.24	0.51	0.28	0.27
Hungary	0.16	0.14	0.18	0.25	0.09	0.06
Germany	0.53	0.79	0.51	0.83	0.43	0.42
Netherlands	0.82	0.25	0.31	0.44	0.27	0.35
Slovenia	0.75	0.86	1.13	1.28	0.72	0.67
Italy	1.68	0.56	3.06	3.69	2.10	1.80
United Kingdom	1.53	0.80	0.75	1.32	0.58	0.62
France	5.36	0.90	1.09	1.26	0.77	0.71
Sweden	7.85	2.72	2.82	6.37	2.53	4.18
Switzerland	6.75	3.81	4.16	8.24	6.46	7.13
Belgium	15.79	25.10	3.67	6.91	5.56	3.73
United States	0.68	1.33	1.81	2.18	1.60	1.81
Ireland	16.38	13.92	19.78	19.44	7.41	3.26
Denmark	9.59	12.82	12.24	14.35	10.00	7.12
Russia	1.03	0.82	0.50	1.04	0.36	0.45
Norway	198.47	153.05	71.70	77.64	25.46	26.39
Spain	8.37	7.01	5.44	8.71	5.46	4.40
Bosnia and Herzegovina	0.05	0.07	0.12	0.42	0.20	–
Israel	9.98	11.15	12.82	9.40	5.66	6.16

Source: Author.

5 CONCLUDING REMARKS

Recent evidence on the negative impact of the global economic crisis on FDI-flows and weak prospects for their recovery in the medium term, have challenged the concept of economic growth that prevailed in Eastern Europe. It included market expansion through economic integration, growth of external debt, and FDI inflows related to privatization projects. Regarding the changes in the world FDI flows and search for the new investment opportunities, both by economic activity and host economies, the role of FDI as an engine of local economic growth will be challenged in the future.

The results of the empirical analysis showed that both "gravity-type" factors, and factors based on increasing returns to scale, can offer explanation to FDI in Eastern Europe. This means that market size, trade openness and geographical proximity between countries have had a strong impact on bilateral FDI-flows. Such an outcome is reasonable considering the period of the analysis. The initial years of transition and the opening up of new business opportunities on markets traditionally scarce in capital have made size of domestic market, international trade relations and opportunities for participation in privatization projects the main factors for attracting FDI. Contractual relations with the EU have proven relevant and

helped the advanced transition countries to receive additional direct investment. Variables based on increasing returns to scale have revealed somewhat more sophisticated explanations according to which similarities in the level of development, as well as in the degree of correspondence in income between countries, have positively influenced bilateral FDI flows. With respect to this, it was shown that foreign direct investments made during the 1990s and afterwards were horizontal and searched primarily for expansion on new markets.

Although policy implications of the paper are not straightforward, understanding factors behind FDI-flows should help policy makers in designing strategies for attracting new FDI. The estimated values of potential FDI in Croatia reveal that a further increase in inward FDI can be achieved only upon realization of further economic growth and increasing trade openness which includes integration with the EU[15]. Hence, efforts in the field of policy-making should be concentrated on creating conditions for sustainable economic growth, thus reducing the development gap towards potential FDI-home countries. These findings are in line with the "threshold analysis" by Demekas et al. (2007) according to which Croatia, as a medium-developed country, should increasingly concentrate on market size (including free access to the EU market) and macroeconomic stability, while in the future, attention should be given to factors determining competitive production costs like corporate taxes, exchange rate and productivity, as the main location factors for FDI. The pure "gravitational factors" that determined FDI-flows so far will probably cease to do so in the future, with the further development of transition countries. However, further research in that respect will be useful, as well as some refinements of the presented analytical model. These might include separation of FDI by type (greenfield vs. brownfield, and non-privatization-related) and by sector, as well as broader selection of institutional variables, not only the transition-specific ones, but also those which describe quality of the internationally competitive business environment. The analysis of cost-related factors as determinants of inward FDI presents an additional field for future research for the SEEC and Croatia alike. The global recession demonstrates, in light of the above, the importance of sustainable economic growth as the main precondition for increasing a local economy's absorption capacity for new FDI. This conclusion agrees well with the concept of increasing returns to scale and similarities in levels of development as a driving force behind international investment.

[15] Conclusion corroborated by Bellak et al. (2008) and Brenton et al. (1999) for advanced transition countries at earlier stage of development, similar to that of Croatia at present.

APPENDIX

TABLE A1

Description of variables and data sources

Variable name	Symbol	Unit of measurement/calculation	Data source
Inward FDI-stock	inwardFDIstock	USD mn	WIIW – Database on foreign direct investment, 2012
FDI host country GDP	GDP host	USD mn	IMF – International Financial Statistics Yearbook 2011
FDI home country GDP	GDP home		
FDI host country population	POP host	mn	
FDI home country population	POP home		
FDI host country GDP per capita	GDPcap host	USD	
FDI home country GDP per capita	GDPcap home	USD	
GDP-similarity	GDPsim_ln	$\ln(1-(\frac{GDP_{host}}{GDP_{host}+GDP_{home}})^2-(\frac{GDP_{home}}{GDP_{host}+GDP_{home}})^2)$	
GDP-size	GDPsize_ln	$\ln(GDP_{host}+GDP_{home})$	
GDP/capita-difference	GDPcapDIF_ln	$\ln(\frac{GDP_{host}}{POP_{host}})-\ln(\frac{GDP_{home}}{POP_{home}})$	
Distance	DIST	km	Google Earth (http://earth.google.com)
Relative distance	relDIST	$(\frac{DIST_{host1}}{DIST_{host1}+DIST_{host2}+...+DIST_{hostn}})\times 100$	
Relative distance weighted by GDP	relDIST GDP	$(\frac{(DIST\times GDP)_{host1}}{(DIST\times GDP)_{host1}+(DIST\times GDP)_{host2}+...+(DIST\times GDP)_{hostn}})\times 100$	
Trade openness by goods	OPEN g	$(\frac{(EX+IM)_{goods}}{GDP})\times 100$	IMF – International Financial Statistics Yearbook 2011
Trade openness by goods and services	OPEN gs	$(\frac{(EX+IM)_{goods}+(EX+IM)_{services}}{GDP})\times 100$	

Variable name	Symbol	Unit of measurement/calculation	Data source
Unit labor costs	ULC	% (2000=100)	Astrov et al. (2006)
Unit labor costs adjusted by exchange rate	ULC ERadj	% (2000=100)	
Unit labor costs adjusted by purchasing power parity	ULC PPPadj	% (2000=100)	
Common border	BORD	dummy (yes=1, no=0)	Google Earth map (http://earth.google.com)
Contractual relations with the EU	EU	dummy (yes=1 for full-fledged membership, European Agreement, or Stabilization and Association Agreement, otherwise no=0)	MFAEI – Croatia on the road to the EU, 2009
Privatization revenues	PRIVAT rev	cumulative as % of GDP	EBRD – Transition Report 2002; EBRD – Transition Report 2009
Trade with non-transition countries	TRADE nont	% of total trade volume	
Small-scale privatization	EBRDi ss	index (min.=1, max.=4.3)	
Large-scale privatization	EBRDi ls		
Foreign exchange and trade liberalization	EBRDi ft		

Source: Author.

TABLE A2

Correlation matrix of independent variables

Variable symbol	GDP host	GDP home	POP host	POP home	GDPcap host	GDPcap home	DIST	OPEN g	OPEN gs	ULC	BORD	EU	PRIVAT rev	TRADE nont	EBRDi ss	EBRDi ls	EBRDi ft
GDP host	1.000																
GDP home	0.084	1.000															
POP host	0.888	0.052	1.000														
POP home	0.080	0.990	0.061	1.000													
GDPcap host	0.176	0.089	-0.134	0.066	1.000												
GDPcap home	0.096	0.529	-0.064	0.468	0.322	1.000											
DIST	0.035	0.958	0.046	0.952	-0.008	0.494	1.000										
OPEN g	-0.323	0.027	-0.539	0.010	0.344	0.174	-0.021	1.000									
OPEN gs	-0.401	0.007	-0.609	-0.010	0.296	0.157	-0.032	0.954	1.000								
ULC	0.056	0.052	-0.025	0.018	0.210	0.194	0.009	0.221	0.196	1.000							
BORD	0.141	-0.178	0.058	-0.184	0.159	-0.188	-0.253	0.145	0.110	0.015	1.000						
EU	0.156	0.019	0.164	0.001	0.058	0.106	0.003	0.092	0.085	0.286	0.036	1.000					
PRIVAT rev	0.251	0.093	0.112	0.072	0.144	0.128	0.021	0.378	0.286	0.326	0.118	0.224	1.000				
TRADE nont	0.418	0.062	0.468	0.064	0.219	-0.103	0.041	-0.111	-0.104	0.157	0.110	0.141	0.246	1.000			
EBRDi ss	0.177	0.400	-0.170	0.027	0.559	0.277	-0.038	0.426	0.423	0.065	0.123	0.022	0.190	-0.162	1.000		
EBRDi ls	0.077	0.460	-0.690	0.025	0.144	0.175	-0.005	0.679	0.682	0.341	0.170	0.381	0.512	0.208	0.326	1.000	
EBRDi ft	0.308	0.084	0.227	0.067	0.368	0.129	0.016	0.094	0.072	0.366	0.110	0.258	0.416	0.447	0.238	0.411	1.000

Source: Author.

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Taxation of wages in the Alps-Adriatic region

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Abstract

Austria, Croatia, Hungary, Italy and Slovenia differ not only in level of average gross wage but also in the overall taxation of wages. While Croatia, Hungary and Slovenia tax the average gross wage less than Italy and Austria, a comparison of gross wages that are in absolute values close to the average gross wages of Italy and Austria or higher shows the reverse, i.e. it reveals a considerably higher taxation in the former three countries.

Keywords: wages, personal income tax, social security contributions, tax wedge

1 INTRODUCTION

The tax system as a whole and the taxation of wages in particular are important factors that influence the international positioning and overall competitiveness of countries, irrespective of their geographical proximity or membership in the same economic union. To a large extent this is the case with Austria, Croatia, Hungary, Italy and Slovenia, five neighbouring countries that (except Croatia) are members of the European Union (EU), sharing its single market and applying common policies regarding free movement of goods, capital, services and people[1]. Due to their different socio-political backgrounds, the gross domestic product (GDP) per capita of these countries varies substantially. In 2010, Austria recorded 126% of the EU average GDP per capita in purchasing power standards followed by Italy (100%), Slovenia (85%), Hungary (65%) and Croatia (61%) (EUROSTAT, 2012). In consequence, the levels of annual average gross wages (below, average gross wages) in those countries also vary in the ratio of 1:4.5. Moreover, the availability of good traffic connections and the open labour market stimulate employment in the neighbouring countries, mostly for workers from countries with lower incomes seeking better-paid employment. These countries also compete for foreign direct investments and try to attract regional headquarters of multinational companies. It is beyond the scope of this paper to capture the complexity of the factors that determine countries' international competitiveness. There is a broad spectrum of these factors, including institutions, the education system and the macroeconomic environment (European Commission, 2011b; World Economic Forum, 2012; Centre for International Competitiveness, 2012)[2]. Taxes on wages represent a large proportion of labour costs and thus also play an important role. In addition, taxes on labour, among which taxes on wages comprise a major share, provide substantial revenue for government budgets[3].

[1] These countries are also part of the Alps-Adriatic working community (http://www.alpeadria.org), which is also reflected in the article's title.

[2] There are numerous other research studies dealing with different aspects of competitiveness. Overesch and Johannes (2009), for example, stress the process of cutting corporate income taxes in Western Europe as an endeavour to retain a competitive position threatened by the low wages in Eastern Europe. Delakorda and Strojan-Kastelec (2000) confirm that Slovenia's main disadvantage compared to other transitional countries lies in its high labour costs and high taxation of wages.

[3] In 2010, taxes on labour contributed 56.8% (23.8%) of total taxation (of GDP) in Austria, 43.4 % (14.3 %) in Croatia, 48.3% (18.2%) in Hungary, 51.6% (21.8%) in Italy, and 51.8% (19.7%) in Slovenia (European Commission, 2012; Ministry of Finance, 2010).

The aim of this paper is to compare taxation of wages in the above mentioned countries and reveal how they differ in the overall tax burden. Firstly, an overview of the personal income tax systems and social security contribution rates is presented, followed by the calculation of taxes and consequently tax wedges for different gross wage levels.

The taxation levels of wages for selected household types are regularly published by the OECD (i.e. OECD, 2011) and the EU monitors taxation trends within the EU including taxes on labour (European Commission, 2011a). KPMG annually publishes an overview of personal income tax and social security contribution rates for a range of countries with special emphasis on the highest rates of personal income tax (KPMG, 2011), while IBFD publishes an overall review of taxes in the European countries (IBFD, 2010). A broad range of tax information is also available from National Ministries of Finance and Tax administration websites. Our analysis follows the work of Grulja (2011), which is based on the OECD methodology regarding the definitions of wages, the taxes included and the tax wedge. It also covers Croatia, even though it is not an OECD member[4].We calculate taxes for the average gross wage in each country (as does the OECD) and in addition, we calculate country-specific taxes for a common set of annual gross wages (below, gross wages) equal in absolute terms and ranging from EUR 10,000 to EUR 100,000. The results are presented for a single employee without children or other dependent family members.

In order to facilitate a comparison with the OECD results, the base year for calculation is 2010. One should thus be aware that in the turbulent times of the current financial crisis some of our calculated figures might change when the latest parameters of a country's specific tax systems are taken into account. The fact is that nowadays countries frequently adjust their tax systems. However, we believe that such changes are not so extensive as to overturn our findings, which are that Croatia, Hungary and Slovenia tax their average gross wages less than Austria and Italy and in addition, their average gross wages are also considerably lower in absolute terms compared to Italy and Austria. Yet when we compare the overall taxation of gross wages that in absolute values are close to the average gross wages of Italy and Austria, the order is reversed as they are taxed considerably higher in Croatia, Hungary and Slovenia, implying that the tax systems of these three countries are competitive at the level of relatively low gross wages (in absolute terms). From the policy point of view, our conclusions suggest that these three countries are caught in an inherent Catch-22, as their strategic goals are to achieve international competitiveness and the average level of EU development, while their tax systems do not boost their international competitiveness in the segment

[4] The calculations for Croatia are based on the works of Cipek and Šnajder (2010), Grdović Gnip and Tomić (2010), Tomić and Grdović Gnip (2011), Turković Jarža (2010). Taxation of wages in Croatia is also covered by Urban (2009).

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of individuals with high gross wages, whom we believe to represent the spearhead of innovations, knowledge and productivity.

The structure of the paper is as follows. Section two includes the methodology and assumptions used in the calculation of taxes and an overview of the tax parameters. Section three presents the taxation of wages by countries. Section four provides a comparison of taxation among countries, while the last section concludes.

2 METHODOLOGY AND ASSUMPTIONS

As already noted, our analysis is based on the OECD methodology regarding the definitions of wages, the taxes included and the tax wedge. The OECD definition of average worker has been broadened from average manual production worker (ISIC Sector D) to average worker (ISIC Sectors C to K), including both manual and non-manual workers[5]. As a general rule, all remunerations paid out to the workers are taken into account including the payment of overtime work and different supplements paid in money, while capital incomes (interests, dividends and capital gains) and fringe benefits are not included (OECD, 2011).

Table 1 includes the list of general assumptions applied to all five countries. Country-specific details are presented further on in the text.

Table 1
General assumptions

Employee characteristics (tax payer)	− single − without children/other dependent family members − wage as the only income source in 2010
Gross wage (EUR)	− average gross wage − 10,000; 20,000; 30,000; 50,000; 100,000
Social security contributions (SSC)	− employer's social security contributions − employee's social security contributions
Other contributions and taxes by employer	− other employer's contributions − payroll tax
Tax relief	− standard tax allowances and tax credits
Personal income tax (PIT)	− all levels (central and sub-central)
Calculated categories (results)	− labour costs − tax wedge − effective tax rate (ETR) (for the employer; for the employee and overall) − net wage as a share of the gross wage − net wage as a share of labour costs

Source: Own calculations.

[5] Average gross wages used in the paper are taken from the OECD (OECD, 2011) and thus differ from "usual" average gross wages, calculated by national statistical offices. Since Croatia is not an OECD member, its average gross wage is calculated according to the OECD definition, by the methodology of Tomić and Grdović Gnip (2011), using data from DZS (2012).

The taxes are calculated on the assumption of a single adult person without children or other dependent family members, who is receiving a wage (income from employment) as his/her sole income source. Besides the average gross wage, which differs from one country to another, a common set of gross wages ranging between EUR 10,000 and EUR 100,000 is taken into consideration. Among the taxes, apart from personal income tax (PIT), the employer's and employee's social security contributions (SSC) and other compulsory contributions and taxes are taken into account. PIT includes central (national) personal income tax as well as personal income taxes levied by sub-central levels of government. Labour costs are defined as the employer's SSC (and other employer contributions and taxes) added to the gross wage of an employee. Other costs connected with employment, e.g. travel-to-work allowance are not included. The tax wedge is defined as the difference between the labour costs of the employer and the corresponding net take-home pay of the employee. In the subsequent text, the tax wedge is calculated by expressing overall taxes as a percentage of labour costs.

Labour costs might be a better common denominator for international comparisons but due to the SSC ceiling and progressive PIT systems it would be very difficult to start calculations from the top (i.e. from labour costs) downwards. Gross wages as common denominator are thus more user friendly and they are also used by the OECD. Furthermore we used the OECD results as a benchmark to verify the correctness of our calculations.

The employee's effective tax rate (ETR) is defined as the overall taxes paid by the employee divided by the gross wage. The employer's ETR comprises of overall taxes paid by the employer divided by the gross wage and the overall ETR stands for overall taxes paid by the employer as well as the employee divided by the gross wage.

Common characteristics of all countries regarding the taxation of wages are:
- a progressive national PIT tax schedule[6];
- the application of tax relief in the form of tax allowances and/or tax credits; and
- the taxation of gross wages with the employers and employees SSC:
  - the basis for SSC is the gross wage;
  - the employees' SSC always include pension contributions; and
  - the employers' SSC always include healthcare contributions.

On the other hand, tax systems vary from country to country in several respects, for example in the number and types of tax relief, the number and width of the PIT schedule brackets, the levels of PIT marginal tax rates across the schedule brackets,

[6] Even though the flat-tax concept has dominated PIT reforms in Eastern Europe (Moore, 2005; Ivanova, Keen and Klemm, 2005; Fuest, Peichl and Schaefer, 2008), none of these countries had implemented such a tax by 2010.

the numbers and types of SSC, as well as the rates and definitions of their bases. The main characteristics of these country-specific tax parameters are presented in table 2.

TABLE 2

Tax parameters in 2010

Type of taxation		Country				
		Slovenia	**Italy**	**Austria**	**Hungary**	**Croatia[1]**
1	**Central PIT**					
1.1	Number of PIT schedule tax brackets	3	5	4	2	5
1.2	PIT marginal tax rates (%)	16; 27; 41	23; 27; 38; 41; 43	0; 36.5; 43.21; 50	17; 32	13.5; 25; 30; 37.5; 42.5
1.3	Threshold for the highest marginal tax rate (EUR)	15,058	75,000	60,000	18,150	41,481
1.4	Tax reliefs	tax allowances	tax credits	tax allowances and tax credits	tax credits	tax allowances
2	**Sub-central PIT rates (%)**	–	regional: 0.9 – 1.4; local: 0 – 0.8	–	–	local: 0 – 18
3	**Other employee's taxes (%)**	–	–	–	–	crisis tax (0; 2; 4 of the net wage)
4	**SSC**					
4.1	Annual ceiling (EUR)	–	for employees and employers for all SSC; ceiling at 92,147 of the base (fixed amount above the ceiling)	for employees and employers for all SSC; ceiling at 49,320 of the base	for pension SSC for employees; upper amount of contributions is set at 2,570	for pension SSC for employees; ceiling at 76,207 of the base
4.2	Employee's SSC rates (%)	22.1	9.49; 10.49; (fixed amount above the ceiling)	18.1	17	20
4.3	Employer's SSC rates (%)	16.1	32.08; (fixed amount above the ceiling)	21.7	27	17.2
4.4	Other employer's contributions (%)	–	–	Social Health Security Fund (1.53 of the gross wage)	–	–
5	**Payroll tax (%)**	–	–	regional and local (7.91 of the gross wage)	contribution for professional education (1.5 of the gross wage)	–

[1] There were four marginal tax rates (15%, 25%, 35% and 45%) in Croatia in the first half of 2010, replaced by only three marginal tax rates (12%, 25% and 40%) as of 1st July 2010. As a consequence, the annual PIT for 2010 is based on "average PIT schedule" with five marginal tax rates of 13.5%, 25%, 30%, 37.5% and 42.5%. Crisis tax in Croatia in 2010 was levied till 31st October 2010.

PIT – personal income tax. SSC – social security contributions.

Source: Cipek and Šnajder (2010); Tomić and Grdović Gnip (2011); IBFD (2010); OECD (2011); Turković Jarža (2010).

As table 2 shows, there are substantial differences among the countries regarding the overall rate of SSC and the highest marginal PIT rate. However, the effective taxation also depends on the system of tax reliefs and other details of the tax schedules, i.e. how quickly the highest marginal PIT rate is reached. Another important element is the SSC ceiling, Slovenia being the only country not to have one.

3 TAXATION OF WAGES BY COUNTRIES

Tables 3 to 7 illustrate the taxation of different levels of gross wage for all five countries. First, the average gross wages according to the OECD methodology are presented, revealing differences from one country to another. They are followed by five other levels of gross wage, equal for all five countries: EUR 10,000; EUR 20,000; EUR 30,000; EUR 40,000; EUR 50,000 and EUR 100,000.

3.1 TAXATION OF WAGES IN SLOVENIA

The Slovenian taxation system reveals a high level of progressivity as a consequence of its progressive PIT schedule and proportional SSC. The combination of both results is the high taxation of higher gross wages (5th and 6th wage levels) compared to lower wage levels. This is evident from all the results. The tax wedge at a gross wage of EUR 100,000 is thus 21.6 percentage points or 61.4% higher than the tax wedge at a gross wage of EUR 10,000. The low taxation of an employee in wage level 2 is mostly a consequence of a high general tax allowance for low income taxpayers, which results in a low amount of PIT.

TABLE 3

Taxation of wages in Slovenia

Wage level[1]		Annual level of data					
		1	2	3	4	5	6
1	**Gross wage (EUR)**	**16,551**	**10,000**	**20,000**	**30,000**	**50,000**	**100,000**
2	Employee's SSC (EUR)	3,658	2,210	4,420	6,630	11,050	22,100
3	PIT (EUR)	1,816	267	2,541	5,374	11,762	27,732
4	Employee's taxes (2+3) (EUR)	5,474	2,477	6,961	12,004	22,812	49,832
5	Employee's ETR (4/1) (%)	33.1	24.8	34.8	40.0	45.6	49.8
6	**Net wage (1-4) (EUR)**	**11,077**	**7,523**	**13,039**	**17,996**	**27,188**	**50,168**
7	Employer's SSC (EUR)	2,665	1,610	3,220	4,830	8,050	16,100
8	Employer's ETR (7/1) (%)	16.1	16.1	16.1	16.1	16.1	16.1
9	**Labour costs (1+7) (EUR)**	**19,216**	**11,610**	**23,220**	**34,830**	**58,050**	**116,100**
10	Overall taxes (2+3+7) (EUR)	8,138	4,087	10,181	16,834	30,862	65,932
11	Overall ETR (10/1) (%)	49.2	40.9	50.9	56.1	61.7	65.9
12	**Tax wedge (10/9) (%)**	**42.4**	**35.2**	**43.9**	**48.3**	**53.2**	**56.8**
13	Net wage/gross wage (6/1) (%)	66.9	75.2	65.2	60.0	54.4	50.2
14	Net wage/labour costs (6/9) (%)	57.6	64.8	56.2	51.7	46.8	43.2

[1] Wage level 1 is the average gross wage for 2010.
Employee's ETR – Employee's effective tax rate.
Employer's ETR – Employer's effective tax rate.
Overall ETR – Overall effective tax rate.

Source: IBFD (2010); OECD (2011); own calculations.

The reason for the relatively high taxation of employees is, beside the high rate of their SSC, the low threshold for the highest marginal PIT rate (15,058 EUR). As a result, wage levels including the 4th and above are all subject to the highest marginal PIT rate.

Slovenia is the only country without a ceiling for SSC and therefore the PIT progressivity is not mitigated by a decline in the average tax rate of SSC at a higher wage levels.

3.2 TAXATION OF WAGES IN ITALY

Table 4 reveals a higher employer's ETR, compared to the level of taxes imposed on employees up to 5th wage level in Italy.

TABLE 4

Taxation of wages in Italy

Wage level[1]		Annual level of data					
		1	2	3	4	5	6
1	**Gross wage (EUR)**	**27,827**	**10,000**	**20,000**	**30,000**	**50,000**	**100,000**
2	Employee's SSC (EUR)	2,641	949	1,898	2,847	5,245	9,243
3	PIT[2] (EUR)	5,652	489	3,397	6,288	11,361	33,920
4	Employee's taxes (2+3) (EUR)	8,293	1,438	5,295	9,135	16,606	43,163
5	Employee's ETR (4/1) (%)	29.8	14.4	26.5	30.5	33.2	43.2
6	**Net wage (1-4) (EUR)**	**19,534**	**8,562**	**14,705**	**20,865**	**33,394**	**56,837**
7	Employer's SSC (EUR)	8,927	3,208	6,416	9,624	16,040	29,561
8	Employer's ETR (7/1) (%)	32.1	32.1	32.1	32.1	32.1	29.6
9	**Labour costs (1+7) (EUR)**	**36,754**	**13,208**	**26,416**	**39,624**	**66,040**	**129,561**
10	Overall taxes (2+3+7) (EUR)	17,219	4,646	11,711	18,759	32,646	72,723
11	Overall ETR (10/1) (%)	61.9	46.5	58.6	62.5	65.3	72.7
12	**Tax wedge (10/9) (%)**	**46.9**	**35.2**	**44.3**	**47.3**	**49.4**	**56.1**
13	Net wage/gross wage (6/1) (%)	70.2	85.6	73.5	69.6	66.8	56.8
14	Net wage/labour costs (6/9) (%)	53.1	64.8	55.7	52.7	50.6	43.9

[1] Wage level 1 is the average gross wage for 2010.
[2] PIT includes sub-central PIT at the rates which are used in the capital (Rome).
Employee's ETR – Employee's effective tax rate.
Employer's ETR – Employer's effective tax rate.
Overall ETR – Overall effective tax rate.

Source: IBFD (2010); OECD (2011); own calculations.

The specific feature of Italy is a progressive system of employees' SSC rates. Gross wages up to EUR 42,364 are subject to 9.49% employee's SSC, whereas gross wages above EUR 42,364 and below the ceiling of EUR 92,147 are subject to 10.49% employee's SSC. On the other hand, employer's SSC rate remains constant (32.08%) up to the ceiling. The effect of the relatively high ceiling (EUR 92,147) is negligible at the wage levels shown in table 4, clearly reflected in employer's ETR that is constant up to the 6th wage level, where it finally declines

by a mere 2.5 percentage points. The effect of the ceiling would significantly influence the effective tax rates at wage levels higher than those presented.

3.3 TAXATION OF WAGES IN AUSTRIA

An Austrian characteristic is the zero-rate first PIT bracket up to the tax base of EUR 11,000 which results in relatively modest overall taxation of low wage levels. On the other hand, the ceiling for SSC set at EUR 49,320 reduces the taxation of higher gross wages in spite of the 50% marginal PIT rate that applies above the tax base of EUR 60,000.

In Austria, a special PIT taxation is used for separate or irregular payments (such as the 13th and 14th monthly wages) in an amount up to one-sixth of annual regular payments. The first 620 EUR of those irregular amounts are tax free at the annual level, while the rest is taxed with a flat tax rate of 6% (OECD, 2011). Following the OECD methodology, all gross wages from table 5 include a share which corresponds to the 13th and 14th monthly wage and which is taxed according to this special rule. As a consequence, PIT in table 5 is a combination of progressive PIT according to schedule and flat 6% tax.

TABLE 5

Taxation of wages in Austria

Wage level[1]		Annual level of data					
		1	2	3	4	5	6
1	**Gross wage (EUR)**	**39,828**	**10,000**	**20,000**	**30,000**	**50,000**	**100,000**
2	Employee's SSC (EUR)	7,209	1,510	3,620	5,430	8,927	8,927
3	PIT (EUR)	5,476	-	494	2,975	8,500	28,008
4	Employee's taxes (2+3) (EUR)	12,685	1,510	4,114	8,405	17,427	36,934
5	Employee's ETR (4/1) (%)	31.8	15.1	20.6	28.0	34.9	36.9
6	**Net wage (1-4) (EUR)**	**27,143**	**8,490**	**15,886**	**21,595**	**32,573**	**63,066**
7	Employer's SSC[2] (EUR)	12,239	3,073	6,146	9,219	15,217	19,732
8	Employer's ETR (7/1) (%)	30.7	30.7	30.7	30.7	30.4	19.7
9	**Labour costs (1+7) (EUR)**	**52,067**	**13,073**	**26,146**	**39,219**	**65,217**	**119,732**
10	Overall taxes (2+3+7) (EUR)	24,924	4,583	10,260	17,624	32,645	56,667
11	Overall ETR (10/1) (%)	62.6	45.8	51.3	58.8	65.3	56.7
12	**Tax wedge (10/9) (%)**	**47.9**	**35.1**	**39.2**	**44.9**	**50.1**	**47.3**
13	Net wage/gross wage (6/1) (%)	68.2	84.9	79.4	72.0	65.2	63.1
14	Net wage/labour costs (6/9) (%)	52.1	64.9	60.8	55.1	49.9	52.7

[1] Wage level 1 is the average gross wage for 2010.
[2] Employer's SSC includes other employer's contributions and payroll tax.
Employee's ETR – Employee's effective tax rate.
Employer's ETR – Employer's effective tax rate.
Overall ETR – Overall effective tax rate.

Source: IBFD (2010); OECD (2011); own calculations.

The effect of the ceiling is revealed by employer's ETR, which is 10.7 percentage points lower at wage level 6 than at wage level 5. Employee's ETR on the other

hand does not show a drop due to the ceiling, since the effect of progressive PIT prevails. In general, Austria is characterised by high labour costs and high net wages (a combination of relatively low taxation of the employee and high taxation of the employer).

3.4 TAXATION OF WAGES IN HUNGARY

Hungary applies a relatively high taxation of low-wage levels from the employee's point of view. The employee's ETR for low wages is the highest among all the countries under scrutiny. At higher wage levels the employee's ETR is no longer the highest due to the upper amount for employee's pension insurance contributions and the modest (32%) highest PIT marginal tax rate, which is applied to the tax base above EUR 18,150.

TABLE 6

Taxation of wages in Hungary

Wage level[1]		Annual level of data					
		1	2	3	4	5	6
1	**Gross wage (EUR)**	**8,876**	**10,000**	**20,000**	**30,000**	**50,000**	**100,000**
2	Employee's SSC (EUR)	1,509	1,700	3,400	4,820	6,320	10,070
3	PIT (EUR)	1,256	1,499	5,406	9,470	17,598	37,918
4	Employee's taxes (2+3) (EUR)	2,765	3,199	8,806	14,290	23,918	47,988
5	Employee's ETR (4/1) (%)	31.2	32.0	44.0	47.6	47.8	48.0
6	**Net wage (1-4) (EUR)**	**6,111**	**6,801**	**11,195**	**15,711**	**26,083**	**52,013**
7	Employer's SSC[2] (EUR)	2,530	2,850	5,700	8,550	14,250	28,500
8	Employer's ETR (7/1) (%)	28.5	28.5	28.5	28.5	28.5	28.5
9	**Labour costs (1+7) (EUR)**	**11,406**	**12,850**	**25,700**	**38,550**	**64,250**	**128,500**
10	Overall taxes (2+3+7) (EUR)	5,295	6,049	14,506	22,840	38,168	76,488
11	Overall ETR (10/1) (%)	59.7	60.5	72.5	76.1	76.3	76.5
12	**Tax wedge (10/9) (%)**	**46.4**	**47.1**	**56.4**	**59.3**	**59.4**	**59.5**
13	Net wage/gross wage (6/1) (%)	68.8	68.0	56.0	52.4	52.2	52.0
14	Net wage/labour costs (6/9) (%)	53.6	52.9	43.6	40.8	40.6	40.5

[1] Wage level 1 is the average gross wage for 2010.
[2] Employer's SSC includes payroll tax.
Employee's ETR – Employee's effective tax rate.
Employer's ETR – Employer's effective tax rate.
Overall ETR – Overall effective tax rate.

Source: Source: IBFD (2010); OECD (2011); own calculations.

On the other hand, employer's SSC are not subject to any ceiling. Even though the employer's taxation records low levels, gross wages in Hungary remain the most heavily taxed for all wage levels above the Hungarian average gross wage.

3.5 TAXATION OF WAGES IN CROATIA

In Croatia, the SSC ceiling applies only to the employee's pension insurance contributions and is set relatively high at EUR 76,207, so that it influences only employees with the highest wage level, mitigating the progressivity of the PIT rates.

In addition to the progressive national and sub-central PIT, in 2010 Croatia also temporarily applied a progressive crisis tax levied on net wages, which increases the overall taxation in table 7.

Table 7

Taxation of wages in Croatia

Wage level[1]		Annual level of data					
		1	2	3	4	5	6
1	**Gross wage (EUR)**	**12,019**	**10,000**	**20,000**	**30,000**	**50,000**	**100,000**
2	Employee's SSC (EUR)	2,404	2,000	4,000	6,000	10,000	15,241
3	PIT[2] (EUR)	1,243	874	3,474	6,655	14,033	36,969
4	Employee's taxes (2+3) (EUR)	3,647	2,874	7,474	12,655	24,033	52,211
5	Employee's ETR (4/1) (%)	30.3	28.7	37.4	42.2	48.1	52.2
6	**Net wage (1-4) (EUR)**	**8,372**	**7,126**	**12,526**	**17,345**	**25,967**	**47,789**
7	Employer's SSC (EUR)	2,067	1,720	3,440	5,160	8,600	17,200
8	Employer's ETR (7/1) (%)	17.2	17.2	17.2	17.2	17.2	17.2
9	**Labour costs (1+7) (EUR)**	**14,086**	**11,720**	**23,440**	**35,160**	**58,600**	**117,200**
10	Overall taxes (2+3+7) (EUR)	5,714	4,594	10,914	17,815	32,633	69,411
11	Overall ETR (10/1) (%)	47.5	45.9	54.6	59.4	65.3	69.4
12	**Tax wedge (10/9) (%)**	**40.6**	**39.2**	**46.6**	**50.7**	**55.7**	**59.2**
13	Net wage/gross wage (6/1) (%)	69.7	71.3	62.6	57.8	51.9	47.8
14	Net wage/labour costs (6/9) (%)	59.4	60.8	53.4	49.3	44.3	40.8

[1] Wage level 1 is the average gross wage for 2010.
[2] PIT includes the crisis tax and sub-central PIT at the rate which is used in the capital (Zagreb).
Employee's ETR – Employee's effective tax rate.
Employer's ETR – Employer's effective tax rate.
Overall ETR – Overall effective tax rate.

Source: Cipek and Šnajder (2010); Tomić and Grdović Gnip (2011); IBFD (2010); Turković Jarža (2010); DZS (2012); own calculations.

An additional characteristic of Croatia is the relatively high employee's taxes (employee's SSC and PIT) compared to the employer's taxes (employer's SSC). At the 6th wage level, the employer's taxes thus represent one third of employee's taxes. Overall, Croatia reveals a relatively high taxation of employees (especially at high wage levels), a relatively low taxation of employers and a high overall tax wedge, which is generally only exceeded by the tax wedge in Hungary.

4 COMPARISON OF TAXATION AMONG THE COUNTRIES

In the subsequent comparison, the PIT for Croatia includes the crisis tax. For Austria and Hungary, payroll tax and other employer's contributions are included among the employer's SSC. The results from tables 3 to 7 are summarised in table 8 and figure 1.

TABLE 8

Structure of the tax wedge at different levels of gross wages

	Wage level[1]	Annual gross wage	PIT[2]	Employee's SSC	Employee's taxes	Employer's SSC[3]	Tax wedge
		EUR	Share of labour costs (%)				
		1	2	3	4 (2+3)	5	6 (4+5)
Austria	1	39,828	10.5	13.8	24.3	23.5	47.8
Italy		27,827	15.4	7.2	22.6	24.3	46.9
Hungary		8,876	11.0	13.2	24.2	22.2	46.4
Slovenia		16,551	9.5	19.0	28.5	13.9	42.4
Croatia		12,019	8.8	17.1	25.9	14.7	40.6
Hungary	2	10,000	11.7	13.2	24.9	22.2	47.1
Croatia			7.5	17.1	24.6	14.7	39.3
Slovenia			2.3	19.0	21.3	13.9	35.2
Italy			3.7	7.2	10.9	24.3	35.2
Austria			0.0	11.6	11.6	23.5	35.1
Hungary	3	20,000	21.0	13.2	34.2	22.2	56.4
Croatia			14.8	17.1	31.9	14.7	46.6
Italy			12.9	7.2	20.1	24.3	44.4
Slovenia			10.9	19.0	29.9	13.9	43.8
Austria			1.9	13.9	15.8	23.5	39.3
Hungary	4	30,000	24.6	12.5	37.1	22.2	59.3
Croatia			18.9	17.1	36.0	14.7	50.7
Slovenia			15.4	19.0	34.4	13.9	48.3
Italy			15.9	7.2	23.1	24.3	47.4
Austria			7.6	13.9	21.5	23.5	45.0
Hungary	5	50,000	27.4	9.8	37.2	22.2	59.4
Croatia			24.0	17.1	41.1	14.7	55.8
Slovenia			20.3	19.0	39.3	13.9	53.2
Austria			13.0	13.8	26.8	23.3	50.1
Italy			17.2	7.9	25.1	24.3	49.4
Hungary	6	100,000	29.5	7.8	37.3	22.2	59.5
Croatia			31.5	13.0	44.5	14.7	59.2
Slovenia			23.9	19.0	42.9	13.9	56.8
Italy			26.2	7.1	33.3	22.8	56.1
Austria			23.4	7.5	30.9	16.5	47.4

[1] Wage level 1 is the average gross wage for 2010.

[2] PIT includes the crisis tax (Croatia); according to the OECD methodology the PIT in Croatia and Italy include sub-central PIT at the rates used in the capitals (i.e. Zagreb and Rome).

[3] Employer's SSC includes other employer's contributions (Austria) and payroll tax (Austria and Hungary).

Countries are ranked by descending level of the tax wedge at each wage level.

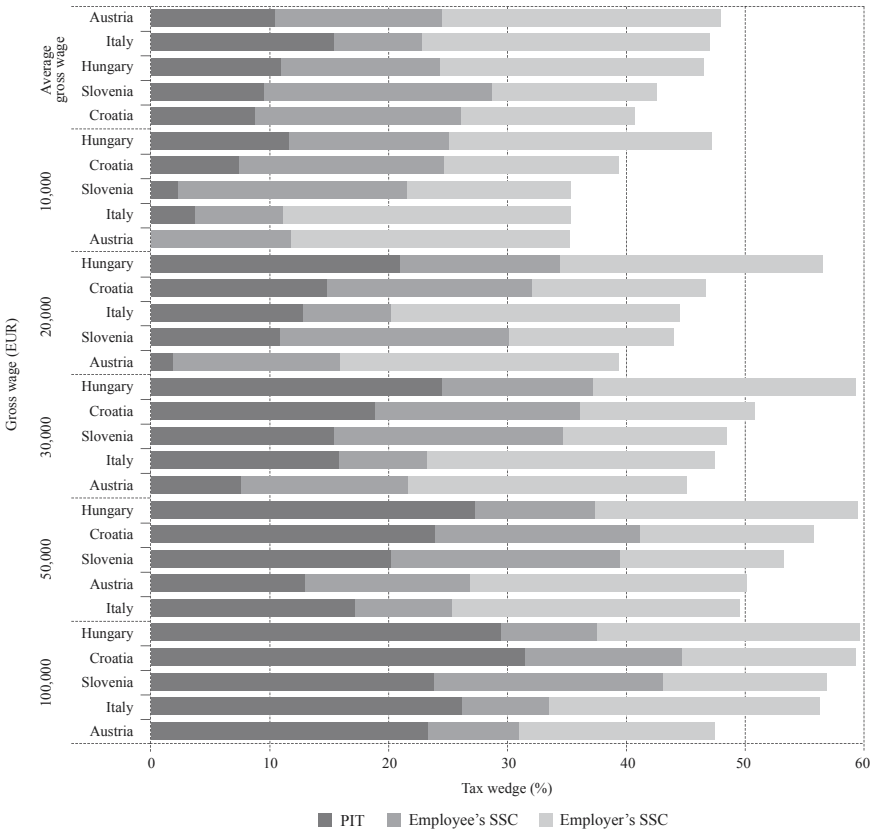
Source: Cipek and Šnajder (2010); Tomić and Grdović Gnip (2011); IBFD (2010); OECD (2011); Turković Jarža (2010); DZS (2012); own calculations.

As table 8 and figure 1 reveal, the average gross wage in 2010 is the most heavily taxed in Austria, where the overall tax wedge represents 47.8% of labour costs and the least in Croatia, where the tax wedge is 40.6% of labour costs. The structure of the tax wedge reveals the relative importance of particular taxes. Employer's

SSC represent the biggest share of labour costs in Italy (24.3%), but only 13.9% in Slovenia. Employee's SSC are 19.0% of labour costs and thus the highest is Slovenia while on the other hand they represent just 7.2% of labour costs in Italy. At 15.4%, the PIT is the highest in Italy and the lowest in Croatia, where it represents 8.8% of labour costs.

Figure 1

Structure of the tax wedge at different levels of gross wages



Average gross wage is for 2010.
PIT includes the crisis tax (Croatia); according to the OECD methodology the PIT in Croatia and Italy include sub-central PIT at the rates used in the capitals (i.e. Zagreb and Rome).
Employer's SSC includes other employer's contributions (Austria) and payroll tax (Austria and Hungary).
Countries are ranked by descending level of the tax wedge at each wage level.

Source: Cipek and Šnajder (2010); Tomić and Grdović Gnip (2011); IBFD (2010); OECD (2011); Turković Jarža (2010); DSZ (2012); own calculations.

The comparison of equal (in absolute terms) gross wages (wage levels 2–6) reveals that the highest tax wedge at all levels is in Hungary, generally followed by

Croatia, Slovenia, Italy and Austria. In all the countries, the size of the tax wedge increases with the wage level. The only exception is Austria, where the size of the tax wedge for the last wage level drops by 2.7 percentage points compared to the previous wage level, due to the regressive effect of the SSC ceiling. Overall, the lowest tax wedge is found in Austria (with the exception of wage level 5, where the lowest tax wedge is seen in Italy). The tax wedge in Croatia is lower than the tax wedge in Hungary, while it is higher than in Slovenia. Slovenia is thus ranked in the middle of countries under consideration. In table 9 and figure 2, we further present labour costs and net wages at different levels of gross wages.

Table 9

Labour costs and net wages at different levels of gross wages

	Wage level[1]	Annual gross wage	Labour cost	Net wage	Net wage/ gross wage	Net wage/ labour cost
		EUR			%	
		1	2	3	4 (3/1)	5 (3/2)
Austria	1	39,828	52,067	27,143	68.2	52.1
Italy		27,827	36,754	19,534	70.2	53.1
Slovenia		16,551	19,216	11,077	66.9	57.6
Croatia		12,019	14,086	8,372	69.7	59.4
Hungary		8,876	11,406	6,111	68.8	53.6
Italy	2	10,000	13,208	8,562	85.6	64.8
Austria			13,073	8,490	84.9	64.9
Hungary			12,850	6,801	68.0	52.9
Croatia			11,720	7,126	71.3	60.8
Slovenia			11,610	7,523	75.2	64.8
Italy	3	20,000	26,416	14,705	73.5	55.7
Austria			26,146	15,886	79.4	60.8
Hungary			25,700	11,195	56.0	43.6
Croatia			23,440	12,526	62.6	53.4
Slovenia			23,220	13,039	65.2	56.2
Italy	4	30,000	39,624	20,865	69.6	52.7
Austria			39,219	21,595	72.0	55.1
Hungary			38,550	15,711	52.4	40.8
Croatia			35,160	17,345	57.8	49.3
Slovenia			34,830	17,996	60.0	51.7
Italy	5	50,000	66,040	33,394	66.8	50.6
Austria			65,217	32,573	65.2	49.9
Hungary			64,250	26,083	52.2	40.6
Croatia			58,600	25,967	51.9	44.3
Slovenia			58,050	27,188	54.4	46.8
Italy	6	100,000	129,561	56,837	56.8	43.9
Hungary			128,500	52,013	52.0	40.5
Austria			119,732	63,066	63.1	52.7
Croatia			117,200	47,789	47.8	40.8
Slovenia			116,100	50,168	50.2	43.2

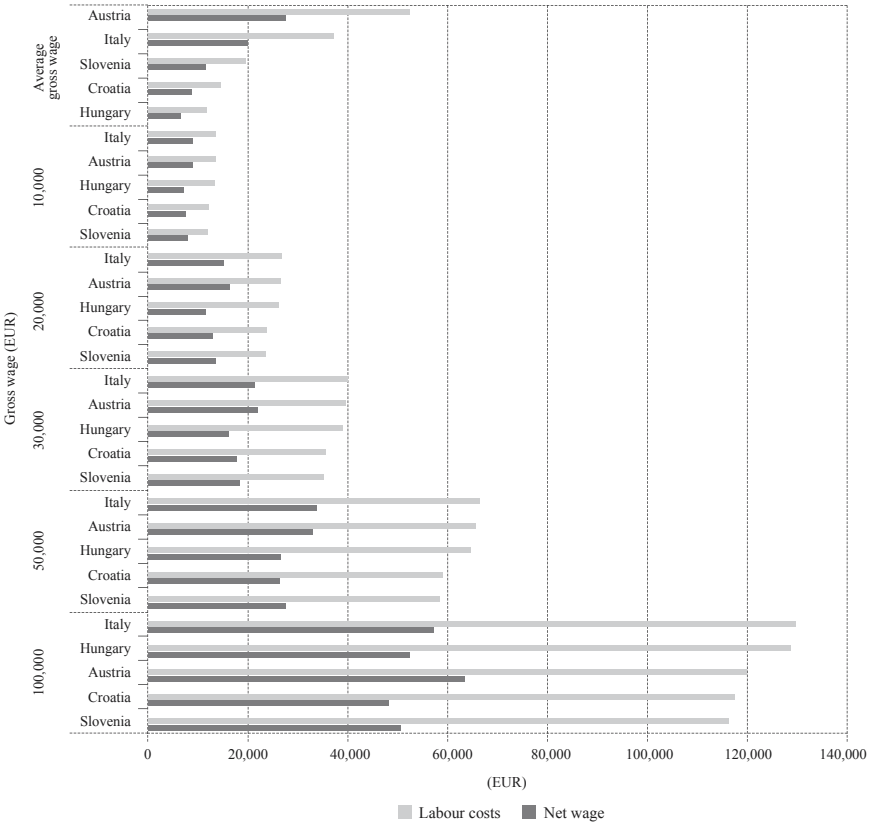
[1] *Wage level 1 is the average gross wage for 2010.*
Countries are ranked by descending level of labour costs at each wage level.

Source: Cipek and Šnajder (2010); Tomić and Grdović Gnip (2011); IBFD (2010); OECD (2011); Turković Jarža (2010); DZS (2012); own calculations.

Table 9 and figure 2 reveal that the relative amounts of labour costs and net wages follow the relative sizes of gross wages. The initial differences in the absolute size of average gross wages among the countries outweigh any re-ranking that might have been caused by differences in the tax systems. Regarding labour costs based on the average gross wage, it is no surprise that they are the highest in Austria, followed by Italy, Slovenia, Croatia and Hungary.

Figure 2

Labour costs and net wage at different levels of gross wages



Average gross wage is for 2010.
Countries are ranked by descending level of labour costs at each wage level.

Source: Cipek and Šnajder (2010); Tomić and Grdović Gnip (2011); IBFD (2010); OECD (2011); Turković Jarža (2010); DSZ (2012); own calculations.

The comparison of absolute levels of labour costs based on equal (in absolute terms) gross wages (wage levels 2–6) reveals that the highest level of labour costs is in Italy, followed by Austria, Hungary, Croatia and Slovenia. The only exception is the sixth wage level, where labour costs in Hungary exceed those in

Austria. The high labour costs in Italy are a consequence of high employee taxation and a high threshold for the SSC ceiling. In spite of having the highest labour costs, Italy reveals the highest net wage only in the second and fifth wage levels leaving the "leadership" in the remaining three to Austria. In general the taxation of employees is the most favourable in Austria, as reflected in the highest shares of net wage in gross wage at most wage levels – especially in the highest. Slovenian employers face the lowest labour costs at all wage levels, whereas Slovenian net wages are ranked in the middle of the distribution for almost all wage levels. Hungary is characterised by relatively high employee taxation which results in relatively low net wages.

5 CONCLUSION

In this paper, a comparison of the taxation of gross wages for Austria, Croatia, Hungary, Italy and Slovenia based on OECD methodology is presented. Results are given for the average gross wage as well as for a set of equal (in absolute terms) gross wages ranging between EUR 10,000 and EUR 100,000. Taxes taken into account include the central (national) PIT and the PIT levied by sub-central levels of government, employer's and employee's SSC and other compulsory contributions and taxes levied on gross wages. Based on the country-specific tax systems from 2010, labour costs are defined as the costs for the employer added to the gross wage of an employee. The tax wedge is defined as the difference between the labour costs of the employer and the corresponding net take-home pay of the employee. It is calculated by expressing overall taxes as a percentage of labour costs.

Since these five countries differ substantially in their GDP per capita, it is no surprise that the average gross wage levels also differ in a ratio of 1:4.5, being the highest in Austria and the lowest in Hungary, with the ranking of net wages following that of gross wages.

The average gross wage in 2010 is the most heavily taxed in Austria, where the overall tax wedge represents 47.8% of labour costs and the least in Croatia with a tax wedge of 40.6%, while annual labour costs based on the average gross wage are the highest in Austria and the lowest in Hungary.

The comparison of equal (in absolute terms) gross wages (gross wages ranging between EUR 10,000 and EUR 100,000) reveal that the highest tax wedge for all levels is in Hungary, generally followed by Croatia, Slovenia, Italy and Austria. In all the countries, the size of the tax wedge increases in general with the wage level. The lowest tax wedge is generally revealed in Austria, which shows the lowest taxation of employees with PIT and a relatively low taxation via the employee's SSC. The tax wedge in Croatia is lower than the tax wedge in Hungary, while it is higher than in Slovenia. Slovenia is thus ranked in the middle of the countries under consideration.

Overall, the results show that Croatia, Hungary and Slovenia have lower taxation of their average gross wages compared to Austria and Italy and in addition their average gross wages are also considerably lower in absolute terms than in Italy and Austria. From this point of view, these three countries are attractive by virtue of their average gross wages being substantially below the average gross wages in Austria and Italy. On the other hand, when we compare the taxation of gross wages, which in absolute terms are close to or above the average gross wages of Italy and Austria, the order is reversed – they are taxed considerably higher in Croatia, Hungary and Slovenia, implying that these three countries are unattractive for highly paid employees from the point of view of taxation. In this respect, Croatia, Hungary and Slovenia cannot compete with Austria and Italy.

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Multi-level fiscal system in Bosnia and Herzegovina: evolution and coping with economic crisis

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Abstract

Fiscal federalism in Bosnia and Herzegovina is characterized by multi-level asymmetric architecture of government sector and a high degree of fiscal decentralization. Reform of indirect taxation has resulted in centralization of the major part of the revenues in B&H and induced a high degree of fiscal interdependence of governments. In the absence of national economic and fiscal goals and fiscal coordination required during the global economic crisis, strong autonomous activities of the Entities and District have been expressed. Uncoordinated and divergent responses to the crisis in addition to distorting the achieved degree of tax harmonization within B&H has led to a widening fiscal deficit and the rapid growth of borrowing at all levels of government. The aim of this paper is to propose a new model of fiscal coordination in B&H that would mitigate the negative effects of fiscal decentralization on macroeconomic management. The key hypothesis is that, in given political constraints, only a concept of fiscal federalism that includes comprehensive, institutionalized and obligatory fiscal coordination can ensure a coherent response to the crisis.

Keywords: intergovernmental fiscal relations, fiscal federalism, fiscal coordination

1 INTRODUCTION

Expansion of the fiscal decentralization process in the world has prompted research on the effectiveness of macroeconomic management in fiscally decentralized countries. Opinions of economists concerning the impact of the fiscal decentralization process on the functioning of the macroeconomic system are divided. Starting from the three core functions of public finances, allocation, distribution and stabilization (Musgrave, 1959), Oates, creator of the theory of fiscal federalism, thinks that the optimum efficiency of the government sector can be ensured only by balancing the degree of centralization and decentralization of fiscal responsibilities between the central and local governments, where a fair distribution of income and economic stability can be provided by the central government, and the efficient use of resources by the local governments (Oates, 1972). Opponents of fiscal decentralization (Prud'homme, 1995) consider the excessive fiscal autonomy of lower levels of government a threat to the maintenance of macroeconomic stability and contrary to a reasonably guided macroeconomic policy (Tanzi, 2000). By contrast, proponents of a greater degree of fiscal decentralization believe that decentralized fiscal systems can contribute much more to macroeconomic policy management than is the case with centralized fiscal systems (Shah, 1997, 2005). However, they also suggest that it is necessary to establish an appropriate institutional framework for macroeconomic management and to adopt certain rules that will be required for all government levels. Comparative analysis of the effects of the fiscal decentralization process in the world done by Ebel and Yilmaz (2002), Bahl (2006) and Ter-Minassen (1997) showed that a different balance of power between central and local governments can threaten the macroeco-

nomic stability of complex countries. Theoreticians of the new theory of fiscal federalism, called "a second generation theory", explain poor fiscal performance in some countries by the deviation from the principle of allocation of responsibility for expenditures and taxes and by the weak central government (Rodden, 2005). In conditions of strong regional governments fiscal coordination between governments becomes a critical issue of functioning fiscal federalism in complex countries. Weingast (2006) defined five conditions important for the successful functioning of fiscal federalism: (i) the hierarchy of government with clearly designated scope of authority, (ii) the autonomy of sub-national governments, (iii) single economic space, (iv) strong budgetary rules and (v) institutionalization of power. They believe that the successful functioning of fiscal federalism implies a balance between the autonomy of sub-national governments and the authority of the central one where each level achieves a comparative advantage. Fiscal federalism with strong budgetary rules contributes to strengthening government accountability for resources entrusted and to establishing fiscal discipline. Implementing fiscal authorities and rules should not be left to the discretionary decisions of the central government, but it is necessary to establish an institutional structure that will ensure smooth functioning of fiscal federalism. In that sense fiscal coordination between levels of government is seen as a key tool for running prudent fiscal management in complex countries that can bring the fiscal policy of middle levels of government in line with national fiscal goals.

Achieving efficiency of macroeconomic management in a decentralized fiscal system turned, during the global economic crisis, from being a matter of academic issues and case studies, into a serious problem faced by the governments of a large number of countries. The causes of the deterioration of fiscal positions in a number of countries can be found in the selected concept of fiscal decentralization and global tax reforms. The process of fiscal decentralization in the world undoubtedly led to an increase in the fiscal autonomy of lower levels of government. However, from the empirical research of Joumard and Kongsrud (2003) it can be concluded that the pace of delegating powers for expenditures was much faster than for taxing powers as a consequence of the trend towards revenue centralization and the introduction of value added tax (VAT). Bahl and Martinez-Vazquez (2006) point out the paradox of fiscal decentralization. Instead of increasing the fiscal autonomy of lower levels of government, ignorance of the rule that "finances follow expenditures" in the implementation of fiscal decentralization has increased the dependence of lower levels of government on the central government. The global economic crisis from 2008 exacerbated the problem of maintaining macroeconomic stability in complex countries. The tendency to centralize the most productive taxes and to increase the discretionary jurisdiction of the central government for vertical transfers to lower levels of government, on the one hand, and the delegation of responsibilities for expenditures to lower levels of government, especially those whose size and growth trends could threaten the fiscal position of the central

government, on the other hand, made lower levels of government vulnerable to serious budgetary shocks.

Analyses (Blöchliger, 2010a) showed that, before the crisis, the fiscal position of lower levels of government was more stable than that of the central government, which can be explained by the existence of strong fiscal rules for lower levels compared to the looser rules governing the central government. However, governments of lower levels were led into deficit by the global crisis due to the "scissor effect", a sharp fall in revenues, in concert with constant or rising expenditures, especially social expenditures. In most European countries the "scissor effect" has led to a real decline of local budgets, the reduction being greater for local than central governments (Davey, 2011). Analysis of the crisis impact on the budgets of the world's governments presented by Ter-Minassian and Fedelino (2010) shows that the strengths of expressing the effects on budgets of lower levels of government depend on, for example, the strength of the economy and employment in the region/local community, the structure of their own income, authority for expenditures that are cyclically sensitive and debt structure. Various manifestations of the crisis in different countries are the result of the crisis not having hit all governments at the same time, and of the differences in the administrative capacities of governments to agree and implement fiscal policies and intervention measures (Davey, 2011). Government's response to the challenges of the crisis was largely determined by the degree of autonomy of the government in the area of revenue and expenditure, but also by possibilities of the central government to intervene. Interventions of the central government included various measures: insurance of additional transfers and credits, use of accumulated financial funds ("rainy day funds"), increase of loans or temporary relaxation of borrowing rules set for lower levels of government. According to OECD research, governments of lower levels have acted differently. Although most central governments of members opted for expansive fiscal policy, lower levels of government in half of the member states followed the fiscal policy of government while the other member states decided to cut expenses and increase revenues. The divergent fiscal policies in times of crisis demonstrated at different levels in the same country indicates the importance of the existence of intergovernmental fiscal coordination in order to insure a coherent government response to the economic crisis (Blöchliger, 2010a). Fiscal coordination between levels of government is seen as a key mechanism for efficient fiscal management in complex countries, aiming at bringing regional fiscal policies into line with national fiscal goals.

This literature review and the findings cited reveal that the negative effects of fiscal decentralization on the government fiscal position and the macroeconomic stability of a complex state are exacerbated in times of economic crisis. The importance of fiscal policy for macroeconomic management is more emphasized in Bosnia and Herzegovina than in other complex countries, not only because of the highly decentralized and asymmetric fiscal structure, but also because of the

limited possibilities of keeping an active monetary policy in terms of the existence of a Currency Board.

The aim of the paper is to present a model of fiscal coordination that would enable the fiscal consolidation of a multi-level and highly decentralized country such as B&H and ensure economic recovery and macroeconomic stability. Part two of the paper provides insights into the evolution of the complex fiscal structure of B&H from the Dayton Constitution to the present, analyzing the impact of the reform of indirect taxes on the taxing powers of sub-national governments and intergovernmental fiscal relations. The third part describes the quality of the fiscal system of B&H, focusing on the fiscal management and the established model of fiscal coordination, and analyses the levels of fiscal autonomy of the state and sub-national governments. Fiscal trends are presented in part four, and part five analyzes the fiscal position of B&H and its sub-national governments. The sixth part analyses the main drawbacks of the current loose model of fiscal coordination in B&H and presents an alternative model. The research should prove the hypothesis that only a binding, institutionalized and comprehensive fiscal coordination can contribute to fiscal consolidation and the economic recovery of the country.

2 FISCAL ARHITECTURE OF BOSNIA AND HERZEGOVINA

2.1 DAYTON COMPETENCES (1996-2004)

Bosnia and Herzegovina (B&H) is a multi-level state in the political and in the fiscal sense. However, as compared to those in other multi-level states the political system in B&H has in a rather specific composition (see appendix, chart A1). It is composed of two entities, Federation B&H (FB&H), a highly decentralized entity consisting of three levels of government, the Republic of Srpska (RS), a highly centralized entity with two levels of government, and the District of Brčko (BD), which has a special status. FB&H consists of ten cantons. There are 80 municipalities in the FB&H and 63 municipalities in the RS. One of the attributes of B&H is a weak central government at the state level. According to the Dayton Constitution the state level was assigned only limited competences for expenditures, while full fiscal competences were assigned to the entities. The District of Brčko, established in 2001, had a certain level of fiscal autonomy in the field of direct and indirect taxation. From fiscal responsibilities under the Dayton Agreement only customs policy and determination of tariffs are within the exclusive jurisdiction of the State, while the tax policy, which includes the social contributions system, is entirely the responsibility of the Entities in terms of legislation, administration and revenue allocation. Although a set of state regulations regarding the single customs policy was adopted in 1997, the customs administrations of the Entities and Brčko District continued to exist until the beginning of the reform of indirect taxation system. Financing of the State level of administration was conducted through Entity grants from the Entity budgets in the ratio 2/3 FB&H: 1/3 RS. Sub-national governments, in FB&H the cantons, cities and municipalities, and in RS the cities and municipalities were funded from tax revenues collected by Entities.

The existence of autonomous customs and tax systems within B&H led to double internal taxation or non-taxation and a loss of public revenues.

2.2 IMPACT OF THE REFORM OF INDIRECT TAXES ON THE TAX STRUCTURE

The reform of indirect taxes started with an establishment of the inter-governmental Commission for Indirect Taxes under the supervision of the international community in the beginning of 2003. The first phase of that reform ended in December 2003 after the adoption of the Law on Indirect Taxation System in B&H by which the constitutional powers relating to the indirect taxation policy and the administration and collection of the sales tax, excises and customs duties were shifted from the two entities (FB&H and RS) and the District of Brčko to the state level. During the year 2004 the reform encompassed the final centralization of the customs administration and delegation of the responsibilities for indirect taxes (customs duties, sales tax and excises) from the Entities and District to the Indirect Tax Authority (ITA), the newly established State agency, and its Governing Board, in terms of administration and tax legislation. At the end of 2004 the new state laws on sales tax and excise duties were adopted, replacing the legislation of entities and Brčko District. On 1 January 2005 the ITA and its Single Account for the collection of indirect taxes became fully operational. In the final stage of the reform of indirect taxes (2006) the state sales tax was replaced by a value added tax (VAT).

After the tax jurisdiction re-composition of 2006 compared to the original jurisdiction of Dayton, direct taxes (income tax, profit, property, etc.) and social contributions remain under the exclusive jurisdiction of Entities and District. All levels of government can introduce a variety of administrative duties and nontax revenues. For the overview of the tax competences in B&H, see table 1.

Because of the centralization of revenues from indirect taxes, which are the dominant source of revenues for all levels of government, Entities were no longer in a position to finance the budget of B&H. It was necessary to create a new system of vertical distribution of indirect taxes in B&H to ensure the adequate funding of the institutions of B&H, Entities and District. Furthermore, given that the local government level had lost its own-source revenues transiting to the VAT, it was also necessary to establish a new system of vertical and horizontal distribution within Entities to ensure not only the financing of public needs in the Entities but also the balanced development of local communities.

Table 1

Tax competences in Bosnia and Herzegovina[a]

	B&H			BD			FB&H									RS					
							Entity			Cantons			Municip.			Entity			Municip.		
Indirect taxes																					
VAT	L	A	Ts			Ts			Ts			Ts			Ts			Ts			Ts
Customs duties	L	A	Ts			Ts			Ts			Ts			Ts			Ts			Ts
Excises	L	A	Ts			Ts			Ts			Ts			Ts			Ts			Ts
Road fees	L	A	Ts			Ts			Ts			Ts			Ts			Ts			Ts
Direct taxes																					
Profit tax[b]				L	A	Or	L	A	Ts			Ts				L	A	Or			
Income tax[c]				L	A	Or	L	A				Ts			Ts	L	A	Ts			Ts
Property tax[d]				L	A	Or				L	A	Ts			Ts						Or
Social contributions[e]																					
Health insurance[e]				L	A	Or	L	A	Or							L	A	Or			
Pension insurance							L	A	Or							L	A	Or			
Unemployment insurance				L	A	Or	L	A	Or							L	A	Or			
Children care																L	A	Or			

L – legislation *A – tax administration* *Ts – tax sharing* *Or – own revenue*

[a] *For assignation of revenue (tax sharing or own revenue) new OECD test is applied (see OECD, 2009b).*
[b] *Profit tax in the FB&H is divided between Federal budget (100% tax on profit of companies, banks, insurance companies, electricity power industry, post, telecommunications, betting house) and cantons (tax on profit of other companies).*
[c] *Income tax in the RS is divided between the RS budget (75%) and municipalities (25%).*
[d] *Property tax, depending on cantonal legislation, is distributed entirely to municipalities in canton or it is divided with canton in a ratio prescribed by the cantonal constitutions/laws.*
[e] *Social contributions for employees in B&H institutions are paid into entity extra-budgetary funds. Social contributions for pension insurance for employees in District are paid into entity Pension Funds according to entity residence of employees.*

2.3 DISTRIBUTION OF INDIRECT TAXES AT THE BOSNIA AND HERZEGOVINA LEVEL

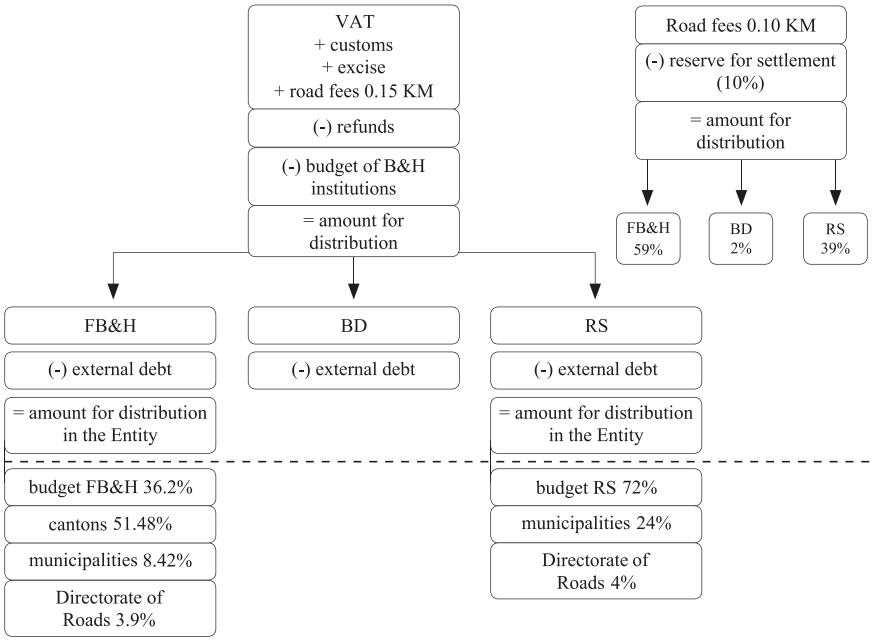
The system of financing levels of government in B&H from indirect taxes consists of two levels of distribution of indirect tax revenues. The first level of distribution is defined by the State Law on Indirect Taxation System in B&H and the second by the Entity regulations.

In accordance with statutory provisions, indirect taxes collected into the Single Account (SA) are allocated daily in the order established by the Law. The priority in the distribution of indirect tax revenues is the refund to the taxpayers. Budget of B&H institutions is financed mostly from indirect taxes with a smaller share of the State's own revenue (non-tax, grants, share profits of the Central Bank and others). An equal amount from the Single Account of the ITA is paid in to the B&H budget each day, according to the amount of the annual budget of B&H in-

stitutions. Finally, the remaining amount is shared between the Entities and Brčko District. External debt is deducted from the amount of the Entities prior to assigning, according to the dynamics set by the repayment schedule of the Ministry of Finance and Treasury B&H. The payment of external debt has the priority over other budget users. Servicing the external debt is the obligation of Entities but the State of B&H is a guarantee of payment obligations to international creditors. For this reason, the payment of external debt is realized from the part of indirect taxes belonged to Entities but the payment procedure itself is being conducted on behalf of the State by the Central Bank as a fiscal agent of B&H. After the payment of external debt the rest is transferred to Entities.

Chart 1

Distribution of indirect taxes in Bosnia and Herzegovina



Source: Law on Indirect Taxation System in B&H (Official Gazette of B&H No. 96/09), Decision on temporary allocation of road fees earmarked for highways (Official Gazette of B&H No. 102/2009), Law on the Repartition of Public Revenues in the FB&H (Official Gazette of the FB&H No. 22/06 and 22/09), Law on Budgets (Official Gazette of the RS No. 121/12).

Distribution of revenue from indirect taxes is defined by the Law on Indirect Taxation System as follows: the share of the remaining amount transferred the Federation, Republic of Srpska and the District is determined by their share in final consumption revealed by value added tax returns. The coefficient of allocation of indirect taxes to Entities is calculated in such a way that the final consumption of FB&H (RS, BD) revealed by the VAT returns is put in relation with the final con-

sumption in B&H as reported on VAT returns. As of 1 July 2007 by the decision of the High Representative and in order to protect the fiscal autonomy of the District, the District share in the amount of indirect taxes allocated to Entities and the District, is fixed at minimum 3.55% and in nominal terms to 124 million KM. Since then only coefficients of allocation of indirect taxes to Entities are determined by the ITA Governing Board.

After the amount of indirect taxes to the Entities has been assigned, Entities in accordance with Entity legislation allocate the funds to the users of the distribution (Entity budget, cantons in FB&H, municipalities and cities, Directorate of Roads).

In the meantime, on 1 July 2009 amendments to the Law on Excise Duties imposed an additional road fee on oil derivatives, intended for financing the construction of the highway network and whose distribution to the Entities and District is done by special coefficients determined by the ITA Governing Board. The scheme of the distribution of indirect taxes is shown in chart 1 (above the line).

3 CHARACTERISTICS OF FISCAL SYSTEM IN BOSNIA AND HERZEGOVINA

3.1 FISCAL MANAGEMENT

The main features of the fiscal system in B&H are the complexity of government levels, a high degree of decentralization of responsibilities for revenues and expenditures, a weak central government and the asymmetry in the structure of the Entity government, where one Entity is fiscally decentralized (FB&H) and the other one is centralized (RS). Given the broad fiscal sovereignty of Entities, fiscal federalism in B&H in the post-war period had the characteristics of dual federalism. The asymmetry of fiscal structure in B&H has been enhanced by the establishment of the District of Brčko and assigning it a considerable fiscal autonomy. On the other hand, the more favorable tax treatment of companies in the District in terms of lower sales tax rates in relation to Entities, led to tax competition among governments within B&H. The phase of competitive federalism brought fiscal expansion to the District as many companies especially the importers of oil derivatives transferred their headquarters to the District. Tax competition between Entities and the District has been ended by the centralization of indirect taxes at the state level. Reform of the indirect tax system has radically changed intergovernmental fiscal relations, contributing to a firmer connection of previously autonomous fiscal authorities. The high degree of fiscal interdependence of all levels of government, after the implementation of the reform of indirect taxation, raised the issue of fiscal coordination between the levels of government in B&H. On the other hand, the process of European integration requires that "B&H speaks with one voice" which, in the given political relations, means the coordination of levels of government not only in the fiscal sphere, but also in all economic, political and social issues which require the takeover and implementation of acquis. Therefore, B&H is entering a phase of cooperative federalism which its functioning based on

the cooperation of levels of government. In the given political circumstances, cooperative federalism is the only possible option on the way towards the EU, although some authors consider cooperative federalism "a joint decision-making trap" (Watts, 1998). Finally, the reform of indirect taxes has incorporated in the fiscal system of B&H executive federalism in the form of the ITA Governing Board. Executive federalism is a process in which intergovernmental relations are performed by the executive agencies of the federal government and regional government, at political and administrative levels (Boadway and Watts, 2000). The establishment of the ITA Governing Board means the transfer of jurisdiction from the Parliament to the body of executive power in the area of indirect taxes. Decision making by the finance ministers of B&H and Entities on the policy of indirect taxes under the ITA Governing Board represents a direct involvement of executive power in intergovernmental fiscal relations.

After the reform of indirect taxes it became necessary to establish fiscal coordination between levels of government in B&H. In the beginning (2005) governments established the Fiscal Council as a form of informal fiscal coordination. However, a strong growth of revenue from indirect taxes caused by the introduction of VAT has brought a significant surplus to all levels of government so governments did not recognize the need for fiscal coordination until the emergence of fiscal deficit in 2008. According to the Law on the Fiscal Council (Official Gazette of B&H, No. 63/08) a formal fiscal coordination was established but without any institutional capacity. The Fiscal Council has six members: the Chairman of the Council of Ministers and Prime Ministers of the Entities, as well as the Entity and State Ministers of Finance. The Governor of the Central Bank and a representative of the Brčko District Government are observers in the Fiscal Council. The Fiscal Council's task is to coordinate fiscal policy in B&H to ensure macroeconomic stability and fiscal sustainability of the State, Entities and the District. It adopts a medium-term fiscal policy framework, which includes the fiscal goals of the State, Entities and the District, macroeconomic projections, projections of indirect taxes and their distribution in the following year and the proposed debt ceiling of B&H, Entities and the District. The fiscal goal is limited to the primary budget surplus/deficit. Decisions of the Fiscal Council are adopted by the majority of five votes, but majority must include at least one vote from each of the three constituent peoples. In case of lack of agreement on the fiscal framework, governments are required to submit a proposal for interim financing in the amount of the budget of the previous year. In the event of the budget being exceeded, the government that has violated the budgetary framework should transfer 10% of the excess of the budget at the expense of special purposes from which the repayment of internal debt of the government that violated the rules is financed.

The existing model of fiscal coordination has numerous functional and substantial weaknesses. Inclusion of Prime Ministers in the composition of the Fiscal Council reduces the effectiveness of the Council, which can affect the shift of the focus of

work from fiscal issues to political debates. Furthermore, the mechanism of voting, which includes elements of nationalism, can lead to a blockade of the work of the Fiscal Council in the event that one nation in the Council is represented by only one member. Fundamental weaknesses relate to the comprehensiveness of fiscal coordination and weakness of the sanctions mechanism. Unlike B&H and Entities, the District in the Fiscal Council has the role of an observer and has no right to decide but takes over the obligations and can be sanctioned as well as the Entities and State. Completely out of the coordination system remained the cantons and local communities, which together account for 28% of total tax revenue in B&H as well as other government and quasi-governmental units such as extra-budgetary funds. The fiscal goal is limited only to the primary budget surplus/deficit where capital expenditures and receipts are not taken into account. The fiscal goal excludes the surpluses/deficits of internationally funded projects. By defining fiscal goals in this way a large part of expenditure remains out of the control of the Fiscal Council which is the channel for "accounting gymnastics", i.e. showing current expenditures within the capital that are not under control. The sanction involving extracting 10% of the excess in a separate account from which internal debts are financed (for example, old foreign currency savings, material and non-material war damage, etc.) can be seen as a form of forced savings of government, which in any case must at some point pay off the debt, rather than a penalty for violation of the agreed framework. The mechanism of sanctions does not include personal penalisation, as in some other countries (Ter-Minassian, 1997; Joumard and Kongsrud, 2003), which in the case of B&H could be more effective than introduced sanctions. This raises the question of the efficiency of sanctioning the B&H central government and the District government if it is known that internal debt is the Entity debt. Finally, the Council's decisions, though legally established, are de facto not mandatory for the Presidency of B&H which proposes the budget of the institutions of B&H and Parliaments of B&H and Entities which adopt budgets so that the implementation of the Council's decisions depends on the balance of power of the ruling political structures in the institutions that make decisions on budgets.

3.2 FISCAL AUTONOMY

To assess the quality of fiscal federalism in B&H it is important to look at the structure of the tax system. The tax structure in B&H is characterized by the historical legacy from the socialist system and the low level of economic development. The result of these two factors is the predominance of indirect taxes. The introduction of VAT has deepened the gap between indirect and direct taxes. Finally, integration processes (CEFTA, EU) have diminished the importance of customs duties, and increased the importance of excise duties. In general, all the listed factors have contributed to the increasing dominance of indirect taxes in the tax structure in B&H (table 2).

Table 2

Structure of revenues in Bosnia and Herzegovina, 2011

	% GDP	% B&H revenues
Indirect taxes	**19.3**	**43.2**
VAT	12.1	28.2
Excises	4.9	11.3
Road fees	1.1	2.6
Customs	1.1	2.5
Other	0.1	0.2
Direct taxes	**3.5**	**8.1**
Profit tax	1.1	2.5
Income tax	2.0	4.7
Other direct taxes	0.4	0.9
Social contributions	**15.6**	**36.2**
Non-tax revenue	**5.1**	**11.8**
Other (other revenue, transfers, grants)	**0.2**	**0.7**

Source: Database of Macroeconomic Analysis Unit (MAU) of the ITA Governing Board.

Measuring the degree of fiscal decentralization in B&H and in a sample of complex countries on the basis of the share of central government and government at lower levels in revenues (table 3) indicates the extremely weak fiscal autonomy at the state level (central government) and extremely strong fiscal position of middle level of government which consists of entities, cantons and the District (Antić, 2009).

Table 3

Revenue, as % of GDP, 2005

	Austria	Belgium	B&H	Canada	Germany	USA	Spain	Switzerland
Tax revenue								
GG	27.7	30.4	25.3	29.0	21.9	18.8	21.4	22.4
CG	20.4	25.8	3.0	14.0	10.8	9.8	11.8	10.0
SNG	7.3	4.6	22.3	15.0	11.1	9.0	9.7	12.1
Social contributions								
GG	16.3	16.5	13.2	5.5	17.8	7.0	12.8	7.7
CG	15.4	15.1		4.5	17.1	6.8	12.7	7.7
SNG	1.0	1.4	13.2	1.0	0.8	0.2	0.1	
Other revenue								
GG	4.9	4.4	5.3	6.6	3.3	5.8	2.8	8.3
CG	2.4	2.8	0.6	1.2	0.6	0.5	1.5	1.6
SNG	2.5	1.6	4.7	5.4	2.6	5.3	1.2	6.6

GG – general government CG – central government SNG – sub-national governments

Source: Antić, 2009.

Comparison of the degree of fiscal decentralization in B&H with recent measurements made by the IMF for 63 countries based on a set of four indicators (Dziobek et al., 2011a), confirms the presented finding of an extremely weak central

government in B&H, which has less authority than any of the other countries, regardless of the category (European, unitary, federal), except for spending on staff salaries (table 4).

Table 4

Fiscal decentralization indicators, CG/GG[a], 2008

Indicators (in percent)	B&H	All countries[b]	Federal countries[c]	Unitary countries[d]	European countries
Revenues	8	47	72	90	84[e]
Tax Effort[g]	7	48	76	91	87[e]
Expenditures	7	35	62	81	73[f]
Compensation of employees	18	12	37	73	59[f]

[a] *CG – central government (middle level) + national social security funds; GG – general government.*
[b] *Lowest ratio for 63 countries.*
[c] *Mean for 8 federal countries.*
[d] *Mean for 55 federal countries.*
[e] *Mean for 36 countries.*
[f] *Mean for 37 countries.*
[g] *Tax effort = tax revenue + social contributions.*

Source: B&H – author's calculation based on MAU Database, ITA Governing Board; Other countries (Dziobek et al., 2011a).

Fiscal autonomy of local communities is very low considering that the share of revenue on which they decide entirely (non-tax revenue) or partially (tax on property) is low. In the analysis of fiscal autonomy it is not possible to apply the standard OECD synthetic typology (OECD, 2009a) to determine the degree of fiscal autonomy of lower levels, due to the fiscal interdependence of the government levels. If fiscal autonomy is measured by the discretionary indicator (Joumard and Kongsrud, 2003), which is calculated as percentage of tax revenues of lower level of government where the Government has 100% control over the rate and/or base, then we come to the interesting conclusion that the fiscal autonomy in B&H is quite low at all levels and that B&H institutions, as nucleus of the central government, do not have any discretionary power in making the tax laws (table 5).

Table 5

Discretion degree of sub-national governments, in %, 2006

Discretion degree	Municip. RS	Budget RS	Municip. FB&H	Cantons	Budget FB&H	BD	Total degree
2006[a]	0.47	18.84	3.78	5.07	5.23	17.78	15.43
2011[b]	0.44	23.81	2.97	6.51	4.09	9.91	16.00

[a] *Source: Antić, 2009.*
[b] *Source: Author's calculation based on MAU Database, ITA Governing Board.*

The reform of indirect taxes in B&H has strengthened the single economic space but on the other hand, it has increased the interdependence of the government levels because of the centralization of indirect taxes, which are the main source of funding for all levels of government in B&H. However, compared with other complex countries, the process of the centralization of taxes in B&H was not accompanied by the centralization of authority for expenditures and by any strengthening of the central government. Besides the defence reform and the establishment of agencies and directorates necessary for European integration, all major responsibilities are assigned to Entities and cantons. Despite the centralization of legislation and administration in the area of indirect taxation, Entities retained a certain influence on the policy of indirect taxation through the representation on the ITA Governing Board. Entities in this specific body have the right of veto on changes of legislation related to indirect taxes that originally belong to Entities (taxation of goods and services, excise tax), while the State has the right of veto in decision-making on customs revenues that are within the exclusive jurisdiction of B&H. Furthermore, the fiscal autonomy of the District is protected by the Law, even though the District has no right to decide within the ITA Governing Board. The specific impact of State and Entities in the area of indirect taxes is reflected in the fact that without the consent of the ITA Governing Board any legislation in the field of indirect taxation cannot be passed in the Parliamentary Assembly of B&H. Despite a modest revenue share the decision-making capacity of B&H has been strengthened, because the level of B&H decides, through the ITA Governing Board, on the shares of Entities in indirect taxes. At the same time, Entities through the Entity voting in the House of Representatives in Parliament of B&H directly impact the budget of B&H institutions and thus on the height of part of the B&H budget funded from the ITA SA.

A general assessment is that due to the specific system of indirect tax distribution and the low share of direct taxes in B&H, all levels of government have quite weak fiscal autonomy, which implies a high degree of fiscal interdependence between levels of government and the need for fiscal coordination. In order to meet the specific situation in B&H, it will be necessary in OECD typology to add another criterion: degree of fiscal autonomy of government level in the group of revenue division (d.5), which would indicate revenue distribution with the consent of both levels of government.

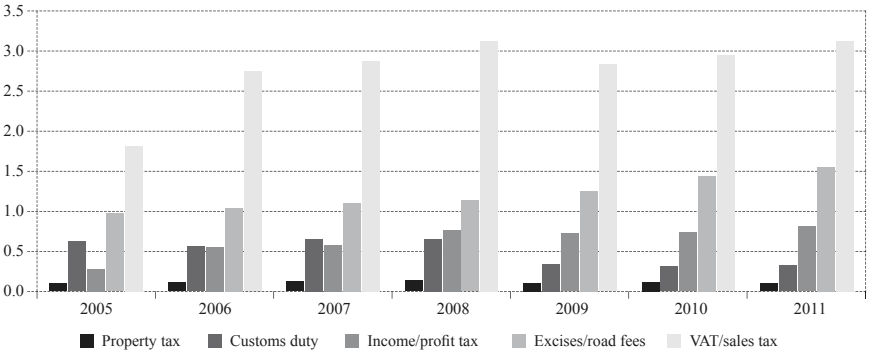
4 FISCAL TRENDS IN BOSNIA AND HERZEGOVINA

The complex structure of government in B&H has contributed to exaggeration of public services and administration in B&H, with the effect of duplication and overlapping of public services, loss of public sector efficiency and effectiveness. The relatively high level of public spending, measured by percentage of GDP, as a result of the complex political-territorial organization of B&H and the high degree of fiscal decentralization of B&H, also had an impact on the country's fiscal picture in the form of high tax burden. Besides these factors, trends of

consolidated revenue of general government of B&H in the period ever since the end of the war (1996) have been affected by the process and reforms in the fiscal and economic sphere. Systemic reforms that led to strengthening the market and reducing the gray economy, such as the creation of a single economic space after the abolition of double taxation of inter-entity trade and taxation of the imports of excise goods at the border, and then reform of the indirect taxation system, which was completed by the introduction of VAT, positively affected revenue growth in the period 2004-2008. Besides, the enormous price growth of energy products, raw materials and food on the world market during 2008 has led to a strong nominal growth in revenues from indirect taxes (customs, VAT) which are calculated ad valorem in the second and third quarters of 2008. On the other hand, there has been a significant loss of the customs revenue because of accession to joining CEFTA (2006) and the signing of the Stabilization and Association Agreement with the EU (since 1 July 2008) (chart 2).

Chart 2

Collection of taxes (in billions KM)



Source: Indirect Taxation Authority: MAU Database, ITA Governing Board.

The fact that the beginning of five-year implementation of the phase reduction of customs duties on imports from the EU coincided with the beginning of the crisis greatly complicates the process of fiscal consolidation. The introduction of additional road fees from the price of oil derivatives as of 1 July 2007, and the continued increase of excise rates on tobacco products in accordance with the minimum standards of the EU since 2009 were not enough to neutralize negative effects of the crisis on the level of consumption and economic activity in the country. The specific fiscal architecture of B&H and decision-making within the ITA Governing Board determined the range of fiscal measures undertaken by the authorities in the area of indirect taxes after 2008. There were no changes in the area of VAT because the proposed measures were divergent, depending on the economic and political interests of the Entities (for instance, FB&H advocated the standard rate increase and RS the introduction of differentiated rates), so the single VAT rate of

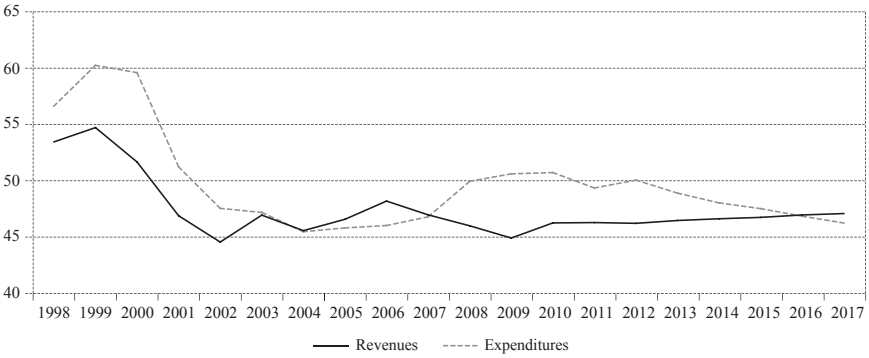
17% has remained. The same situation occurred with RS initiatives for the introduction of "blue diesel" while FB&H advocated refunds to the farmers from the budget. The only consensus was reached with the gradual increase of excise taxes on cigarettes in line with the EU minimum rate. Some positive effects on revenues from customs duties are expected in 2013 after Croatia joins the EU.

Given the limitations of changes in the policy of indirect taxes, the Entities and Brčko District have focused on changes to direct taxes (income tax, profit tax, and property tax). The reform of direct taxes has included, inter alia, the introduction of a global (synthetic) model of income taxation, aligning profit taxation with international practice, reform of taxing property in RS and Brčko (abolishing inheritance and gift tax, introduction of a property register and using market value for the tax base), using modern IT platform, procedures and technique, establishment of single registers of taxpayers, etc. The mentioned reform has resulted in some degree of internal harmonization of direct taxes in B&H and the elimination of double internal taxation.

Reforms in the sphere of direct taxes implemented by the Entity governments in the period 2006-2009 occurred during the crisis and were unable to achieve the expected results (chart 2). The income tax rate in FB&H has been increased from 5% to 10%, while the profit tax rate was reduced from 30% to 10%. RS has changed the income tax rate several times and finally, in 2011, it was increased from 8% to 10%. In 2011 taxation of income and profit in the District was harmonized with Entities although there are differences in exemptions, deductions and allowances. For example, in FB&H and the District there is a personal deduction while it was abolished in RS as of 2011. During 2012 RS and Brčko District introduced profit tax exemptions for investing in production and hiring new workers. The effects of these measures on government budgets and economies are unpredictable because the poor political climate in B&H discourages foreign investors. On the other hand, financing the local level in RS is uncertain because of the comprehensive property tax reform in RS, which started in 2012.

Growth in revenue from indirect taxes in 2006 and 2007 launched a spiral of expenses of a complex administrative apparatus and social benefits at all levels of government (chart 3). Obligations created under collective agreements and laws on social rights quickly melted fiscal surpluses from 2006 and 2007. Because of the rigidity of wages and social benefits that are regulated by Entity laws, governments were not able to respond quickly to the revenue decline caused by the economic crisis and implementation of the Stabilization and Association Agreement with the EU. Stand-by arrangement with the International Monetary Fund from 2009 (IMF, 2010a) was only partially carried out, since the government had no power to enforce a savings program due to political aims.

Chart 3
Trends in revenues and expenditures as % of GDP



Source: IMF, World Economic Outlook Database, 16 July 2012.

Rising expenses combined with a revenue decline in B&H in 2009 led to a fiscal deficit of 5.7% of GDP which, due to a moderate increase in revenue from indirect taxes and decrease of expenditures, undertaken in accordance with the commitments from the stand-by arrangement with the International Monetary Fund, amounted to 4.5% of GDP in 2010 and 3.1% of GDP in 2011. Fiscal deficit in Entities were financed by the receipts from privatization (RS) and by new borrowings (FB&H, RS) under unfavorable conditions. The consequence of this policy was the increase of total public debt from 31% of GDP in 2008 to 43% of GDP in 2011. The IMF estimates that B&H may not get out from the negative zone before 2016.

5 FISCAL POSITION OF GOVERNMENTS IN BOSNIA AND HERZEGOVINA DURING THE GLOBAL ECONOMIC CRISIS

5.1 FACTORS AFFECTING THE BUDGETS OF GOVERNMENT LEVELS IN BOSNIA AND HERZEGOVINA

Under the influence of divergent processes in global public finance – the centralization of revenue and processes of decentralization of expenditures – today, many of the factors listed are beyond the scope of measures of local and regional government, which reduces the possibility of effective and efficient response to the economic crisis. A similar process has affected the governments in B&H. The reduction of the fiscal sovereignty of the Entities and Brčko District and the increase the interdependence of government heightened the vulnerability of the budgetary positions of the sub-national governments in relation to fluctuations in revenues caused by the global crisis. Sub-national governments do not have instruments that can affect the major part of the source of revenue for financing. Indirect taxes, the most powerful lever, have been moved to the State level. The complexity of the procedure for amendments to regulations in the field of indirect taxes prevents rapid response of government to fiscal shocks. On the other hand, the vertical

system of indirect tax distribution is very complex, because it involves all levels of government, external debt and indirect tax refunds.

The fiscal position of sub-national governments is indirectly influenced by factors derived from the model of the distribution of indirect taxes (see chart 1). The first factor affecting the distribution is the level of indirect tax refunds. Given that refunds are the Achilles heel of the VAT system in each country, the increase of refunds due to VAT frauds directly decreases transfers of indirect taxes to the levels of government. Furthermore, the increase of the B&H budget decreases transfers to levels of governments and vice versa. Due to the failure to adopt the B&H budget during 2011, the share of B&H institutions was kept at the level of 2006, which allowed the overflow of revenue from indirect taxes to the Entities and the District.

The model of allocation of indirect tax revenues based on the final consumption introduces purely economic criteria in the revenue allocation. The established interdependence of governments is reflected in the fiscal position so that a relative increase in final consumption in one Entity, which is the result of more favorable economic developments in that Entity, leads to a reduction in the share of indirect taxes in the other Entity and vice versa. As consequence, in the preparation of budget frameworks governments cannot accurately predict shares in indirect taxes, which makes it hard to draft the projection of the budget of lower government levels and in general makes the negotiating process for the budget framework of the general government of B&H very unreliable and uncertain.

Another problem is the process of adopting allocation coefficients. According to current regulations the ITA Governing Board should determine allocation coefficients between the Entities quarterly. Should there be a failure to adopt the decision, coefficients from the previous quarter have to be applied. The regulations also provide for the first temporary settlement for six months of the current year and second temporary settlement for the previous year. After the external audit final settlement between the Entities is performed. So far, it has often happened that the Governing Board cannot reach an agreement and so the old coefficients are applied. As the deviations of the actual coefficients from those applied are larger, the calculated amounts of the settlements are larger as well. Settlements are unpredictable because they are subject to political agreements. They are always carried out with a large time lag; in the event of the accumulation of high amounts of annual settlements, this will endanger the fiscal position of the Entity that needs to return funds to the other Entity.

5.2 ANALYTICAL APPROACH

In order to illustrate in the best way the changes in the fiscal position of sub-national governments in B&H after the outbreak of the global economic and financial crisis, a comparison of fiscal reports of government levels for pre-crisis 2008 and

2011 by the major items of revenues and expenditures has been made. Analysis of the fiscal structure in B&H can be carried out horizontally, by decomposition of the consolidated fiscal balance of the general government to the central governments but also it can be done vertically, by decomposition of fiscal reports of government levels within the Entities (see appendix, chart A2).

It should be noted that according to the IMF methodology the general government of B&H consists of the central government and local governments (IMF, 2005). The central government includes budget institutions (B&H institutions, budget of FB&H, ten cantons in FB&H, budget of RS and Brčko District), extra-budgetary institutions of the Entities and the District and extra-budgetary social funds in the Entities and the District (see appendix, chart A3). The local level includes 80 municipalities in FB&H and 63 municipalities in RS. Reporting according to IMF format includes also fiscal operations of the Entity Directorates for Roads financed from indirect taxes, then revenue and expenditures of international projects. Official reports of governments in B&H do not usually include Directorates for Roads and international projects, and, given their great importance to international projects that finance the reconstruction in B&H, this resulted in significant differences between the government and IMF reports in terms of fiscal deficit, around 2% of GDP at present.

5.3 GENERAL GOVERNMENT OF BOSNIA AND HERZEGOVINA

In general, the largest share in collected revenues and expenditures of the general government of B&H (table 6) goes to the Federation of B&H, as a result of the economic development and population growth. GDP of FB&H accounts for two thirds of the GDP of the State. Similarly, FB&H has twice the population of RS, which results in social benefits and transfers. In addition, the complex federal structure of FB&H has resulted in high administrative expenses. The share of capital expenditures in the RS is higher than in the FB&H. This is the result of divergent economic trends in Entities in recent years, as well as the different tax policy and policy of investment and privatization of strategic state-owned companies. The process of privatization of the telecom in the RS, just before the outbreak of the crisis, has brought significant resources that RS invested in the private companies, housing and infrastructure and partly covered the deficit in the extra–budgetary funds and public corporations (for example, railways). On the other hand, the share of direct taxes is almost the same, except that the tax burden increased in RS in the last three years. Similarly, reforms in the system of social contributions in Entities brought the increase in the tax burden and also the increase of the proportion of RS due to the increase of rate and expansion of the base.

Table 6

Share of governments, % of revenue and expenditure

	2008				2011			
	B&H	**BD**	**FB&H**	**RS**	**B&H**	**BD**	**FB&H**	**RS**
Total revenue	**8.0**	**2.2**	**60.0**	**29.9**	**7.6**	**2.1**	**57.7**	**32.6**
Indirect taxes	13.8	3.2	55.4	27.6	14.3	3.2	53.5	29.0
Direct taxes	0.0	1.9	56.3	41.8	0.0	1.9	51.5	46.7
Tax on profits	0.0	3.2	48.9	47.8	0.0	2.1	49.7	48.2
Tax on income	0.0	1.4	57.1	41.4	0.0	1.9	49.8	48.4
Other direct taxes	0.0	0.6	68.1	31.3	0.0	1.2	66.3	32.5
Social contributions	0.0	0.6	69.2	30.2	0.0	0.8	65.5	33.7
Non-tax revenue	7.1	3.3	57.7	31.8	10.6	2.2	54.0	33.2
Total expenditure	**7.2**	**1.7**	**62.3**	**28.8**	**7.8**	**1.9**	**57.8**	**32.5**
Expense	7.2	1.8	62.4	28.7	8.0	1.8	58.9	31.3
Wages and compensation	18.2	2.3	53.5	25.9	19.5	2.4	50.2	28.0
Use for goods and services	7.8	3.4	59.9	28.8	8.7	3.7	72.3	15.4
Grants, subsidies	0.9	0.8	63.5	44.0	0.9	0.8	63.5	44.0
Interest	0.2	0.0	50.3	49.4	0.2	0.3	59.1	40.5
Other expense	7.2	0.0	59.7	33.1	2.6	1.7	69.2	26.4
Net acquisition of nonfinancial assets	9.3	6.1	41.1	43.5	4.4	2.8	33.0	59.8

Source: MAU Database, ITA Governing Board.

5.4 CONSOLIDATED CENTRAL GOVERNMENTS

Vertical analysis of the fiscal position of governments in B&H is based on the decomposition of the government sector to the constitutional system: the institutions of B&H, Brčko District, consolidated FB&H (FB&H budget, cantons, municipalities and cities and extra-budgetary funds) and consolidated RS (RS budget, municipalities and cities and extra-budgetary funds). Analysis of revenue structure of the government levels in B&H (table 7) shows similar shares of indirect taxes in the Entities, except in the case of the institutions of B&H and Brčko District.

Table 7

Consolidated central governments revenue, as % of revenue, 2011

	Institutions of B&H	**BD**	**Consol. FB&H**	**Consol. RS**
Indirect taxes	81.2	65.5	40.1	38.4
Direct taxes	0.0	7.2	7.2	11.6
Tax on profits	0.0	2.5	2.2	3.8
Tax on income	0.0	4.2	4.0	6.9
Other direct taxes	0.0	0.5	1.0	0.9
Social contributions	0.0	14.4	41.1	37.4
Non-tax revenue	16.5	12.5	11.1	12.0
Other (other revenue, transfers, grants)	2.2	0.3	0.6	0.6
Total	100.0	100.0	100.0	100.0

Note: All users of indirect tax distribution in B&H are included except for Directorates for Roads.

Source: Reports of MAU, ITA Governing Board, www.oma.uino.gov.ba.

Since the Federation of B&H is a fiscally complex structure as well, it is interesting to analyze the distribution of revenues by levels of government within the FB&H (table 8). It is obvious that the budgets of FB&H and cantons are mainly sensitive to an increase of indirect taxes while cantons are the most sensitive to the movements of direct taxes. The main incomes of the local communities in FB&H are the non-tax revenues and property tax.

Table 8

Consolidated FB&H revenue per level of government, as % of revenue, 2011

Type of revenue	Budget FB&H	Cantons	Municipalities
Direct taxes	10.0	65.7	24.3
Taxes on income and profits	12.0	73.6	14.4
Taxes on income of individuals	0.0	77.4	22.6
Taxes on profits of companies	0.0	99.9	0.1
Other income taxes	100.0	0.0	0.0
Taxes on payroll and workforce	0.0	70.6	29.4
Taxes on property	0.0	16.2	83.8
Indirect taxes (including road fees)	42.2	50.4	7.5
Other taxes	1.8	67.7	30.6
Non-tax revenue	29.2	33.9	31.6

Source: MAU Database, ITA Governing Board.

Analysing the fiscal position of consolidated Entity governments in 2011 compared to 2008 (see appendix, table A1) we see a trend of the revenue decrease in FB&H and revenue increase in RS, measured as a share of GDP, as a result of tax reforms in Entities and the growth of coefficient of indirect tax distribution in favour of RS. Fiscal consolidation, imposed by the IMF under the stand-by arrangement from 2009 (IMF, 2010a) has brought expenditure cutting in FB&H, mainly in the item of social benefits and transfers to sub-national governments. In contrast, there was an increase in expenditures in RS induced by the financing from the telecom privatisation receipts.

5.5 Sub-national governments in Entities

Analysis of the fiscal position of sub-national governments in 2011 compared to 2008 is based on fiscal reports for each level of government (the Entity budgets, cantons in FB&H, municipalities and cities). Comprehensive analysis of the local governments finance in the European countries during the crisis (Davey, 2011) shows that revenues were more volatile at the upper levels of sub-national governments than at the local level. However, the data from both Entities in B&H shows the opposite trend. From consolidated reports (see appendix, table A2) we can note a negative trend in the nominal revenue reduction in cantons and municipalities of FB&H in relation to the budget of the Federation, in which revenue was increased. Revenues of cantons and municipalities are lower than in 2008 due to a reduction of income tax. The local level in FB&H is further affected by a significant reduction of property taxes, although it is a specific tax (according to the

area of the property) and by the reduction of subsidies and transfers received from the Federation and cantons. The drop of intergovernmental grants to sub-national governments was higher than decrease of own tax revenues, which is in the line with the conclusion of the OECD analysis that intergovernmental grants were more volatile than own tax revenues (Blöchliger, 2010a).

The federal level has significantly reduced expenditures, which, together with the increased revenues, has reduced the fiscal deficit. The expenditure reduction is evident in cantons as well, but in a smaller proportion. The expenditure structure analysis indicates that the reduction has been made in grants, subsidies and transfers to sub-national governments and to capital expenditures. On the other hand, wages at the level of FB&H and cantons have not been cut and material expenses have been reduced to a lesser extent. It is interesting that the local level has increased wage expenditures at the expense of the social benefits that are the responsibility of local communities.

Compared with 2008, RS has accomplished the nominal revenue increase at the level of government budget on the basis of direct tax growth, the growth in the share of indirect tax distribution and completed settlements for 2009-2011 (see appendix, table A3). However, municipalities have less revenue due to reduced transfers of indirect taxes, decrease of property tax and non-tax revenue. The increase in social contribution rates, abolition of personal allowance for income tax and the introduction of fiscal cash registers in RS, which was initiated in 2008, led to the closure of many small businesses, which reduced both the tax and the non-tax revenue of the RS budget and local communities.

In 2011, the fiscal position of the RS budget improved due to revenue growth and expenditure decrease, while the fiscal deficit of local level was reduced. Fiscal consolidation in RS brought a significant reduction in the RS budget expenditures. Expenditure reduction has been carried out on material expenditures, grants and social transfers, while expenses for salaries and capital expenditures were increased. Local communities have retained their wage expenditures at the same level, while at the same time they reduced grants and social transfers as well as capital expenditures.

6 THE CRISIS AS IMPETUS FOR REFORMING OF THE CONCEPT OF FISCAL COORDINATION IN BOSNIA AND HERZEGOVINA

The time from the occurrence of the crisis to date has shown up the stated weaknesses of existing system of fiscal coordination in B&H. Autonomous reforms of direct taxation implemented by Entities have jeopardized employment, foreign investments and achieved a level of internal tax harmonization. A weak central government at the State level and a loose fiscal coordination within the Fiscal Council could not affect the policy of wages and social benefits in the Entities and at the local level or prevent increasing disharmony in Entity tax policies. The po-

litical turbulences in the country have prevented the Fiscal Council from determining the state's share of indirect taxes in B&H and adopting the fiscal goals and medium-term fiscal framework of B&H for the period 2011-2014, which is why the institutions of B&H were on temporary funding through whole 2011 while the entities created their budgets autonomously. The budget crisis culminated at the beginning of 2012 when the failure to adopt the budget of the B&H institutions for 2012 led to a freeze on foreign debt payments although there were funds from the allocation of indirect taxes set aside for that purpose. However, in order to meet the requirements for obtaining financial assistance from the EU, the IMF and the World Bank, the Fiscal Council succeeded in May 2012 in reaching an agreement on medium-term allocations of indirect taxes for the budget of B&H institutions and global fiscal framework of the general government of B&H for the period 2012-2015.

Growth of debt and the slow recovery of the economy, on the one hand, and divergent fiscal measures adopted during 2012, with uncertain effects, without cutting current expenditures, could, in terms of the existing loose and casual fiscal coordination, very often initiated and urged by International Community, deepen the fiscal deficit of sub-national governments in B&H still further. Moreover, having given up on the implementation of the single debt ceiling in B&H from 18% of total revenue in the summer of 2012, the RS Government has tied the debt ceiling to GDP, creating extra space for borrowing in this entity. In conditions of the increase of borrowing and low credit rating the authorities reached a new arrangement with the IMF of 410 million EUR in September 2012. The main obligations under a new stand-by agreement include, inter alia, cutting wages and social benefits and subsidies, better targeted social policies, establishing a more effective fiscal coordination and medium-term fiscal planning, removing blockages in the distribution of indirect taxes and funding the B&H budget and external debt (IMF, 2012). The obligations imposed on B&H are promising for the citizens from the standpoint of reducing government spending, strengthening the State position in fiscal relations and implementing the long expected reforms of expenditure policies. It should finally relax the fiscal position of sub-national governments, while ensuring an efficient and equitable system of social benefits in B&H. However, due to the announcement of more rigorous requirements for the payment of the next IMF tranche, the agreement reached within the Fiscal Council from May 2012 could be questionable.

Failures of the Fiscal Council to ensure, in the past four years, a coordinated fiscal response to the global economic crisis indicate the need for a serious reform of the current concept of fiscal coordination. In principle, the reformed model of fiscal coordination in B&H should be at the same time politically sustainable, economically efficient and able to anticipate obligations of B&H in the EU accession process. Since B&H is, due to specific political and fiscal relations, more similar to the EU than it is to other complex countries, the reformed model should be based

on the concept of harmonization and coordination supported by the EU member states (Šimović, 2007), i.e. on the cooperative fiscal federalism. However, unlike other complex countries in the EU with a developed democracy and a high level of fiscal responsibilities, in which governments respect the obligations arising from the national fiscal agreement even though fiscal coordination is not required (European Commission, 2012), political agreement is not enough for the governments in B&H and they must be obliged by the law to respect fiscal targets and frameworks. In order for decisions of the Fiscal Council to be binding on the Presidency and Parliaments, in terms of budgetary frameworks, the institutionalization of the Fiscal Council is required as a form of executive federalism which would include the mechanism of decision making similar to existing voting mechanism of the Governing Board of the ITA. Adoption of fiscal target and budgetary framework should be preceded by discussion that would necessarily involve the budget committees of the B&H Parliaments and Entities, most cantons, associations of local communities and the biggest extra-budgetary funds. Reform of the concept of fiscal coordination in B&H should also include redefining the fiscal target in terms of its determination related to consolidated income and expenditure (current and capital) of all levels of administration, including deficits in international projects, operations of local communities, state-owned development banks and corporations that are generously financed from the budget (for example railways), and prescribing the uniform debt ceiling of borrowing for B&H and entities. Automation of current distribution of indirect taxes without the intervention of the ITA GB would substantially relax the work of the Fiscal Council and make the budget projections of lower level governments more reliable. Finally, the effectiveness of fiscal coordination cannot be achieved without fiscal discipline at all levels of government, effective monitoring of fiscal operations and sanctions for non-compliance with the fiscal framework for collectives and responsible individuals in governments.

7 CONCLUSION

The crisis has confirmed the opinions of theoreticians that the distribution of the main responsibilities between levels of administration in complex countries, advocated by the theory of fiscal federalism, is incapable of preventing a negative impact of fiscal decentralization on macroeconomic management. It is necessary to introduce fiscal coordination as an institutional glue to harmonize budgets and fiscal operations of all levels of government with national fiscal targets.

The analyse of the fiscal system in B&H, its performance and response to the crisis has pointed out the main drawbacks of the complex and highly decentralized fiscal system in B&H. Autonomous and uncoordinated actions of Entities in time of economic crisis worsened the fiscal position of B&H. The current model of loose fiscal coordination, based on political agreement of Entities, usually induced by the international community, has elicited only temporary compliance from the governments. The divergent functioning of the fiscal system in B&H that plunged

the country into indebtedness, jeopardizing the prospects of economic recovery, has raised the need to design an alternative model of fiscal coordination that would harmonise Entity fiscal policy with national fiscal goals.

The hypothesis of this paper was that only comprehensive, institutionalized and binding fiscal coordination between levels of government can ensure a coherent response of B&H to the challenges of the economic crisis.

Taking into account the complex fiscal setting and serious political constraints, it is necessary to establish a multi-tier system of fiscal coordination, involving all interested parties in the process of negotiating budgetary frameworks and national fiscal targets.

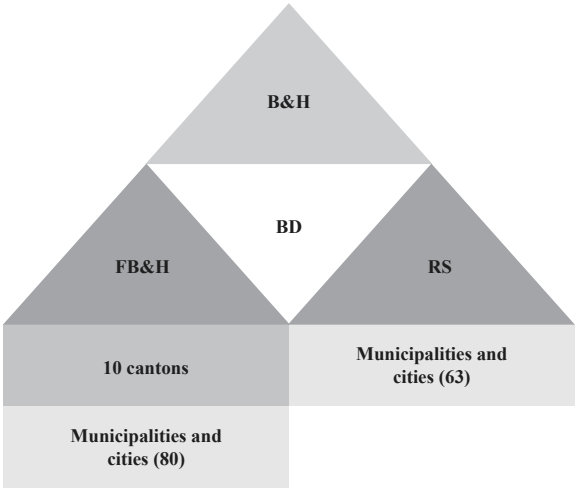
Request for institutionalization of fiscal coordination means that the Fiscal Council should be transformed from a political body to the main fiscal institution deciding on overall national fiscal policy.

An alternative model of fiscal coordination should meet two requirements in order to be feasible: it should reconcile a high degree of fiscal autonomy of the Entities and a need for better macroeconomic management of the state government. In order to meet those requirements a new model of fiscal coordination in B&H should take into consideration the characteristics of the cooperative and executive fiscal federalism. However, the cooperation between the State and Entities, established within the Fiscal Council, is necessary but not sufficient for adherence of the governments to the national fiscal goals. Unlike other complex countries, in which the federal government is responsible for fiscal coordination and monitoring of fiscal operations of lower levels, the state level in B&H is not powerful enough to run fiscal coordination. Bearing in mind that without extensive modification of the constitutional system it is not possible to delegate to the state additional fiscal responsibilities for macroeconomic policy it is necessary to incorporate executive fiscal federalism into intergovernmental fiscal relations in B&H, similarly to the model applied in the indirect taxation system. Therefore it is necessary to assign the Fiscal Council executive fiscal powers regarding the setting of the national fiscal targets, fiscal rules and a budgetary framework binding on all levels of governments and their parliaments. It would help not only in fiscal consolidation and economic performance but also in a reduction of the political tensions in the country and faster fulfilment of obligations in the EU integration process.

APPENDIX

CHART A1

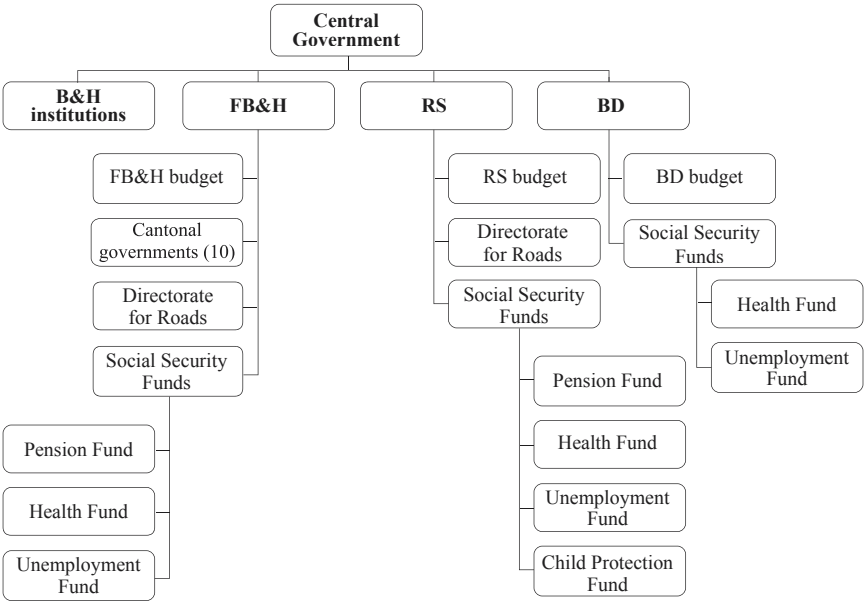
Bosnia and Herzegovina, political structure



Abbreviations:
B&H – Bosnia and Herzegovina
FB&H – Federation of Bosnia and Herzegovina
RS – Republic of Srpska
BD – Brčko District

CHART A2

Bosnia and Herzegovina, levels of central government



Note: Presentation based on IMF GFS analytical approach.

Source: IMF, 2005.

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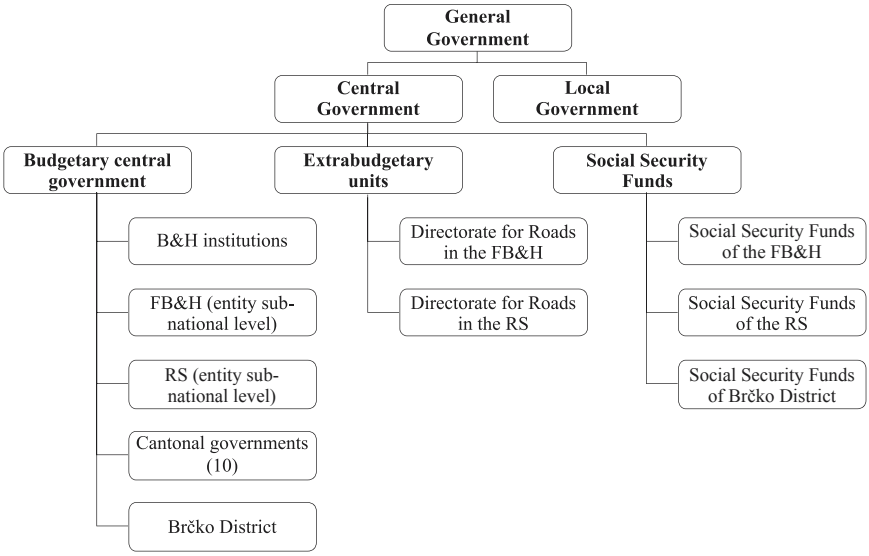
CHART A3

Bosnia and Herzegovina, institutional levels of general government



Source: IMF, 2005.

TABLE A1

Consolidated entity governments as % of GDP

	2008		2011	
	Consolidated			
	FB&H	RS	FB&H	RS
Revenue	26.5	13.2	24.8	14.1
Indirect taxes	10.9	5.5	10.0	5.4
Direct taxes	2.1	1.6	1.8	1.6
Profits tax	0.5	0.5	0.5	0.5
Income tax	1.2	0.8	1.0	1.0
Property tax	0.5	0.2	0.2	0.1
Social contributions	10.1	4.4	10.2	5.3
Non-tax revenue	2.9	1.6	2.7	1.7
Other	0.3	0.1	0.1	0.1
Expenditure	27.9	13.7	25.6	14.4
Current expenditures	26.7	12.3	25.0	13.3
Wages and compensation	6.5	3.1	6.4	3.6
Use of goods and services	5.6	2.7	5.8	1.2
Grants	14.0	6.0	11.2	7.7
Interest payments and other compensations	0.3	0.3	0.4	0.3
Other expenses	0.3	0.2	1.2	0.8
Net acquisition of nonfinancial assets	1.3	1.3	0.6	1.1
Gross operating balance	-0.2	0.9	-0.2	0.8
Net lending/borrowing	-1.4	-0.5	-0.8	-0.3

Source: MAU Database, ITA Governing Board.

TABLE A2

Sub-national governments in FB&H as % of GDP

	2008			2011		
	Budget FB&H	**Cantons**	**Municipalities**	**Budget FB&H**	**Cantons**	**Municipalities**
Revenue	5.4	8.3	3.1	5.2	7.4	2.5
Indirect taxes	4.4	5.7	0.8	4.2	5.0	0.7
Direct taxes	0.2	1.3	0.7	0.2	1.2	0.4
Income tax	0.1	0.3	0.1	0.2	0.4	0.0
Profits tax	0.0	0.9	0.2	0.0	0.8	0.2
Property tax	0.0	0.1	0.4	0.0	0.0	0.2
Non-tax revenue	0.8	1.0	1.0	0.8	0.9	0.9
Other	0.0	0.3	0.6	0.0	0.2	0.4
Expenditure	6.2	8.7	3.2	5.3	7.5	2.6
Current expense	5.8	8.2	2.7	5.3	7.3	2.2
Wages and compensation	1.0	4.5	0.7	0.9	4.5	0.7
Use of goods and services	0.3	1.0	0.5	0.3	0.9	0.5
Grants	4.3	2.7	1.3	3.6	1.5	0.5
Interest payments and other compensation	0.3	0.0	0.0	0.3	0.0	0.0
Other expenses	0.0	0.0	0.2	0.2	0.4	0.4
Net acquisition of nonfinancial assets	0.3	0.4	0.5	0.1	0.2	0.4
Gross operating balance	-0.4	0.1	0.4	-0.1	0.1	0.3
Net lending/borrowing	-0.8	-0.4	-0.1	-0.1	-0.1	-0.1

Source: MAU Database, ITA Governing Board.

TABLE A3

Sub-national governments in RS as % of GDP

	2008		2011	
	Budget RS	**Municipalities**	**Budget RS**	**Municipalities**
Revenue	6.3	2.6	6.3	2.1
Indirect taxes	4.2	1.3	4.2	1.2
Direct taxes	1.3	0.3	1.3	0.3
Profits tax	0.5	0.0	0.5	0.0
Income tax	0.7	0.2	0.7	0.2
Property tax	0.1	0.1	0.1	0.1
Non-tax revenue	0.9	0.7	0.7	0.6
Other	0.0	0.2	0.0	0.0
Expenditure	6.2	2.9	5.5	2.2
Current expense	5.9	1.9	5.0	1.7
Wages and compensation	2.4	0.6	2.7	0.7
Use of goods and services	0.5	0.6	0.4	0.5
Grants	2.7	0.6	1.5	0.2
Interest payments and other compensation	0.3	0.0	0.2	0.1
Other expense	0.2	0.0	0.3	0.3
Net acquisition of nonfinancial assets	0.2	1.1	0.5	0.5
Gross operating balance	0.4	0.7	1.3	0.4
Net lending/borrowing	0.1	-0.3	0.8	-0.1

Source: MAU Database, ITA Governing Board.

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Tax havens or tax hells? A discussion of the historical roots and present consequences of tax havens

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Abstract

Tax havens are not recent phenomena. However, in contrast to historical precedents, tax havens in the age of mobile capital allow for non-consensual transfers and are not profitable for every citizen. We discuss the four main groups of tax havens (former Western possessions, sovereign nations, countries controlled by cartels, and emerging economies). This article also synthesizes the history of tax havens and describes their current heterogeneity, discussing the main methods available to regulate tax haven flows. Some of the most efficient methods involve unilateral measures (such as the Fiscal Transparency of Outland Societies) but also encompass multilateral measures (such as Tax Harmonization and the Request for Information).

Keywords: tax havens, regulation, transparency

1 INTRODUCTION

Tax havens are a relevant issue in public financial management. Whereas some governments benefit from the existence of tax havens, others experience losses. Because of the critical importance of the emergence of bankruptcy systems in the Western world and the recent growth of large financial flows into tax havens, this paper addresses the issues presented by this new reality, which has revolutionized the financial organization paradigms of states.

This article intends to synthesize the main points of the important discussion on tax havens. As we will show, tax havens are not recent innovations – we can easily find historical examples indicating that tax havens are instruments that were developed to foster trade, increase capital mobility, and secure personal gains. However, most of these gains occur as the direct results of the losses experienced by other investors.

Currently, various attempts have been made to control tax haven activities and flows. In this article, we condense this list of controls to compare clearly the efficacy of these measures.

It is estimated that about half of all international lending and deposits originate in Offshore Financial Centers (OFCs), approximately half of which are located in OFCs that double as tax havens. The statistics of the Bank for International Settlements (BIS) on international assets and liabilities rank the Cayman Islands as the fourth largest international financial center in the world; other well-known tax havens/OFCs include Switzerland (7th), the Netherlands (8th), Ireland (9th), Singapore (10th), Luxembourg (11th), the Bahamas (15th) and Jersey (19th). In addition, these centers are recipients of approximately 30% of world's share of FDI, and, in turn, are the originators of similar amounts of FDI (Palan, Murphy and Chavagneux, 2010).

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Given the strength of actual capital flows and the serious consequences that this mobility has for many investors and citizens around the globe, we have attempted to synthesize the main points of the current debate on tax havens.

The structure of this paper is as follows: in section two, we will discuss the origins of tax havens and their current diversity of forms; in section three, we will focus on the macroeconomic and financial consequences of tax havens and discuss the reactions of institutions from around the world; we will conclude in section four by presenting the main implications of our work.

2 ORIGINS OF TAX HAVENS

Because tax havens are controversial, international institutions have several definitions for them. Although these definitions share many features, no consensus has been reached on a dominant definition. This difficulty is demonstrated in the variety of names attributed to this phenomenon, including "tax haven" (OECD), "offshore financial center" (FMI), and "states without taxation" or "states with low taxation" (KPMG).

These types of territories are currently characterized by the fact that they allow companies of unknown origins to be founded within their boundaries, protecting the owner's identity through a guarantee of absolute secrecy. This ability to operate outside national and international control is what makes these offshore financial centers, or tax havens, so special.

2.1 THE HISTORY OF TAX HAVENS

The sources of the rationale behind tax havens are tax-resistant behaviors that date back to early civilizations and assume forms as varied as allowed by the human imagination.

It is difficult to determine the precise origins of the tax haven. Some researchers suggest that the second century BC saw the first official instances of these zones in the eastern Mediterranean (Plate-forme Paradis Fiscaux et Judiciaires, 2007:9, 10). Beginning in 166 BC and lasting for nearly a century thereafter, the island of Delos practiced a form of commerce that was free of taxes and customs duties. Due to its geographical position, the island became a very important center of commerce and trade for ivory, textiles, wine, wheat and spices. The same principle was implemented in certain cities ("free towns") as well as ports and fairs during the Middle Ages. The practice was limited by the geographical boundaries of cities and the duration of fairs. The first of this type of fair was the Lendit Fair, which took place near Saint-Denis in the seventh century and was founded by King Dagobert. Between the 12th and 14th centuries, the great fairs of Lyons, Brie, Champagne and Beaucaire benefited from the same treatment. From the beginning of the Christian era, the city of Marseille was an independent republic with a free port that attracted ships and products throughout the Mediterranean. Marseille

was a free port until 1481, when the King of France seized the city and the port's status was challenged. Nevertheless, Marseille would retain some of its privileges until 1817.

In America during the 1910s, the term "tax haven" was used to describe a money laundering practice in which bandits invested in "wash salons" or laundries with machines that allowed them to clean silver. In the 1920s, a new generation of tax havens appeared in areas such as the Bahamas, Switzerland and Luxembourg that allowed foreigners to deposit capital and escape taxation.

The recent history of tax havens is neither continuous nor linear but rather built on ruptures and mutations in different places and times. Great developments occurred during two important moments of economic globalization: the first in the 19th century, with the expansion of capitalism, and then in the post-war 20th century, with the creation of the euro-dollar market in the 1950s (Palan and Chavagneux, 2007: 28). Only over the last thirty years, however, have tax havens grown exponentially in numbers and importance. This growth was caused by the liberalization and deregulation of the financial sphere that began in the early 1980s (Palan and Chavagneux, 2007: 43).

The euro-dollar market emerged during a time when the monetary market was no longer under North American control. It has since expanded and is now called the euromarket; this is the market where foreign currency negotiations take place. These currency-backed securities can be negotiated around the world, with London serving as a major center. The commercialization of these securities takes place through a compensation system (Burn, 2006).

The term tax haven currently evokes images of tropical islands located at the end of the world, where there are palm trees and sun and multimillionaires can get rich while relaxing. This notion can be deceptive and harmful because the capital that is forwarded to tax havens is growing in importance (apud Mota, Antunesand Lopes, 2009: 7). According to the Bank for International Settlements, about half of international financial flows from increasingly diverse origins pass through tax havens, leading to dramatic consequences from various perspectives.

2.2 TYPES OF TAX HAVENS

We can group the various forms of tax havens into four main groups: historically Western possessions, sovereign nations, countries controlled by cartels, and emerging states (for an extended list of countries currently labeled as tax havens/offshore centers, see table A1 in the appendix).

The main reasons countries may be labeled tax havens can also vary. As Smith (2005) argues, these countries often suffer from a case of "mercantilist reminiscence" – their governments believe that it is better to have large amounts of cash

deposits in local banks; therefore, these governments start a competitive tax race that can generate "negative" tax rates, which, in practice, translate into a propensity to pay to receive investments.

Although this approach is more often expressed in the first two varieties of tax shelters (historically Western possessions and sovereign nations), the other varieties may also exhibit pro-mercantilist tendencies. In sovereign nations, in addition to mercantilist reminiscence, the need to fund financial systems or requirements for financial resources also appears to influence decisions to lower taxes on capital to attract monies from agents abroad.

The third variety of tax haven, countries controlled by cartels, exists to serve a different function. As suggested by Killebrew and Bernal (2010), these countries tend to be used for money laundering. The processes through which this occurs are very complex and difficult to systematize. However, in their simplest form, these types of tax havens receive printed currency from black markets or parallel economies (drug, arms, prostitution, etc.) and inject that money into the international financial system using local deposits.

Finally, members of the fourth group, developing economies, benefit from different advantages related to being characterized as tax havens. The monies they receive tend to be diverted by incumbents in the form of political rents, but there are also positive externalities for the general population. Maurer (1997) observed that tax havens do, in fact, create local jobs and increase public revenues. The financial systems of tax haven economies tend to be more solid. Rikowski (2002) even suggests that the tax haven option leads to positive effects on local education.

3 CONSEQUENCES OF AND REACTIONS TO TAX HAVENS

3.1 CONSEQUENCES

The first major consequence of tax havens is the increasing inequality of income redistribution (Torvik, 2009). Typically, the highest incomes are the most mobile. Consequently, tax havens do not shelter the lowest income earners in a population but rather the highest. While these rich taxpayers receive higher net incomes (because they can use tax havens to diminish their taxation bases), the poorest taxpayers tend to pay increasingly higher taxes because they can more reliably be called upon to pay their aliquots than their wealthy counterparts.

The second negative consequence of tax havens is growth in inequality related to the distribution of social rights (Torvik, 2009). Because small and medium producers face increased taxation on their income, they have to work more and accept poorer working conditions.

The third consequence is the accumulation of imbalances in the balance of payments, especially in the capital account. Time after time, national production

diverges from national income and deficits accumulate in the capital account. These deficits generate an increased risk of indebtedness, which is essentially paid for by those who cannot move their incomes to tax havens.

3.2 REGULATORY REACTIONS TO TAX HAVENS

In our framework, control reactions may be divided into unilateral and multilateral measures. The unilateral measures available to a state actor include the following: the lifting of banking secrecy, the imposition of fiscal transparency on outland societies, the adjustment of transfer prices, the regulatory prevalence of substance over form, the reversal of the onus of proof, the declaration of requirements, and an assortment of additional measures. Multilateral measures include tax harmonization, information requests, and the control of interbank electronic messaging. Descriptions of these options are provided below.

3.2.1 Unilateral measures

Unilateral measures imply the involvement of a single state; implementation is thus relatively less complex than the implementation of multilateral measures. For tax havens, and following some of the literature (Murphy, 2008; Ginevicius and Tvaronaviciene, 2010; Plate-forme Paradis Fiscaux et Judiciaires, 2007), the most important unilateral measures are the lifting of banking secrecy, the management of the fiscal transparency of outland societies, the adjustment of transfer prices, and the prevalence of substance over form. We will now describe these measures in more detail.

3.2.1.1 Lifting of banking secrecy

The lifting of banking secrecy is a major breakthrough in terms of transparency but fails to solve the broader systemic inconsistencies that account for great disparities in the distribution of wealth. This measure helps the fight against money laundering. Additionally, it prevents the internationalization of money from parallel economies, such as crimes or human or drug trafficking.

3.2.1.2 Fiscal transparency of outland societies

Fiscal transparency from companies abroad refers to the demonstration of willingness to report and supply accounts and records for any commercial transaction conducted by a legal entity registered abroad (Dumludag, 2011). This measure is intended to tax the non-returned profits of companies that are established in tax havens.

In Portugal, for instance, tax savings of above €100,000.00 must be reported to the tax authorities. This obligation is included in decree-law n. 29/2008, which was passed on October 29, 2008, and attempts to prevent abusive tax planning. However, this measure relies on self-reporting.

In 2010, the Portuguese government extended an amnesty to those who repatriated capital invested in tax havens during 2010 such that amnesty recipients would have to pay only 5% of taxes on such repatriated capital. So far, the results of this measure are unknown, and there are still many questions about its effectiveness.

As companies use the law of these autonomous jurisdictions (tax havens and offshore centers), the request for more transparency of a company by the government of another jurisdiction is very difficult. Hence, the OECD adopted cooperative signing agreements for the provision of information as a criterion for the recognition of a tax haven.

3.2.1.3 Adjustment of transfer prices

The adjustment of transfer prices refers to a fiscal authority's capacity to rectify its VAT base by adjusting prices in transactions between entities that have special relations with one another when those prices differ from expected prices in conditions of full competition. The full competition price is determined through the examination of pricing for transactions of the same type between non-related entities. If no similar transactions are available for examination, the price adjustment is calculated using the resale price minus a margin that may represent a profit. There are, however, numerous situations in which the method of applying full competition pricing encounters large obstacles. Consider, for example, cases in which a certain technology is developed solely by one company, when prices include the costs of guarantees, or when prices are reduced with the goal of penetrating new markets.

In a study carried out by Boyrie, Pak and Zdanowicz (2004), a model for the determination of optimum prices was analyzed to detect abnormal prices in international transactions. The foundation of this model is based, however, on data from a commodity that is harmonized between the involved entities. Although it is a fairly reasonable idea and a good starting point, it is in itself a limited model and can even bias results because the task of harmonizing commodities and prices on an international scale is a difficult one. Furthermore, in some intrinsically monopolistic areas, the word harmonization has no meaning and it is impossible to identify a comparison point.

3.2.1.4 Prevalence of substance over form

The prevalence of substance over form refers to the provision of binding legal significance and heavier weight to the composition of an economic or other type of activity, or the structure of an income-generating activity, than its form, i.e. the legal contract that governs it.

This unilateral measure gives the tax authorities the power to reject acts or structures that are simulated or artificial and that conceal the substance of their activities with the sole purpose of obtaining fiscal advantages. For example, in the case

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of an athlete or artist whose income originated in a certain state and was then placed in a tax haven by a structure created for that purpose, the tax authority could extract revenue from such a taxpayer by proving that the structure created by that citizen was an artificial structure, developed no substantial activity and existed solely to pursue a tax minimization strategy (Burn, 2006).

3.2.1.5 Reversed onus of proof

The reversed onus of proof is a legal rule stating that the accuser is not responsible for proving the actions of the accused. For example, in the case of a suspected tax leak, if the Treasury began an investigation against a taxpayer based on suspicions of tax evasion, it would be up to the taxpayer to prove his innocence. This measure could possibly yield useful results because it would be the taxpayer's responsibility to prove that no tax avoidance scheme was pursued. However, this approach invites a great deal of political controversy because in this pursuit of greater justice, the innocent are made to suffer as well as transgressors (Plateforme Paradis Fiscaux et Judiciaires, 2007).

3.2.1.6 Declaration requirements

Declaration requirements force taxpayers to declare periodically any amounts paid or due to foreign entities to the tax authorities. An obligation of this type only makes sense if the reversed onus of proof is safeguarded. It should be noted, in the light of what has already been noted above with regard to the recent decree-law n. 29/2008, which defines the requirement of communicating fiscal savings above €100,000 to the Tax Authorities, that the adoption of fiscal transparency by outland societies will have few practical implications if the periodic declaration requirement is not safeguarded along with the reversed onus of proof. As we have noted, the declaration becomes dependent on the taxpayer's initiative.

3.2.1.7 Additional unilateral measures

In addition to the measures mentioned above, the following measures could fit within the scope of unilateral action (Plateforme Paradis Fiscaux et Judiciaires, 2007):

1) Refusal of conventions with tax havens dependent on an authority, such as the overseas regions belonging to some Kingdoms/States;
2) Introduction of a withholding tax or the abandonment of favorable fiscal treatment for income paid to or placed at the disposal of entities that reside in tax havens (this type of tax – withholding taxes – mean that an outflow from a country to a certain tax haven would generate a given amount of revenues to that country, allowing only a net value that is smaller than the initial outflow to be sent to the tax haven);
3) Refusal of access to the judicial system for certain entities typical of tax havens; and
4) Criminalization of certain types of fraud involving the use of tax havens.

The U.S. Senate has played a prominent role in this matter. In August 2006, it issued a report entitled "Tax Haven Abuses: The Enablers, The Tools and Secrecy". An investigation was conducted by senators Norm Coleman and Carl Levin over the course of a year, during which over 74 summonses led to more than 80 hearings. The report describes 6 real cases, going into the offshore universe in each one of them, analyzing in detail all the mechanisms employed, enumerating the havens' promoters and users, and assessing the impact that these operations had on U.S. tax revenues. The report also references security issues and the definition of anti-laundering laws. One of the investigated cases was the Anderson case, in which the Cook Islands were actually pressured to supply information.

Ginevicius and Tvaronaviciene (2010) provided an important insight into the discussion on offshore activities, emphasising that "Any attempts of government to restrict offshore activities of local firms could not be effective enough if, like in Lithuanian case, the other jurisdictions, such as e.g. Russia, leaves opportunity to use 'tax havens' legally. Therefore, improvement of business climate in own country should be emphasized due to restrict lure of offshore companies."

3.2.2 Multilateral measures

Multilateral measures imply the involvement of various states and the cooperation of multiple parties, so their implementation is complex. Below, we present a summary of these measures.

3.2.2.1 Tax harmonization

In practice, tax harmonization involves the practice of seeking to align direct taxation rates more closely in all judicial spaces (Torvik, 2009) with the aim of preventing capital flight to offshore financial centers.

In discussing tax harmonization, we will reference the report published in July 2004 by the workgroup of the President of the French Republic, led by Jean-Pierre Landau[1], concerning new international financial regulations. This report summarizes the reflections and conclusions of a multidisciplinary group informed by diverse horizons and sensitivities.

The report is divided into three parts: the first analyzes and offers a status report on development funding; in the second, a scenario for international taxation is proposed on the basis of economic rationality, justice and equity; in the third and final section, the most prominent international taxation proposals are examined, including environment-driven taxation, taxation on financial transactions, and the use of special drawing rights.

The report concludes that, technically, there are available solutions that are inspired by a spirit of political will and concerned with economic effectiveness. The

[1] Tax inspector and financial advisor to the French Embassy in London.

group neither declares support for any of the solutions nor formulates privileged recommendations. However, it enumerates some principles that may serve as guidelines. If the international community decides to commit itself to this report, it will be necessary to find justifications and garner broad support for these principles.

According to Bernard Bouzon (Economics Faculty of the University of Coimbra, FEUC, Integrated Cinema Cycle, Debates and Colloquia at the FEUC 2008-2009, "Global Economy, Commoditization and Collective Interests: People, Commodities, Environment and Tax Havens", (DOC TAGV / FEUC, 2009)), taxation is the main tool available to states to compensate for disparities in income distribution.

In its latest report, ATTAC, 2013 (Association pour la Taxation des Transactions pour l'Aide aux Citoyens) analyzed fiscal and judicial responsibilities, financial opacity and instability, the creation of speculative capital, the massive deregulation of funding, and international institutions and government intentions, identifying several international-level fiscal options. It concluded that the feasibility of either a declaration of the invalidity of transactions or the creation of worldwide taxation would depend mainly on political will.

The best known example in the field of tax harmonization, an example limited to the scope of indirect taxation, was the definition of the common VAT system in the European Union.

3.2.2.2 Request for information

This multilateral measure essentially consists of providing or being willing to provide information. This was the measure that the OECD asked of the various tax havens in order to obtain more transparency. The internationally accorded information exchange norms developed by the OECD and approved by the UN and the G20 foresee the complete exchange of information, when solicited, regarding fiscal questions that relate to national interests or the lifting of bank secrecy for fiscal purposes. Presently, information exchange norms are established by article 26 of the OECD Model Convention and in the Agreement on Information Exchange (2002 Model). In Attachment II, the report presents a summary of the events that took place on April 21, 2009, namely the signing of TIEAs by members of the OECD, as well as the regulations that have been implemented since 2000. (Table A1 in the appendix presents the different international reactions to the signing of TIEAs.)

A questionnaire conducted in over 30 countries by the Financial Action Task Force (FATF), which examined their capacities to detect suspicious activities that could be hidden in commercial transactions, produced noteworthy results. The FATF focused its investigation on the financial system, paying less attention to flows made through the physical movement of capital and disregarding movements

that result from the manipulation of the international trade system. This system clearly embodies a range of hazards and vulnerabilities that can be explored by criminal and terrorist organizations.

3.2.2.3 Control of interbank electronic messaging

We shall now discuss the control of interbank electronic messaging, which is similar to multilateral supervision.

Just as there is a Society for Worldwide Interbank Financial Telecommunication (SWIFT Worldwide) whose aim is to facilitate the automatic processing of electronically communicated messages between banks, there should also be a Supervisory Authority that could control and filter all these messages to identify every operation including exchanges with offshore financial centers, which would then be subjected to investigation whenever fraud or tax avoidance was suspected. However, the implementation of this measure, like that of the previously mentioned measures, would involve enormous complexity due to the lack of consensus among states.

3.2.2.4 G20 and the European Union

The Global Forum on Taxation (GFT), guided by the work of the OECD's Committee on Fiscal Affairs, has also developed a norm that has been approved by the G20 and United Nations Expert Committee on International Co-operation in Fiscal Matters and now serves as the basis for the majority of bilateral Fiscal Agreements and as an internationally agreed upon information exchange norm (Palan and Chavagneux, 2007).

The appropriate method to distinguish among jurisdictions that apply the norm from those that do not has been assessed in several countries. Although not a strict measure of progress, the signing of the 12 information-exchange agreements has been taken to be an indicator of progress by a jurisdiction.

It should be noted that the removal of all 70 members from the black list of tax havens can be attributed only to a change in criteria, which now include bilateral agreements between states.

Tax evasion is such a serious problem for the European Union that the member states began experiencing revenue and additional complications because the Stability Pact limits the use of fiscal instruments. Along these lines, the so-called Saving Directive was established in 2005; according to this initiative, all countries in the Union are obligated to supply information on the capital incomes of non-residents to their respective countries.

This joint decision by the EU members is, however, challenged by the fact that three of them, Belgium, Austria and Luxemburg, still maintain bank secrecy. They

withhold taxes, transferring most of them anonymously to the country of origin of the taxed person. Laszlo Kovacs, the EU's Commissioner for Fiscal Affairs, predicts that this situation will end soon because it is expected to be temporary and come to an end when the other 5 Western European countries that are not members of the EU (Switzerland, Liechtenstein, San Marino, Monaco and Andorra) agree to supply information about their banks' customers. Switzerland is the country with which negotiations are the most difficult because it intends to negotiate individually with each country to preserve bank secrecy at any cost instead of agreeing on a general pact with the block.

The European policy group has adopted a directive that intends to harmonize taxation within the European perimeter. However, exceptions granted to Belgium, Austria and Luxemburg to enable them to compete with Switzerland allow for situations that adulterate the system.

The World Bank and the IMF have also developed their own anti-corruption agendas, but none of them significantly addresses the opacity of the offshore banking system, with the exception of restrictive programs related to money laundering.

The Financial Action Task Force (FATF), formed by the Heads of State of the G7 in 1989 to lead a global anti-laundering program, published a report on Money Laundering Trade Transactions in June 2006 in which it identified three main methods through which financial terrorists evade the authorities by concealing the origins of their money and integrating it into the formal economy. These methods include the use of the financial system, the physical movement of money, and the movement of assets and services through the international trade system.

The FATF composed a text with forty recommendations intended to be introduced within the legislative frameworks of each country. However, this had little impact. The FATF appears to have become more aware of the potential for manipulation; it has legitimized opaque jurisdictions that commit themselves to co-operation in the investigation of income from drug trafficking and funding for terrorism.

At a meeting in April 2009, the G20 also sent the message to non-collaborative tax havens and jurisdictions[2] that it is essential to protect public finances from the risks generated by non-collaborative jurisdictions, appealing to these jurisdictions to adhere to the international prudence norms related to the anti-money laundering and counter-terrorist financing (AML/CFT) areas. With this goal, it is suggested that each country's regulatory body implement and reinforce these supervisory procedures based on existing processes, namely through the Financial Services Action Plan (FASP)[3], and adopt the international standard for information

[2] G20-Declaration on strengthening the financial system – London, April 2, 2009.
[3] The Financial Services Action Plan (FSAP) is a key element in the EU in the attempt to create a single market for financial services. It was created in 1999 for a forecasted period of six years and contained 42 articles related to the harmonization of the financial service market in the EU.

exchange approved by the G20 in 2004[4], as reflected in the UN's fiscal convention model. It is the IMF's duty, in co-operation with the Financial Stability Board (FSB), to assess the implementation of the relevant regulations.

However, in addition to suffering from weak participation, with only 8 countries represented by their Finance Ministers, this G20 meeting did not lead to consensus. Is this proof of conflicts of interests on the part of the member states?

Despite all efforts, it is most likely less effective to focus on tax havens than to place attention on the legislative dispositions that protect them. States, in coordination, may refuse to recognize the legality of the present statutes of such entities.

The most visible measures so far have come from American President Barack Obama, who, as a result of his own political will and despite the lack of cooperation, worked to lift bank secrecy for approximately 300 Union Bank of Switzerland (UBS) bank accounts.

4 DISCUSSION AND IMPLICATIONS

Having discussed the main reasons for the appearance and ultimate consequences of tax havens, it can only be concluded that tax havens should be more strongly controlled by international regulators such as the International Monetary Fund or the World Bank. However, the apparent healthy and wealthy state of many tax havens[5] and the increasing number of countries developing new forms of tax havens lead us to conclude this discussion by pointing out the three main reasons for the increasing interest in tax havens.

First, the development of tax havens results from the relatively free circulation of money around the world. Investors are interested in choosing the best places for their investments; therefore, they support the ability to move their money freely, without restrictions related to distance, amount, or type of investment product.

Second, the current regulations (despite Basel I and II) are sufficiently elastic. Consequently, international money circulation cannot be significantly decreased in terms of volume or speed.

Finally, the creation of tax havens is used as a rapid method to boost small economies in accordance with the underlying spirit of the law that creates this type of jurisdiction. These small, highly open and deregulated economies usually take advantage of tax havens as strong sources of foreign direct investment and

[4] Group of 20 (G20): created in 1999, this group was formed by the financial ministers and heads of the central banks of the 19 major economies of the world plus the European Union.

[5] The situation of Cyprus (publicly discussed in the final weeks of March 2013) raised serious concerns related to the fundamentals of this apparent wealth of some tax havens. With its particular characteristics as an economy whose bank flows are eight times more significant than its real GDP, Cyprus had to be funded by a "troika" constituted by the European Commission, the European Central Bank, and the International Monetary Fund.

robustness for their banking systems. Therefore, even though tax havens can diminish the amounts of available money and taxable income in some medium or large countries, they can ultimately stimulate the economic growth of small countries.

Freedoms often come at a cost. The cost of being able to freely circulate money around the world is the growth of tax havens. To counteract this growth, however, tax havens cannot simply be eliminated. If a currency is prohibited, other currencies (even unofficial ones) will appear to help all traders in the market. If current tax havens disappear, other types of tax havens, probably with new and attractive characteristics, will appear as substitutes almost instantaneously.

The general solution is to increase the transparency of the official reports of tax havens (from their governments and financial entities) to collaborate against fiscal crimes and money laundering around the world. As is commonly understood, if you and your State know where your neighbor hides his money, your fiscal authorities can diminish his benefits when he does not contribute to common expenses. Tax havens may not receive as much money from some taxpayers if the transparency of official reports increases, but there will be an overall improvement when local taxes decrease. Financial balance and stability will improve. The local banks will also benefit, as will consulting and auditing firms. Furthermore, tax havens will no longer be social purgatories for many of their citizens.

APPENDIX

TABLE A1

Regulatory measures on tax havens

Countries, territories, jurisdictions	Preferential tax regimes and potentially harmful Offshore Financial Centers (OFC) / Tax Havens (TA)				Institution		
					OECD		EU
	OECD (2000)	IMF (2008)	Senate USA	TJN (2007)	Signing of 12 TIEAs [1]	Jurisdictions that have committed to signing the 12 TIEAs	Savings Directive / Exception (Exp)
American Samoa							
Andorra	TA	TA		TA	x		Exp
Anguilla	TA	TA	TA	TA	x		x [2]
Antigua and Barbuda	TA	TA	TA	TA	x		
Arab Republic of Yemen							
Argentina					x		
Aruba	TA	TA	TA	TA	x		x [2]
Ascension							
Australia	OFC				x		
Austria	OFC				x		
Bahamas	TA	TA	TA	TA	x		
Bahrain	TA	TA		TA	x		
Barbados	TA	TA	TA	TA	x		
Belgium	TA			TA	x		x
Belize	TA	TA	TA	TA		x	
Bermuda Islands		TA	TA	TA	x		
Bolivia							
Brazil					x		
British Virgin Islands (B.V.I.)	TA	TA	TA	TA	x		Exp [2]
Brunei						x	
Canada	OFC				x		
Cayman Islands	TA	TA	TA	TA	x		x [2]
Channel Islands (Alderney)	TA		TA	TA			
Channel Islands (Brechou)							
Channel Islands (Greater Sark and Little Sark)	TA		TA	TA			
Channel Islands (Guernsey)	TA	TA	TA	TA	x		
Channel Islands (Herm)							
Channel Islands (Jersey)	TA	TA	TA	TA	x		
Channel Islands (Jethou)							
Channel Islands (Lihou)							
Chile					x		
China					x		
Christmas Island							
Cook Islands	TA	TA		TA		x	
Costa Rica		TA	TA	TA	x		
Cyprus	TA	TA	TA	TA	x		
Czech Republic					x		x
Denmark					x		
Djibouti							

Countries, territories, jurisdictions	Preferential tax regimes and potentially harmful Offshore Financial Centers (OFC) / Tax Havens (TA)				Institution		
					OECD		EU
	OECD (2000)	IMF (2008)	Senate USA	TJN (2007)	Signing of 12 TIEAs [1]	Jurisdictions that have committed to signing the 12 TIEAs	Savings Directive / Exception (Exp)
Dominica	TA	TA	TA	TA	x		
Dubai				TA	x		
England (London)				TA	x		x
Estonia					x		
Falkland Islands or Malvinas							
Fiji Islands							
Finland (Aland)	OFC				x		
France	OFC				x		
French Polynesia							
Gambia							
Germany (Frankfurt)	OFC			TA	x		x
Gibraltar	TA	TA	TA	TA	x		x
Greece	OFC				x		
Grenade	TA	TA	TA	TA	x		
Guatemala							x
Guernsey							Exp
Guyana							
Honduras							
Hong Kong		TA	TA	TA			
Hungary	OFC			TA		x	
Iceland	OFC			TA	x		
India					x		
Ireland	OFC	TA		TA	x		x
Island of Guam							
Island of Niue	TA	TA		TA			x
Island of Saints Peter and Miquelon							
Island of St. Helena							
Island of Tuvalu							
Qeshm Island							
Isle of Man	TA	TA	TA	TA		x	Exp
Israel (Tel Aviv)				TA	x		
Italy (Campione d'Italia e Trieste)	OFC			TA	x		x
Jamaica							
Japan					x		
Jersey							Exp
Jordan							
Kelling to Cocos Islands							
Kiribati Island							
Korea	OFC			TA	x		
Kuwait							
Latvia			TA				
Lebanon		TA		TA			
Liberia	TA			TA	x		

Countries, territories, jurisdictions	Preferential tax regimes and potentially harmful Offshore Financial Centers (OFC) / Tax Havens (TA)				Institution		
					OECD		EU
	OECD (2000)	IMF (2008)	Senate USA	TJN (2007)	Signing of 12 TIEAs [1]	Jurisdictions that have committed to signing the 12 TIEAs	Savings Directive / Exception (Exp)
Lichtenstein	TA	TA	TA	TA	x		Exp
Luxembourg (holdings)	OFC	TA	TA	TA	x		x
Macao		TA		TA			
Malaysia (Labuán)		TA		TA	x		
Maldive Islands				TA			
Malta	TA	TA	TA	TA	x		
Marshall Islands	TA	TA		TA		x	
Mauritius	TA	TA		TA	x		
Mexico					x		
Monaco	TA	TA		TA	x		Exp
Monserrate	TA	TA		TA		x	x [2]
Nauru	TA	TA	TA	TA		x	
Netherlands	OFC			TA		x	
Netherlands Antilles	TA	TA	TA	TA	x		x
New Zealand					x		
Norfolk Island							
Northern Mariana Islands				TA			
Norway					x		x
Pacific Islands							
Palau Islands		TA					
Panama	TA	TA	TA	TA		x	
Philippines						x	
Pitcairn Island							
Poland					x		x
Portugal (Madeira)	OFC			TA	x		x
Portugal (Santa Maria – Azores)	OFC				x		x
Puerto Rico							
Qatar							
Republic of Vanuatu	TA	TA	TA	TA		x	
Russia (Ingushetia)				TA	x		
Saint Kitts and Nevis	TA	TA	TA	TA	x		
Saint Vincent and Grenadines	TA	TA	TA	TA	x		
Samoa	TA	TA	TA	TA	x		
San Marino	TA				x		Exp
Sao Tome and Principe				TA			
Seychelles	TA	TA		TA	x		
Singapore		TA	TA	TA	x		
Slovak Republic					x		
Slovenia					x		
Solomon Islands							
Somalia				TA			
South Africa				TA	x		
Spain (Melilha)	OFC			TA	x		
St. Lucia	TA	TA	TA	TA	x		

Countries, territories, jurisdictions	Preferential tax regimes and potentially harmful Offshore Financial Centers (OFC) / Tax Havens (TA)				Institution		
					OECD		EU
	OECD (2000)	IMF (2008)	Senate USA	TJN (2007)	Signing of 12 TIEAs [1]	Jurisdictions that have committed to signing the 12 TIEAs	Savings Directive / Exception (Exp)
Sultanate of Oman							
Svalbard Islands (Spitsbergen archipelago and the island Bjornoya)							
Swaziland							
Sweden	OFC				x		x
Switzerland	OFC	TA	TA	TA	x		Exp
Taiwan (Taipei)				TA			
Tokelau							
Tonga	TA			TA			
Trinidad and Tobago							
Tristan da Cunha Island							
Turkey (Istanbul)	OFC				x		
Turkish Republic of Northern Cyprus				TA			
Turks and Caicos Islands	TA	TA	TA	TA	x		Exp [2]
United Arab Emirates					x		
Uruguay				TA		x	
USA (NY)	OFC			TA	x		
Virgin Islands of the United States of America	TA			TA	x		
Total tax havens	41	46	35	71			

(1) TIEAs: Tax Information Exchange Agreements.
(2) Outside Eurozone.

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A Dictionary of Taxation, Second Edition

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Fourteen years after the first edition of *A Dictionary of Taxation*, a new edition has been published, containing over 200 new or substantially revised entries. Simon James has collected definitions and terms on legal, accounting and economic aspects of tax and tax systems, as well as those of social science. The entries are not limited only to British, American or European legal systems and they include terms from around the world. The entries are sorted alphabetically and many of them contain references to further reading, listing books and articles that are of great value to researchers and analysts.

The dictionary is written in plain English in a user-friendly manner, not limiting its audience to professionals and researchers into legal systems. As mentioned in the Preface, taxes have existed since the beginning of civilization, they affect all members of the society and play a significant role in all economies. It is therefore important for any member of society to be able to comprehend the rules they are forced to obey. Hence, this dictionary can help them in better understanding of the sometimes complex terms used in taxation and tax systems, as the definitions are simple and understandable. Although the explanations are sometimes too vague and simple to be useful for researchers, the additional references make this book valuable for their work too. For many entries James has provided historical references as well as some references to theoretical explanations.

Many translators from non-English speaking countries will appreciate the extensive list of abbreviations and the names of institutions from around the world. Other valuable contributions are quotation from court judgements (e.g. on employment or emolument) and quotations from famous speeches (e.g. on mobile phones).

Although it deals with a topic widely perceived as "serious", the user of the dictionary can encounter some quite witty entries. For example, the author warns the readers not to boast to the neighbours about the tax they evaded, otherwise they might be reported to the tax authorities by "well wishers" or "honest taxpayers" who tend to send anonymous letters. Also, one would never consider Jaffa cakes to be the source of tax dispute. The UK tax laws make the difference between cakes and biscuits by proscribing different tax rates for each category, making this problem a complex fiscal matter. James refers to some terms in popular culture – the entry taxman refers to a song by George Harrison dealing with taxation.

Many terms refer to the psychology and the behaviour of taxpayers. The spite effect describes the response of taxpayers to tax liabilities – even if it's costly for them, they will work less in order to pay less tax. The entry on excise contains a 1,755 description as "hateful tax levied on commodities" while the bomb crater effect describes the decrease in an individual's willingness to comply with the tax system following an audit by the tax authorities, expecting that they will not be audited in the forthcoming period.

To conclude, *A Dictionary of Taxation* is a valuable book in any translator's or researcher's library and a useful tool for anyone dealing with taxation, accountancy and public finance.

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